



Public Awareness of Low-Carbon Economy in Nigeria: A Case Study of Akwa Ibom State

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ABSTRACT: This paper aims to examine levels of awareness and performance relating to the promotion of a Low-carbon economy (LCE) among the general public in Akwa Ibom State, Nigeria. The data and information used were derived from 600 questionnaires distributed randomly among households in North West, North East and South senatorial districts of Akwa Ibom State. The results indicate a combination of high awareness with poor understanding of LCE programmes among respondents, with the poor understanding probably due to a shortage of appropriate information from trusted sources and shortcomings in education. Respondents generally showed positive attitudes toward pro-environmental actions, such as refusing to use plastic bags, waste recycling, water and energy conservation. Apart from regulation and policies, they considered education and economic incentives as effective mechanisms to promote LCE implementation. Overall, those consulted responded favourably towards the prospect of LCE. Results of the study, at this preliminary stage, suggest that the general public in Nigeria has the potential to be a facilitator of environmental improvements in the country. @JASEM

Keywords: Low-Carbon Economy, Nigeria, Sustainable Development, Climate Change, Awareness

Climate change is likely to remain a pressing challenge to human society throughout the 21st century, until concerted actions are taken to prevent further global warming-induced effects and to achieve sustainable development. Although the application of science will no doubt be an important component of these concerted actions, reducing climate change impacts will be largely contingent on the active cooperation of people in the implementation of strategies aimed at mitigation (Blake, 1999). Thus solving the problem of climate change, despite often being posed as a challenge to politicians, scientists and engineers will also require active engagement of the general public.

Emissions of greenhouse gases, notably CO₂, to the atmosphere are widely regarded as an important forcer of climate change (Tewel et al., 2010). Implementation of a Low-carbon economy (LCE) has emerged as a possible solution at regional, national and international levels to the problem of balancing the demands of combating climate change with those of maintaining economic growth and alleviating poverty. LCE or Low-Fossil-Fuel Economy (LFFE) refers to an economy that has a minimal output of greenhouse gases emission into the biosphere, aiming to combine the highly efficient use of existing energy resources with the exploitation of new clean energy supplies (Wang, 2010).

Nigeria, the 6th largest oil producer in the world, the 1st largest in Africa and the most prolific oil producer in sub-Saharan Africa, is beset by the gas flaring scourge being ranked among the top three global flarers. Given continually increasing energy demand and a lack of availability of technologies that can be

deployed immediately on a large scale, Nigeria's emissions will inevitably continue to climb in the next decade, even under the most ambitious mitigation scenarios (Flachsland et al., 2009). The challenges to establishing LCE in Nigeria are likely to be different from those faced in economically more advanced countries where the population has greater familiarity with the implementation of environmentally-friendly policies, such as the UK and the US. Finding the balance between enhancing living standards through increased consumption, while at the same time reducing carbon emissions, is the fundamental challenge to the establishment of LCE in Nigeria.

Barriers to successful implementation include the pressure to construct large infrastructure projects, in part to maintain competitive advantage in Nigeria, a continued heavy reliance on oil which supplies 95% of its foreign exchange earnings, inefficient energy production and distribution systems, and a continuous and increasing pressure to raise living standards in many parts of the country (Flachsland et al., 2009). Other factors that are likely to hinder the roll out of LCE include the high cost of new technologies, low financial incentives in industries that remain competitive because of low salaries and a lack of inter and intra-sector collaboration. However, embarking on a LCE pathway is also likely to bring opportunities to Nigeria, particularly through enhancing the competitiveness of key sectors in the economy internationally (Flachsland et al., 2009). Moreover, failure to achieve the transition to LCE would certainly jeopardize Nigeria's ability to achieve its vision 20/2020 and goal number seven of the MDGs (ensuring environmental sustainability).

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The current research seeks to address a gap in understanding concerning the attitudes and behaviours of the general public towards LCE in an economically rapidly developing part of Nigeria. Focusing on Akwa Ibom state, a major oil producing state in Nigeria, the research that underpins this paper was guided by the question: to what extent are levels of knowledge, understanding and willingness to act among the residents of Akwa Ibom state in Nigeria, likely to facilitate or constrain successful implementation of policies aimed at achieving LCE? Results of the research are intended to appeal to environmental policy makers and planners at local and regional levels in Nigeria, and to academics more generally.

METHODOLOGY

Research Area: Akwa Ibom state is a state in Nigeria, located in the coastal south-southern part of the country, lying between latitudes 4°32'N and 5°33'N, North, and longitudes 7°25'W and 8°25'W East. It is currently the highest oil producing state in the country (<http://www.godswillakapbio.com>). Akwa Ibom state was chosen for the study as an economically rapidly developing state that has a large and quickly increasing population of over five million people. Also, because of its vulnerability to climate change as a result of its fragile ecosystem and human activities such as gas flaring that has heightened the propensity of climate change and its impacts in the state (Nnamchi and Ozor, 2009; Fisher et al., 2005).

Questionnaire-Based Survey: 600 households were randomly selected as the target group from the North West (Ikot Ekpene), North East (Uyo) and South (Eket) senatorial districts of the state. The questionnaire administered comprised ten questions to evaluate respondents' awareness of and attitudes toward LCE and greenhouse gases (GHGs) emission targets, uncover respondents' understanding and perceptions of LCE and lastly to investigate respondents' practical performance and views of LCE policy instruments. The survey involved the random selection of 200 households in each of the three senatorial districts of Akwa Ibom state. All questionnaires were distributed by hand to individual households. The investigators introduced the general background of this survey to respondents. The survey had a response rate of 73%. 438 completed questionnaires were collected, out of a total of 600 distributed.

RESULTS AND DISCUSSIONS

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As shown in Table 1, a large majority of the respondents were familiar with LCE followed by those who were very familiar and the least were those who never heard of LCE. The attitudes of the respondents toward the implementation of LCE in Nigeria were encouraging as a greater percentage of the respondents agreed to the necessity to implement LCE in Nigeria. Half of the respondents were optimistic about the future of LCE in Nigeria as evident in the results. Most of the respondents claimed that their awareness came from the media (news, radio and TV; newspaper and magazine) and discussions with friends with only a relatively small portion obtaining the information from public education programmes and advertisements. The reliance on mass media as a source of information on environmental issues is in line with findings from previous research (Cai et al., 2009). When being asked the importance of implementing LCE, many respondents recognized the need for Nigeria, as a major producer of GHGs emissions to take seriously its responsibilities to act to mitigate global climate change. Many respondents acknowledged that LCE would prevent pollution and protect environment, combat global warming, which was consistent with the domestic development strategy and would likely reduce the frequency of natural disaster. Furthermore, more than half of the respondents felt that LCE implementation would lead to improved living conditions.

With regards to personal actions taken to reduce waste and lower carbon emissions, a large majority of the respondents frequently engaged in recycling, many conserved water and electricity. For about 40% of the respondents, LCE has become a topic of conversation with friends and relations, half of them have inculcated the habit of turning off electronic devices when they are not in used while many have already refused to use plastic bags and disposable products but very few of the respondents engaged in purchasing low carbon products and in activities that lead to natural disaster prevention.

Despite generally displaying high awareness and engaging in positive actions, concerns regarding the development impacts and economic cost were evident. Thus, 7% of the respondents felt that LCE would be detrimental to economic growth, 24% were concerned about the high price of low carbon products, while a similar proportion expressed worry over the cost of the transformation process. About 38% of the respondents felt that LCE would reduce their standard of living. Others opined that LCE was unsuitable for present-day Nigