

ECREEE Regional Workshop:

Accelerating Universal Energy Access Through the Use of Renewable Energy and Energy Efficiency

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Draft Technical Discussion Paper On General Energy Access in ECOWAS

Towards Universal Energy Access Particularly in rural and peri-urban areas of the ECOWAS region: Approaches, Opportunities and Constraints

In West Africa, 200 million people will need modern energy services by 2015 to accelerate the achievement of the Millennium Development Goals (MDGs)

To be finalised on the basis of the workshop discussions

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SUMMARY (APPROACHES, OPPORTUNITIES AND CONSTRAINTS)

Energy Access Situation: Expanding access to modern energy services is a corner stone of the regional energy policy in ECOWAS

1. The Economic Community Of West African States (ECOWAS) was created on May 1975 when all West African countries signed the Treaty of Lagos with the aim to promote economic integration. Today, ECOWAS stands as one of the most dynamic Regional Economic Community (REC) of the continent. The ECOWAS Member States are engaged since 2005 in a regional effort to fight poverty and increase access to basic services to rural and peri-urban population, especially the poor in order to improve their living conditions and to achieve the Millennium Development Goals (MDGs) by 2015.
2. By taking in January 2006 Decision A/DEC.24/01/06 relating to the ECOWAS/UEMOA Regional Policy on Access to Energy Services for Populations in Rural and Peri-urban Areas for Poverty Reduction in Member States, the Heads of State and Government recognized formally the central role of expanding access to modern energy for development and poverty alleviation.
3. ECOWAS is home of 300 million people, two-thirds of this total are living in three countries, namely Nigeria, Ghana and Côte d'Ivoire which also are the most advanced economies of the region. According to the ECOWAS White Paper for Access to Energy, "energy poverty" is a common characteristic of all ECOWAS Member States as more than 75% of the population is deprived of electricity. The energy access situation is worsened by the lack of financing to build appropriate infrastructures to transform the market for modern energy services. This is particularly true when considering the huge number of countries in the region classified as Least Developed Countries (LDCs) by the United Nations.
4. A Policy Study by UNDP (*Energy Access Situation in LDCs, 2009*) revealed that in sub-Saharan Africa (SSA), the number of people without access to electricity and modern fuels is respectively 560 and 625 million. Although energy access varies widely across developing countries, it is much lower in poorest countries than in other developing countries. The conclusion is that to achieve the regional policy objective, ECOWAS Commission and relevant institutions engaged in the implementation process should adopt a comprehensive strategy that put more emphasis on ECOWAS's LDCs.
5. On a global level, recent analysis by the International Energy Agency (IEA) (*World Energy Outlook 2011 – Energy for all*) estimates that in 2009, 1.3 billion people did not have access to electricity, that is around 20% of the global population, and that almost 2.7 billion people (around 40% of the global population) relied on the traditional sources of energy such as biomass for cooking. This updated estimate shows also that more than 95% of the people lacking access to modern energy services are in either sub-Saharan Africa or developing Asia and 84% live in rural areas.
6. Sub-Saharan Africa which accounts for only 12% of the global population hosts almost 45% of people without access to electricity. In ECOWAS region, Nigeria only has over 100 million people without access to clean cooking facilities. Such situation extrapolated to the fifteen ECOWAS Member Countries means that by 2015, more than 200 million people will be deprived of modern energy services in the absence of new and predictable financing for energy access by governments and development partners.
7. In sum, lack of access to modern energy is becoming a challenging issue for all aspects of the region's development -- social, economic, and environmental -- including livelihoods, access to drinking water, agricultural productivity, health, education, and gender-specific issues. None of the MDGs can therefore be met without major improvement in the quality and quantity of energy services provided to the population, particularly those living in rural and peri-urban areas. Understanding of the energy challenge linked to climate change issues, strategic approaches and financing are deemed necessary.

Approaches for financing: Given the challenges its member states continue to face ECOWAS Commission is committed to implement the three policy objective of the White Paper with a focus on the valorization of renewable energy and energy efficiency options (clean energy)

8. In order to provide access to clean, reliable and affordable energy services to the population currently living without access, the ECOWAS member countries not only have to supply energy for basic human needs but also for productive uses to promote economic development and growth. On one hand, modern energy services for basic human needs include electricity for lighting; health; education; communication as well as community services and modern fuels and technologies for cooking and heating. On the other hand, services for productive uses include electricity and modern fuels for agricultural related activities such as water pumping, mechanized tilling, agricultural processing and transport.

9. To achieve *Energy Access For All* on the global level, various financing options are being considered by Governments, donors and development agencies. The following are some approaches that could be for interest in ECOWAS Region:

- ***The United Nations global commitment to achieve Energy for All***

10. Achieving the “Energy for All” at the global level will require an increase in electricity generation by 2.5% per year (WEO2011) without neglecting other modern energy options such as modern cooking fuels (including liquefied petroleum gas, biogas systems, and improved biomass cookstoves). To that end, the UN Energy Group established by the General Secretariat call for the following policy approach:

- Encouraging public and private sector investment and financing options to achieve modern energy access for all
- Support international cooperation for energy access (2012 to be the “International Year of Sustainable Energy for All” will have a significant impact in energy access financing)
- Developing commercially viable renewable energy and energy efficiency business opportunities to meet the challenge of increasing access to energy in a sustainable manner
- Creating the necessary technical, policy and institutional frameworks to accompany the process.
- Developing concrete energy access programmes and projects that should focus in particular on:
 - Stimulating productive activities, especially those related to processing and added value to agricultural produce in rural areas,
 - Modernising basic social services such as healthcare, education, water, etc. in order to improve the poor’s living conditions,
 - Improving the situation of women, who are affected by energy poverty, and most of the time are facing health problems linked to smokes, or from the difficulty of wood-gathering and water drawing

- ***Approach by Development Agencies: the case of UNDP***

11. For UNDP, the poor are disproportionately affected by environmental degradation and lack of access to clean and affordable energy services. To that end, UNDP is helping countries strengthen their capacity to address these challenges at the global, national and community levels, seeking out and sharing best practices, providing innovative policy advice and linking partners through pilot projects.

12. In fact, UNDP’s efforts in energy for sustainable development (based on the three pillars - social, economic, and environmental) aims to support the achievement of the MDGs, especially, reducing by half the proportion of people living in poverty by 2015. Through an integrated development approach, UNDP works to help create enabling policy frameworks, develop local capacity and provide knowledge-based advisory services for expanding access to energy services for the poor.

13. This is the same approach adopted by the European Commission when it launched the Energy Facility to increase access to modern energy in rural and peri-urban areas in the African, Caribbean and Pacific (ACP) countries within the framework of the Cotonou Agreement.

- **Approach by Multilateral Financing Institutions (IFIs)**

14. The World Bank and the African Development Bank (AfDB) adopted specific approaches to energy in their countries of intervention. A review of recent programs by the two major IFIs leads to the conclusion that the most important part of these donors' funds goes to electricity generation or transmission projects that are expected to translate into access for the poor. Such an approach that has been putting emphasis on access only for industry and the well off – left the poor yet again in the dark. This is the reason why in recent years, two dedicated financing schemes for energy access in developing countries have been set-up with more focus on rural and peri-urban poor.

- **The existing and possible future role of renewable energy towards Universal Access**

15. Despite the fact that the technical potential for RE resources such as wind, solar (heat from the sun), hydropower, biomass or geothermal energy (heat from the earth) is considered high in almost all the ECOWAS states, the sub-region is still faced with significant barriers for the development of commercially driven and sustainable RE markets. The ECOWAS Regional Centre for Renewable Energy and Energy Efficiency (ECREEE) recently created the ECOWAS Renewable Energy Facility (EREF) which aims at co-funding small and medium scale RE&EE projects in accordance with the ECOWAS White Papers on Energy Access. The Facility aims at the implementation of action line 2 of the white papers which called for the creation of an innovation fund to co-fund at least 200 demonstration projects. In the first call for proposals ECREEE received over 160 concept notes covering all ECOWAS countries and various technology solutions.

16. The inappropriate policies, targets and regulations are some of the constraints that limit the dissemination of RE in these countries. The existence of comprehensive policy frameworks for the promotion of RE and incentive instruments like tax relieves are needed in ECOWAS states for favourable market conditions and proper dissemination of renewable energy technologies in the peri-urban and rural areas of ECOWAS states.

Constraints: Recent figures on the energy access situation in developing countries, in particular LDCs show there are some fundamental constraints to making sustainable energy for all a reality

17. While the MDGs do not include specific targets in relation to access to energy (electricity or to clean cooking facilities), international concern about the issue of energy access is growing. This is demonstrated by the number of conferences and forums dedicated to this issue in recent years. On the top, we can mention the decision by the General Secretary of the United Nations to declare 2012 as the “International Year of Sustainable Energy for All” that has paved the way for other strategic platforms to discuss the link between energy access, climate change and development. These include the Vienna Energy Forum 2011 (Energy for All – Time for Action held from 21 to 23 June, 2011, the “Energy for All Conference: financing access for the poor” in Oslo, Norway held on 10 October 2011, and the COP17 in Durban, South Africa in December 2011.

18. These issues are also expected to be further discussed at the United Nations Conference on Sustainable Development (UNCSD) in Rio de Janeiro, Brazil in June 2012. The conference will aim to secure renewed political commitment to sustainable development, to assess progress achieved in two decades and to address new and emerging challenges. It will bring issue such as energy access, clean energy, low-carbon economies and climate change to centre-stage in the international debate with the need to reconcile environment, development and poverty eradication.

19. For sub-Saharan Africa, the main barriers to fully implement any international agenda for achieving universal access remain: lack of capacity, inadequate institutional framework, lack of technology and financing, weak political weight in the international negotiations relating to Multilateral Environment Agreements such as the United Nations Framework Convention on Climate Change (UNFCCC) and the weak participation of the private sector to the nascent energy access market.

20. If private sector investment is to play a significant role for the future in sub-Saharan Africa, in particular in ECOWAS region, the most important barriers must first be overcome. It is suggested that Governments provide a supportive investment climate, such as by implementing strong governance and regulatory reforms. Governments and donors need also to use incentives and appropriate market development tools to leverage private sector interest where the commercial case is marginal.

21. With regard to ECOWAS Commission's concerns, the main challenges that need to be addressed include: (i) Promoting decentralized access to energy, (ii) Ensuring that sound environmental management is integrated into poverty reduction efforts, (iii) Supporting the uptake of renewable energy technologies for achieving the MDGs, and (iv) Participating in a global deal to secure financing for universal access that will generate significant development and environmental opportunities for the region.

22. According to the World Bank's own assessment of its energy access financing, in FY2010, only \$1.0 billion of \$13.0 billion in overall energy financing went to energy access and in FY2009, \$2.2 billion went to energy access of \$8.3 billion in total energy financing (World Bank Group, a.). The Bank's approach to energy in developing countries suggested that any electricity generation or transmission project translates into access for the poor. Such an approach consisting of access only for industry and the well off – leaves the poor yet again in the dark.

23. At present, energy access funding tends to be directed primarily toward large-scale electricity infrastructure as illustrated by the African Development Bank and the World Bank Group Investment Frameworks for Clean Energy. This does not always reach the poorest households of rural and peri-urban areas. Access to funding at a local level is essential to support initiatives that cater effectively for local needs, building local financial and technical capacity and stimulating sectoral development.

24. Another constraint facing energy access is power shortages that dominate electricity supply in all ECOWAS except Ghana.

25. In summary, there remain several constraints for achieving the desired goal of universal access. The most important being the lack of adequate financial resources. Energy investments, mainly from multilateral sources, have recently witnessed a decline. Most private investments are channelized in infrastructure sectors, where energy is not a top priority. In such a context, various innovative financing options need to be explored. These include measures such as carbon financing; better usage of private investments, aid and grants; micro financing schemes, and foreign direct investment. Besides these, new sources of capital such as carbon funds and clean energy related funds can provide opportunities for the energy sector of developing countries.

Recommendations and Way Forward: A co-ordinated effort to implementing a set of measures including policy, legal, technology and financing is essential to transforming the situation

26. Countries in the region are at different stages of providing energy access to their populations over the years. However a co-ordinated effort is critical for transforming the current energy access situation into a win-win situation. To achieve universal access, the global development community must take specific and far-reaching measures to massively scale up initiatives to expand access to modern energy services for the poor and under-served.

27. The following are recommendations directed to various partners participating in this policy dialogue to assist ECOWAS to reach its overarching goal of reducing by half energy poverty by 2015:

- Translate the clear and consistent statement as per the White Paper that modern energy access is a political priority into action such as reorienting national funding accordingly.
- Mobilise additional investment in universal access, by taking advantage of existing and upcoming financing mechanism at the global level.
- Private sector investment needs to grow the most, but significant barriers must first be overcome. It is suggested that national governments adopt strong governance and regulatory frameworks and engage in internal capacity building.
- The public sector, including multilateral and bilateral donors, needs to use its tools to leverage greater private sector investment where the commercial case is not attractive for investors and encourage the development of replicable business models. This could be done by concentrating an important part of multilateral and bilateral direct funding on those difficult areas of access which do not initially offer an adequate commercial return.
- When used, public subsidies must be well targeted to reach the poorest i.e. to switch from traditional biomass to modern bioenergy for cooking (promotion of subsidized LPG in periurban areas). This could be achieved by provision of end-user finance to overcome the barrier of the initial capital cost of gaining access to some types of modern energy services.
- Operating consumer and business finance through local banks and microfinance arrangements can support the creation of local networks of energy services providers to strengthen the capacity of local entrepreneurs in energy sector activity
- Make provision for the establishment of a comprehensive database on energy access for monitoring purposes. To that end, it is worth noted that continued efforts are required to improve the quantity and quality of statistical information related to energy access, as a basis for designing policies and programmes to address energy poverty challenges.
- Regionally and nationally appropriate coordination mechanisms are needed to share information and experiences relating to access to modern energy services, especially cooking and heating services, as well as access to mechanical power in rural and remote areas.
- Setting targets is a necessary step to provide a framework for tracking progress and accountability. In ECOWAS region, these targets have already been included in the Regional Policy for Energy Access. They must be part of viable national energy access strategies, backed by appropriate priorities, policies and programmes, and predictable financial resources.

PURPOSE OF THE REPORT

28. This study is commissioned by UNDP Regional Energy Poverty Program in cooperation with the ECOWAS Regional Centre for Renewable Energy and Energy Efficiency (ECREEE) to map the energy access situation in ECOWAS region, with a focus on rural and peri-urban areas which have the lowest levels of access to modern energy services.

29. The draft report prepared within a 5-working days period will serve for discussion during ECREEE Regional Renewable Energy and Energy Access Workshop - *Accelerating Universal Energy Access Through the Use of Renewable Energy and Energy Efficiency* - planned to be held in Accra, 24-26 October 2011.

METHODOLOGY

30. This paper presents an overall energy access profile in ECOWAS member countries.

31. Data on energy access were collected for all ECOWAS countries and analysed to draw some recommendations of the appropriate policies and approaches for promoting sustainable access to modern energy services in the region. Information on energy access targets was also gathered from various sources such as national Poverty Reduction Strategy Papers (PRSPs), MDG reports, national planning documents, sectoral master plans and policy documents, and global and regional review documents.

SITUATION ANALYSIS

Background

32. The total population of the Economic Community of West African States (ECOWAS) was 300 million in 2010, representing 35% of the total population of sub-Saharan Africa (SSA)¹. Only three countries - Nigeria, Ghana and Cote d'Ivoire – accounted for two-thirds of this total. Table 1 shows the overview of the National Social and Economic indicators of the ECOWAS region.

Table 1 : Overview of National Social and Economic Indicators of the ECOWAS region

Country	Population ² in million (2010)	Rural ³ Population (% of total population)	Population ⁴ Below Poverty Line (%)	GDP ⁵ Current (100000 US \$ in 2010)	GDP ⁶ Growth (%) in 2010)	HDI Rank ⁷ (2010 ranking)
Benin	8.8	58	37.4	6,633	3	134
Burkina Faso	16.5	80	46.4	8,820	9.2	161
Cape Verde	0.5	39	30	1,648	5.4	118
Côte d'Ivoire	19.7	50	42	22,780	3	149
Gambia	1.7	42	39.6	807	5	151
Guinea	10.0	65	30.5	4,511	1.9	156
Guinea-Bissau	1.5	70	51.6	879	3.5	164
Ghana	24.4	49	29	31,306	6.6	130
Liberia	4.0	39	80	986	5.5	162
Mali	15.4	67	25.5	9,251	4.5	160
Niger	15.5	83	63	5,549	8.8	167
Nigeria	158.4	50	43.1	193,669	7.9	142
Senegal	12.4	57	35.1	12,954	4.2	144
Sierra Leone	5.9	62	47	1,905	4.9	158
Togo	6.0	57	36.8	3,153	3.4	139
ECOWAS	300	57.87	42		5.1	
SSA	856	60⁸				
World	6,900	44				

33. In 2010, the average percentage of the rural population for the region was about 58%, with variations ranging from 39% in Liberia and Cape Verde to 83% in Niger. This reflects the fact that the region's cities are attracting more and more people, since they offer better living conditions and greater potential for economic activity. According to estimates, 50% of the population will live in urban areas by 2015, compared to around 42% today. Though this is still a lower ratio than in other developing countries (the rate stands at 70% in Latin America), absolute demographic pressure is still high. It is estimated that by 2015, the population of the ECOWAS region will have risen to 320 million thus experiencing one of the highest annual growth rates in the world – that is 2.65%, compared to an average of 1.5% in India and 0.5% in China.

¹ Estimates based on the United Nations, department of Economic and Social Affairs, 2010 at <http://esa.un.org/unpd/wpp/Excel-Data/population.htm>

² National data taken from <http://esa.un.org/unpd/wpp/Excel-Data/population.htm>

³ Data taken from https://www.cia.gov/library/publications/the-world-factbook/wfbExt/region_afr.html

⁴ <http://data.un.org/Data.aspx?d=MDG&f=seriesRowID%3A582>

⁵ <http://data.worldbank.org/data-catalog/>

⁶ Ibid

⁷ http://hdr.undp.org/en/media/HDR_2010_EN_Table1_reprint.pdf

⁸ Taken from <ftp://ftp.fao.org/docrep/fao/010/i0132e/i0132e03a.pdf>

34. In four years (2015), West Africa will be home to 320 million people, and the challenges facing it will be considerable given that 13 of its 15 nations are currently categorised as Least Developed Countries (LDCs). These nations also belong to the Heavily Indebted Poor Countries (HIPC). There are 13 ECOWAS member countries that qualify for support from the HIPC Initiative. All of ECOWAS member countries, except Cape Verde and Ghana, rank below 130 according to the 2010 ranking of the Human Development Index, with Niger ranking 167 out of 169 countries. In 2010, the average GDP growth rate in the ECOWAS region was 5.1% with variation ranging from 1.9% in Guinea to 9.2 in Burkina Faso. However, more than 40% of the total population in the region is still living below the poverty line and lack access to energy services to meet their basic human needs.

35. Expanding access to modern energy services is an enormous challenge in West Africa especially for LDCs which have the lowest levels of access to modern energy. On a global level, more than 95% of the people living without access to modern energy services are either in sub-Saharan Africa or developing Asia and 84% are in rural areas⁹. On the other hand, the quasi-majority of the people living in Organisation for Economic Co-operation and Development (OECD) countries have access to modern energy services.

36. The International Energy Agency's World Energy Outlook (WEO 2008) estimated that the total population without access to electricity was 1,456 million out of a total world population of 6,692 million, which represents a percentage of 21.76%. More specifically, in 2008, in OECD and transition economies, the total population without access to electricity was estimated at only 3 million out of a total of 1,507 million in this region, which represents a percentage of 99.80%. Moreover, in developing countries, the total population without electricity was estimated at 1,453 million people out of a total of 5,185 million people, which represents a percentage of 72%. However, in least developed countries (LDCs) and sub-Saharan Africa, where there is a significant number of people without access to electricity, the situation is far worse than what has just been described above for the other regions of the world. Table 2 shows the electricity access overview in the world in 2008.

Table 2 : Electricity access overview in the world in 2008¹⁰

Regions	Total population (in millions)	Electrification rates (%)	Total population without electricity access (in millions)	Percentage of people without access to electricity (%)
World	6,692	78.20%	1456	21.76%
OECD and transition economies	1,507	99.80%	3	0.20%
Other developing countries	3,584	92.83%	257	7.17%
Least Developed Countries	824	21.00%	635	77.06%
Sub-Saharan Africa	777	26.00%	561	72.20%

37. Access to electricity also varies dramatically among regions within the same country especially in SSA. In fact, in rural areas of these countries, access to electricity is significantly lower than in urban areas. In 2008, the WEO estimated that 87% and 89% of rural population lack access to electricity in LDCs and SSA respectively while the population without access to electricity represents only 41% in DCs¹¹.

⁹ IEA, « *World Energy Outlook: Financing access for the poor* », 2011 edition

¹⁰ Adapted from WHO and UNDP, « *The Energy Access Situation in Developing Countries* » 2011 at http://content.undp.org/go/cms-service/stream/asset/?asset_id=2205620

¹¹ Ibid

38. Like electricity, access to modern fuels¹² for cooking is very limited in LDCs and SSA, and varies across rural and urban areas within the same country. For example, in 2007, in Developing Countries (DCs) overall, more than 40 percent of people rely on modern fuels. However, in LDCs and sub-Saharan Africa, only 9% and 17%, respectively, have access to modern fuels¹³.

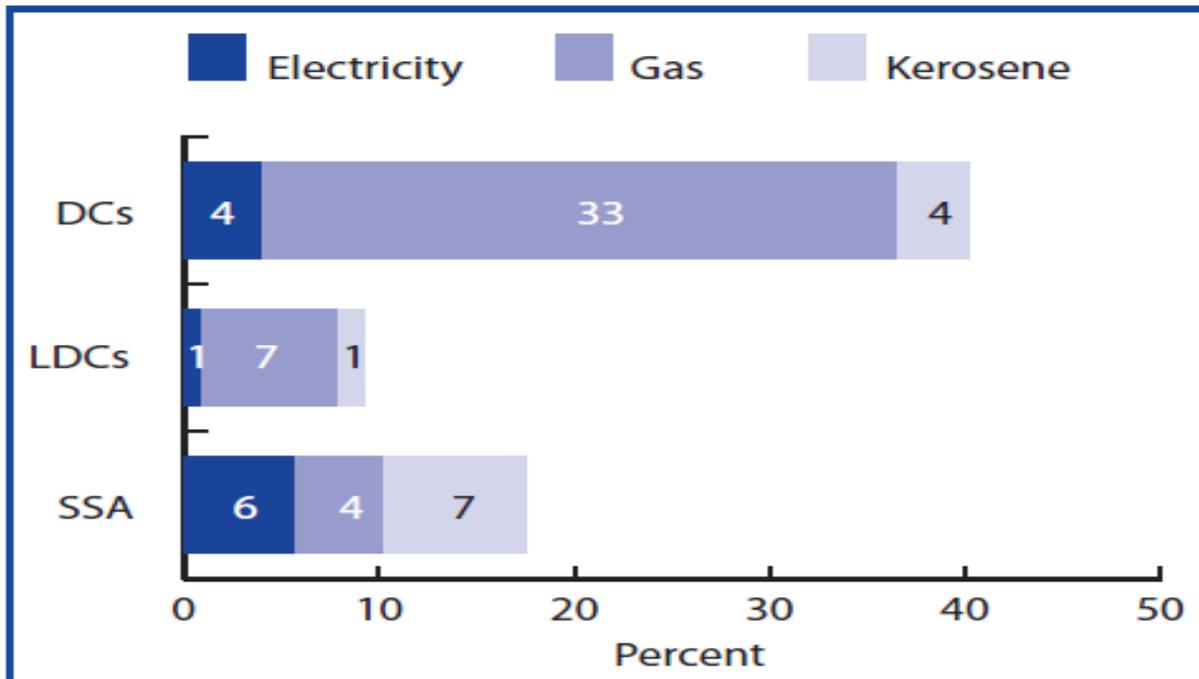


Figure 1 : Percentage of Population with Access to Different Types of Modern Fuels in DCs, LDCs and SSA¹⁴ in 2007¹⁵

39. Figure 1 suggests that, in LDCs and SSA, a very low percentage (7% and 4% respectively) have access to gas while only 1% and 7% respectively have access to kerosene. It is worth noting that there is a large gap between access to modern fuels in rural and urban areas. In fact, in LDCs and SSA, 3% and 5% respectively of the rural population have access to modern fuels while 27% and 42% respectively of the urban population have access to these fuels¹⁶.

▪ Issues and challenges in the ECOWAS Member Countries

40. Attaining the MDGs by 2015 in sub-Saharan African countries especially in ECOWAS Member Countries requires that at least half the population of rural and peri-urban areas have access to modern energy services which play a key role in achieving economic and social development. To support social and economic development, ECOWAS Member Countries have undertaken some investment programs in the energy sector to improve access to modern energy services by their population. These countries still face common and similar issues and challenges in terms of access to modern energy services.

¹² According to the UNDP, the term modern fuels refers to electricity, liquid fuels (such as kerosene), and gaseous fuels (such as liquefied petroleum gas (LPG), natural gas), and excludes traditional biomass and coal.

¹³ Adapted from WHO and UNDP, « *The Energy Access Situation in Developing Countries* » 2011 at http://content.undp.org/go/cms-service/stream/asset/?asset_id=2205620

¹⁴ Based on UNDP's classification of Developing Countries (DCs) and the UN's classification of LDCs. There are 50 LDCs and 45 SSA countries, of which 31 countries belong to both categories.

¹⁵ Adapted from WHO and UNDP, « *The Energy Access Situation in Developing Countries* » 2011 at http://content.undp.org/go/cms-service/stream/asset/?asset_id=2205620, p.12

¹⁶ Ibid

41. These challenges are:

- the low rate of access to modern energy services (the lowest compared to other regions in the world)
- the large gap of modern energy access between urban and rural areas
- the lack of an adequate institutional and regulatory framework that offers incentives for new energy service providers and protection for investors
- the heavy dependence on oil products for power generation and even for lighting in rural areas
- the barriers to the development of local and renewable energy sources
- the lack of a strong political support in order to achieve energy efficiency and
- the lack on nationally access to energy targets.

IMPLICATIONS FOR POLICY AND PRACTICE

▪ Energy access approaches and policies in different ECOWAS member countries

42. In the different ECOWAS member countries, past modern energy access initiatives typically concentrated on an approach of centralized electricity systems which consisted of connecting cities, villages and settlements to a national grid owned and operated by public electricity utilities. As a result, most of the population settlements in rural areas could not access electricity. In fact, remote areas faced high transmission and distribution costs because of low densities and demand levels. In addition, the capacity of power lines were inefficiently used because of low population densities; and the line losses tended to be high.

43. Afterwards, during the 1990s, a decentralized approach as an alternative to modern energy access by the population was applied. This received more policy attention because of the awareness about the correlation between modern energy services and key elements of poverty, including low education levels, restriction of opportunity to subsistence activity. In addition, in 2000, the ECOWAS member countries were committed to the implementation of the Millennium Development Goals (MDGs), which are internationally agreed on targets to reduce poverty by 2015. Achieving all of the MDGs in these countries will require much greater energy inputs and access to modern energy services. Failure to include energy considerations in national MDG strategies and development planning frameworks will severely limit the ability to achieve the MDGs. Therefore, at a national level, most of the ECOWAS member countries undertook reforms¹⁷ with a focus only on the energy sector in response to the issue of providing greater access to modern energy services.

44. In the electricity sub-sector, reforms were undertaken to change the prevailing regulations (laws and codes) and modes and forms of company ownership (privatization) with a view to increasing sub-sector financial viability. Companies of the electricity sub-sector that were until then entirely or mostly state owned, have since been opened up to private holdings through public-private partnerships. Beyond each member country's specificity, segmentation of market between urban and rural areas have led to the creation of agencies which cater specifically for modern energy access development.

45. Regarding domestic cooking fuels, in some member countries, changes related to traditional domestic fuels are recorded in the Domestic Fuel Strategies whose goal is to supply urban and rural households with domestic energy including traditional biomass that preserves forest resources and the environment. For decentralization purposes, some countries have delegated the management of their forests to local entities.

¹⁷ Adapted from ECOWAS, « *White Paper for a Regional Policy on Energy Access* », 2005

46. As far as modern fuels are concerned, the liberalization of liquefied and gas fuel distribution sub-sector and efforts to foster competition should bring down the costs of modern fuels (LPG, kerosene, mineral coal), while enhancing the quality of the products.

47. A number of countries have committed themselves to supporting renewable energies, among others, through fiscal incentive initiatives. Unfortunately these initiatives remain quite few.

48. As far as policies and tariffs are concerned, some countries have initiated social tariffs and other approaches, in view to ease energy access to the poorest. The move is a starting point which needs to be extended to the whole ECOWAS region.

▪ **Successes and constraints in the implementation of the policies and approaches**

49. Though low levels of access to modern energy services still characterizes the ECOWAS member countries, some policies and programmes implemented have been successful. At a national level, programmes such as the national electricity scheme (NES) in Ghana and the butanization programme in Senegal have substantially improved energy access for populations.

50. The NES¹⁸, which is a 30-year programme covering the period between 1990-2020, is the national framework under which most electrification initiatives in Ghana are developed with the objective of extending electricity services to all parts of the country by 2020. It was instituted in 1989 when national electricity access was only 25% and rural coverage stood at less than 5% with 46 out of the 110 district capitals connected to the grid. The NES includes an electrification master plan for 4,221 communities; packages of 69 grid-based electrification projects over six phases of five years and the connection of 64 district capitals for phase one.

51. Furthermore, a complementary electrification programme, namely the Self-Help Electrification Programme (SHEP), is instituted to support the main NES. Under the SHEP, communities which initiated their township electrification projects received government support for the completion of the projects earlier than the scheduled date of connection. In 2011, this year, it has so far been estimated that 4,300 rural communities have been electrified under the NES/SHEP. This success story of Ghana's electricity access (more than 60% in 2011), which is the highest of the ECOWAS region, is undeniably attributable to the NES/SHEP programmes.

52. In Senegal, the modern fuel programme implemented by the government resulted in the substitution of wood and charcoal with LPG, especially in urban areas. The programme substantially improved population access to LPG. This success was due to an incentive-giving policy that the Government of Senegal implemented over two decades. However, it must be noted that the number of households that use LPG as their main fuel is still quite low, and this is primarily due to its cost, which is linked to oil prices.

53. Many other success stories do exist in these countries and modern energy access for their populations has slowly improved. However, the implementation of the government policies and approaches, in order to extend modern energy services to all parts of their countries faces constraints such as limited financing and lack of political support. In fact, in these countries, many other development issues compete for financing and political attention. As a result the constraints heavily impact on meeting government national target in terms of access to modern energy services.

¹⁸ The information related to the NES and SHEP programmes are taken from <http://www.climateparl.net/cpcontent/pdfs/SHEP%20E2%80%93%20Ghana%E2%80%99s%20Self-help%20Electrification%20Programme.pdf>

▪ Options for Improving Energy Access Situation Within the Region

54. In order to provide access to clean, reliable and affordable energy services to the population currently living without access, the ECOWAS member countries not only have to supply energy for basic human needs but also for productive uses to promote economic development and growth. On one hand, modern energy services for basic human needs include electricity for lighting; health; education; communication as well as community services and modern fuels and technologies for cooking and heating. On the other hand, services for productive uses include electricity and modern fuels for agricultural related activities such as water pumping, mechanized tilling, agricultural processing and transport.

55. Access to electricity can be provided either at the community or household level. Electricity access has to be secured through both centralized and decentralized electricity systems which include options such as grid extension, mini-grid access and off-grid access. Currently, government in West Africa typically concentrate on grid extension, diesel-powered mini-grids and mini-hydropower generators to improve energy access situation within their countries.

56. More recently, in the ECOWAS region, off grid access has emerged as an alternative approach to improve energy services access for populations; and stand-alone electricity service provision has drawn more policy attention than in the past. This is because various small scale renewable energy based technologies such as solar PV, wind, and micro hydropower have reached a commercial maturity; and the West African region is well endowed with abundant renewable energy resources. Moreover, the continuous rise in the fossil fuel prices has increased the economic attractiveness of these technologies.

57. Access to modern fuels, including natural gas, LPG, diesel, kerosene and renewables such as biodiesel and bioethanol, is another component of energy provision. Of all the modern fuels, diesel has been mostly used in the industrial and commercial sectors while kerosene is mostly used by households and shop owners for cooking and lighting purposes. More recently, natural gas, LPG and renewable fuels have emerged as viable alternatives to secure access to clean modern fuels because of the environmental and health benefits they bring for end users. In addition, it must be noted that in the immediate term, governments in West Africa view improved cooking stoves as a viable solution to address the serious health problems faced by people who lack access to sufficient livestock and biomass for biogas production and who cannot pay for LPG and natural gas solutions.

58. In addition to the electricity, mechanical power provision is also viewed as an option because it is critical to reducing poverty and enhancing human development in the region. Mechanical power has not yet drawn the same policy attention like electricity access and modern fuels provision though it has been used for centuries in meeting every day energy needs at local level. More recently in some ECOWAS member countries, it must be noted that pilot projects and programmes have been implemented to develop economic activities at community levels by providing access to mechanical power.

59. In conclusion, even though many ECOWAS member countries have already considered the energy access options described above, it must be pointed out that much more still need to be done. Governments in the ECOWAS region need to take further actions to scale up access to modern energy services mainly in remote areas, where the vast majority of people live.

60. Renewable energy resources such as wind, solar (heat from the sun), hydropower, biomass, biogas, biofuel or geothermal energy (heat from the earth) is considered high in almost all the ECOWAS states, the sub-region is still faced with significant barriers for the development of commercially driven and sustainable RE markets.

CURRENT STATUS OF ENERGY ACCESS IN WEST AFRICA

▪ Situation of Energy Access in the ECOWAS Member Countries

61. The energy access situation in the ECOWAS region is characterized by a very low energy consumption level. This reflects the insufficient access to modern energy services, including electricity and modern fuels, which are crucial to developing economic activities and reducing poverty levels. Table 3 shows the electricity access rate in the ECOWAS region in 2009.

Table 3 : Electricity Access Rate in the ECOWAS Region in 2009¹⁹

Country	Electrification Rate (%)	Population living without electricity in 2009
Benin	24.8	6,655,119
Burkina Faso	14.6	14,064,282
Cape Verde	87	tbc
Côte d'Ivoire	47.3	10,401,821
The Gambia	15.0	1,469,135
Guinea	15.0	8,484,352
Guinea-Bissau	15.0	1,287,940
Ghana	66.7	8,122,477
Liberia	tbc	tbc
Mali	18.0	12,603,243
Niger	8.0	14,270,997
Nigeria	50.6	78,261,052
Senegal	42.0	7,211,562
Sierra Leone	15.0	4,987,406
Togo	22.0	4,701,682
ECOWAS	27.2	172,521,067

Tbc: to be completed.

62. It is evident from Table 3 that only six out of 15 countries in the ECOWAS region had electricity access rate above 20% in 2009. These were Togo, Senegal, Nigeria, Ghana, Côte d'Ivoire and Benin; and Ghana had the highest electricity access rate (66%) in the region. The high electricity access rate in Ghana was probably due to the successful implementation of its National Electricity Scheme (NES) mentioned earlier in this document. The average electricity access rate in the region as a whole was estimated at 27.2 in 2009, while it was less than 20% in 2002²⁰. It is worth noting that this table masks

¹⁹ Data for Liberia is not available. Electricity access rate for the Gambia, Guinea and Guinea Bissau has been extrapolated from the 2002 rate (5% for each country) published by the ECOWAS white paper for a regional policy, p.16. The Mali access rate used herein resulted from the extrapolation of the 2006 data (16.6%) published by « Quatrième enquête démographique et de la santé au Mali ». The electricity access rate for Sierra Leone was estimated at 10% in 2004 (see http://www.uneca.org/eca_resources/conference_reports_and_other_documents/sdd/cemrats_study.pdf (10% (2004 data)). It has been therefore extrapolated to come up with an access rate of 15% in 2009. The access rate data of the rest of the countries was taken from http://www.worldenergyoutlook.org/database_electricity/electricity_access_database.htm; data of Cape Verde according to reports of the national utility ELECTRA.

²⁰ See the « ECOWAS white paper for a regional policy », p.16

the disparities between urban and rural areas. In fact, in the rural areas of most of the member countries, where the poor are mostly found, household electricity access is lower than 5%.

63. On the other hand, urban household electricity access can even be higher than 70%, such as in Côte d'Ivoire, Ghana, Nigeria and Senegal with 78%, 85%, 70% and 75% respectively²¹. The lower access level of the rural areas in most ECOWAS member countries is due; in part, to the high level of poverty of local communities and the underdevelopment of the electricity supply infrastructure.

64. In most of the countries in the region, biomass energy contribute to more than 80% of the final energy consumption; hence, access to modern fuels is still very limited, with very low access rate to LPG. The populations, which are mainly concentrated in rural and peri urban areas, rely on traditional biomass for cooking and heating purposes, with related environmental consequences. The rates of access to LPG are lower than 5% in all other member countries a part from Senegal, which is seen as a very advanced country in the LPG field²². As already mentioned, the success of Senegal in improving access to LPG was due to its butanization programme which aimed at encouraging the use of LPG, by providing incentives to end users.

▪ Past and Ongoing Projects and Programs²³

65. At the national and regional levels, several initiatives have been undertaken to improve the access to modern energy services for populations. In the early 1990s, at national level, the ECOWAS member countries carried out reforms which led to the creation of a new institutional model, with new operators such as rural electrification agencies which aim , among others , to combine private expertise and public funding; private sector actors whose role as operators is now clearly recognised. Past experiences have caused the concept of “domestic fuels” to evolve to that of “domestic energy service” resulting in a shift from an approach focussing on energy demand to an integrated approach covering all of the biomass sustainable production / consumption chain.

66. At the regional level, the initiatives and programmes have clearly encouraged the establishment of a harmonised planning framework and regional investments aimed at reducing energy costs. The West African Power Pool (WAPP), the West African Gas Pipeline (WAGP) and the Regional Energy Access Policy are the main initiatives implemented since the 1990s.

67. In 1999, ECOWAS member countries adopted the principle of setting up the WAPP whose main objective was to interconnect national grids across 5,600 km in most West African countries. The resultant facility would equip the ECOWAS region with an installed capacity of some 17,000 MW, which can adequately satisfy demand until 2023. The main priorities are to quadruple inter-connection capacities within the next 20 years and to generate additional electricity capacities. Furthermore, the project aim was to increase trade in energy amongst ECOWAS countries and promote Foreign Direct Investment (FDI) in the sector. The four key achievements are: the creation of the WAPP Secretariat; the adoption of the ECOWAS Energy Protocol; the creation of the ECOWAS Energy Information Observatory and the establishment of a Regional Regulatory Body for the electricity sector.

68. Another major success of ECOWAS in the energy sector is the establishment of the WAGP project, which benefits from the 18 billion m³ of natural gas that Nigeria currently burns off with flare towers. It stands as a complement to the WAPP regional strategy for the development of WAPP hydro-

²¹ See World Energy Outlook, 2008 at http://www.worldenergyoutlook.org/database_electricity/electricity_access_database.htm

²² ECOWAS, « *White Paper for a Regional Policy on Energy Access* », 2005

²³ All the information about the past and ongoing initiatives are taken from ECOWAS, « *Regional Policy on Energy Access* », 2005, p.18-19

electricity. The 687 km pipeline , whose cost is estimated at US\$ 617 million and will supply thermal power stations in Benin, Ghana and Togo, and yield a capacity of 3 000 MW in 20 years' time. The pipeline owned and operated by a private-public consortium, is currently under construction and was operational since 2007.

69. The WAPP and the WAGP are prototypes of unifying projects which take advantage of the regional institution's central position.

70. Other regional programmes such as the "Regional Program on Domestic and Alternative Energy in the Sahel (PREDAS) and the Multi-Functional Platform (MFP) Program" are specific for having contributed to laying the foundations necessary to acknowledge the relevance of energy issues in the process of development. More specifically, the MFP project has the particular merit of being a "High Impact Low Cost «programme that should serve as an example to improve access of rural populations to energy services.

▪ Status of Investment in Modern Energy Services

71. In general, the lack of access to modern energy services represents one of the main barriers to economic and social development. Enhancing sustainable access to modern energy requires robust financing mechanisms that address the specific needs of key stakeholders. Governments in the ECOWAS region and many bilateral and multilateral development agencies have recognized the importance of improving access to modern energy, by financing projects that only increase access to these services.

72. The World Bank Group has committed to promoting access to modern energy services in developing countries, by putting in place a lending programme that includes direct investment in new energy projects and sector-specific policy advice to countries. The World Bank investment review study²⁴ conducted in 2010 estimated that the total investment in energy access during the fiscal year 2000-2008 amounted to USD four billion, of which USD 1,080 million in Africa and USD 194.2 million²⁵ in ECOWAS country members. For the same period, the energy access investment in West Africa represents 18% of the total investments in Africa. This percentage is low because seven countries including Cape Verde, Côte d'Ivoire, the Gambia, Liberia, Niger, Sierra Leone and Togo did not implemented any World Bank-funded energy access project between 2000 and 2008. It must be noted that these figures are only related to energy access investments, which are defined by the study as initiatives that support new delivery of improvement in the quality of energy services for households, communities, or local enterprises that are without access to a specific type of energy²⁶.

73. The Global Environment Facility (GEF), housed at the World Bank, finances access to energy services in rural areas where expansion of the grid is neither cost-effective nor affordable²⁷. This is mainly done under its climate change mitigation strategy which focus on the promotion; deployment and transfer of innovative low carbon technologies, the promotion of market transformation for energy efficiency, the promotion of investment in renewable energy technologies, just to mention a few. The GEF support for access to modern energy services in the West African region has increased recently. Between 2004 and 2009, the GEF invested a total amount of USD 36.5 million in climate change mitigation projects in the ECOWAS member countries. Under the fifth replenishment period, the facility

²⁴ See <http://siteresources.worldbank.org/EXTENERGY2/Resources/EnergyForThePoor.pdf> ,p. 26

²⁵ Compiled from the World Bank Energy Access Investment Porto folio : Fiscal 2000-2008 at <http://siteresources.worldbank.org/EXTENERGY2/Resources/EnergyForThePoor.pdf>

²⁶ Ibid, p. 18

²⁷ http://www.un-energy.org/activities/energy_access/description

has allocated an amount of USD 45.9 million to climate change activities including energy access projects, representing an increase of 25%.

74. In addition to the World Bank and the GEF, development agencies such as the AfDB, and the UNDP, bilateral development agencies and the governments within the region have increased their investments in initiatives that improve access to modern energy services.

INVESTMENT NEEDED TO ACHIEVE ENERGY ACCESS IN ECOWAS

Access to Electricity

75. The International Monetary Fund (IMF) and the World Bank estimated the total investment requirements to achieve 100 percent electricity access in the Sub Saharan Africa, at USD 11 billion per year between 2005 and 2030, with an additional 200 million households that would receive electricity before 2030²⁸. This represents an average investment USD 55 /household/year.

76. Based on a population growth rate of 2.3% for the west African region²⁹, it is estimated that only an investment of USD 4.3 billion per year will be required to achieve universal electricity access in the ECOWAS region, representing a total amount of USD 86 billion between 2011 and 2030. Table 4 presents the annual investment requirements per country.

Table 4 : Investment Requirements for 100 percent Electricity Access in ECOWAS between 2011 and 2030

Country	Population in 2010 (in million)	Population in 2030 (in million)	Current Electricity Access Rate (%)	Additional Households that would receive Electricity Between 2011-2030	Investment per annum between 2011-2030
Benin	8.8	13.9	24.8	2,307,772	126,927,471
Burkina Faso	16.5	26.0	14.6	4,294,520	236,198,613
Cape Verde	0.5	0.8	87%		7,113,748
Côte d'Ivoire	19.7	31.1	47.3	5,146,995	283,084,701
The Gambia	1.7	2.7	15	450,711	24,789,080
Guinea	10.0	15.7	15	2,602,883	143,158,580
Guinea-Bissau	1.5	2.4	15	395,123	21,731,740
Ghana	24.4	38.4	66.7	6,360,617	349,833,919
Liberia	4.0	6.3	n.a	1,041,541**	57,284,745
Mali	15.4	24.2	18	4,007,961	220,437,829
Niger	15.5	24.4	8	4,045,027	222,476,496
Nigeria	158.4	249.6	50.6	41,311,760	2,272,146,802
Senegal	12.4	19.6	42	3,242,323	178,327,786
Sierra Leone	5.9	9.2	15	1,530,068	84,153,739
Togo	6.0	9.5	22	1,571,859	86,452,259
ECOWAS	300.8	474.0	27.23	78,438,500	4,314,117,507

** Estimate based on the average electricity access rate for the ECOWAS region.

²⁸ This estimate is consistent with the AfDB, which found that an amount of USD 12 billion will be required to achieve a 100% electricity access in the SSA by 2030. See at <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/10000025-EN-PROPOSALS-FOR-A-CLEAN-ENERGY-INVESTMENT-FRAMEWORK-FOR-AFRICA.PDF>

²⁹ See http://www.humansecuritygateway.com/documents/UNOWA_UrbanizationInsecurityWestAfrica.pdf

77. Table 4 illustrates the investment requirements across the ECOWAS member countries with Nigeria requiring half of the investment due to its high population.

▪ Access to Clean Cooking Facilities

78. ECOWAS member countries adopted a regional target to halve the poverty in the region and achieve the MDGs by increasing access to modern energy services by the year 2015. These countries set a target of 100% access to improved domestic cooking services by populations by the year 2015. The achievement of this target will require the supply of 30 million stoves³⁰ to populations, at a unit price of USD 50.

79. In order to achieve 100 percent access to cooking facilities in the ECOWAS region by 2030, it was estimated that 43 million stoves will be required³¹. Therefore, USD 2 billion would be required as investment over 20 years for access to clean cooking facilities.

▪ Access to Motive Power

80. No real economic activity can prosper without access to mechanical or electrical motive power. Such power makes it possible to run, for example, water pumps and mills. Experiments carried out show that the costs of fitting a diesel motor and some key accessories is around 15,000\$ for a locality³².

81. For all of the ECOWAS countries, 100% of the villages with more than 1000 habitants will have access to this service by the year 2030. It is estimated that in the coming 20 years, 243 thousand villages will have to be served³³. Therefore, the total investment requirement is estimated at USD 3.7 billion by 2030, representing an annual investment of USD 182 million.

82. Table 5 below summarizes the investment requirements described above.

Table 5 : Summary of Investment Requirements by 2030

Service	Additional Number by 2030	Investment requirement per year (USD million)	Total Investment Requirement USD million over 20 years (2011-2030)
Electricity	78,488,500 Households	4,315	86,300
Cooking Facility	43,000,000 Stoves	107	2,140
Motive Power	243,000 Rural Communities	182	3,645
Total		4,604	92,085

83. Table 5 also suggests that USD 92 billion will be required to achieve 100 percent access to electricity, cooking facility and motive power in the ECOWAS region by 2030, representing an annual investment of USD 4.6 billion.

³⁰ See ECOWAS, « *White Paper for a Regional Policy* », 2005.

³¹ This assumes that only 60% of the additional 70 million households would receive the stoves between 2011-2030

³² Ibid

³³ This assumes an average rural population of 57% and 1000 inhabitants per village in the ECOWAS region

FINANCING TO ACHIEVE MODERN ENERGY ACCESS

84. In most of the ECOWAS member countries, the modern energy access level has remained low because investments in access to modern energy services have been very limited. This is not surprising because government officials and decision makers find it difficult to mainstream energy access into national development strategies. This is because many issues compete for financing and political attention. However, the public sector should remain the key player while seeking the private sector participation.

85. In addition to the considerable efforts of national governments in this region, which consists of some of the poorest countries in the world, the international community will need to provide financial support for meeting the MDGs adopted by the ECOWAS.

86. To direct energy access project towards households, which are living without access to energy services, innovative financing mechanisms that address the specific needs of key stakeholders should be put in place. Such mechanisms, which include grants, subsidies, micro-credit, loans and guarantees, will be used as instruments to address energy access-related financing needs of regional programmes, national or local governments, utilities, NGOs, private sector entrepreneurs, and households. The examples of the World Bank Group lending programme, the GEF grant programme, the Self-Help Electrification Programme (SHEP) in Ghana and the butanization programme in Senegal best illustrate the utilization of innovative financing mechanisms to increase access to energy services for households.

87. The SHEP programme has been funded mainly by grants, concessionary loans from different countries (including India, Canada and Japan), the National Treasury, and taxes derived from the National Electrification Fund³⁴. The SHEP supports electrification in communities that are willing to make a material contribution to the construction of distribution lines. Thereafter, the Government then completes the connection, and subsidises the connection cost for the first six months, in order to encourage people to connect, thus stimulating demand and giving an incentive to the distributor. For this first six months households can connect for about €5,000 (approx. US\$0.75). After this initial period connection costs are much higher (about US\$100)³⁵.

88. The 'butanization' programmes adopted in Senegal in 1974 to support LPG use through a combination of subsidies to LPG, support for the development for stoves suitable for local conditions and removal of tax on imported equipment, is estimated to have resulted in a 33-fold increase in LPG use, and in a 15% drop of charcoal consumption³⁶.

89. In sum, good practices related to financing mechanisms to improve energy access for households exist and have proven successful. It is important to adapt these financing instruments to national realities in West African countries. Both national governments and multilateral and bilateral development agencies have a key role to play in promoting energy access, by putting in place appropriate financing mechanisms.

³⁴ <http://www.climateparl.net/cp/110>

³⁵ Ibid

³⁶ http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch12s12-2-4-1.html

SOURCES OF FINANCING AND BARRIERS TO SCALING UP

90. Financing sources for improving access to modern energy services in developing countries include the balance sheet of state owned utilities, subsidies provided by government, grants and loans offered by national development banks and specialised national institutions and funds, such as rural energy funds³⁷. However, the West African countries, utilities rarely invest in energy access projects because they often operate at a loss, relying on public funds for capital investment and, sometimes operating expenditures.

91. In addition, national development banks are not involved in energy access promotion because energy access improvement is not part of their priorities. Most countries have a subsidy provided through electrification funds which are mostly supported by levies, donor funds and government budget. These funds mostly subsidise projects.

92. Unfortunately, in most cases these subsidies do not prove efficient because they fail to target households who are unable to pay and the item they may have difficulty paying for, usually electricity connection fee or clean cooking facilities. Other financing sources for modern energy access investments include multinational and bilateral financing institutions, carbon financing and private sector sources, local banks and microfinance institutions as well as project developers.

93. In the ECOWAS region, multilateral and bilateral institutions have been the main financing sources for energy access investments. Some examples of these sources are:

- The World Bank (Investment Framework for Clean Energy and Development)
- The International Finance Corporation (IFC) dedicated to the promotion of the private sector
- The African Development Bank (Clean Energy Investment Framework for Africa)
- The European Bank for Reconstruction and Development (EBRD) (Sustainable Energy Initiative (SEI)).
- The European Investment Bank (EIB) is working in partnership with the EU through a new Trust Fund to promote sustainable energy solutions for Africa.
- ACP-EU Energy Facility³⁸
- The Carbon Finance
- Fast Start Financing

94. Future potential sources are:

- Oil producers (Total, BP, etc.)
- Bloomberg New Energy Finance³⁹

³⁷ http://www.iea.org/papers/2011/weo2011_energy_for_all.pdf

³⁸ The Energy Facility is a co-financing instrument established in 2005 in order to support projects on increasing access to sustainable and affordable energy services for the poor living in rural and peri-urban areas in African, Caribbean and Pacific (ACP) countries.

³⁹ Bloomberg New Energy Finance was founded by Michael Liebreich in 2004 in order to provide subscription-based services on the clean energy industry. See: <http://bnef.com>

CONCLUSION

95. Access to clean modern energy in rural and peri-urban areas is one of the goals of the MDGs to eradicate poverty and improve rural infrastructure development. Energy is the source of all life, so modern energy can be the source of a better life for all. Modern energy services are crucial to human well-being and to a country's economic development; and yet globally over 1.3 billion people are without access to electricity and 2.7 billion people are without clean cooking facilities. More than 95% of these people are either in sub-Saharan Africa or developing Asia and 84% are in rural areas.

96. Lately, many developing and emerging economies are trying to diversify their energy mix. In many cases, Renewable Energies (RE) are becoming a more and more important strategic component for many countries' diversification of their national energy supply, particularly in the rural and peri urban areas. RE have a competitive advantage because they provide a long-term energy supply (for electricity, heating or cooling) based on locally available RE sources and thus help to reduce dependency on energy imports. Besides, RE provide appropriate technological solutions for the electrification of rural or semi-urban areas where they can be used independently from grid-connection. RE are a key for the provision of modern energy services in these areas and contribute to the local economic and social development.

97. The lack of access to modern energy services represents one of the main barriers to economic and social development in the ECOWAS region. Enhancing sustainable access to modern energy requires robust financing mechanisms that address the specific needs of key stakeholders in the area of modern energy access. However, good practices related to financing mechanisms to improve energy access for households exist and have proven successful in the ECOWAS region. It is therefore important to adopt these financing instruments to national realities in the different countries. Both national governments and multilateral and bilateral development agencies have a key role to play in promoting energy access, by putting in place appropriate financing mechanisms.

98. Even though many ECOWAS member countries have already considered the energy access options, more still need to be done. Governments in the region need to take further actions to scale up access to modern energy services mainly to remote areas, where the vast majority of people live. Policies should focus more on rural and peri-urban areas of the region.

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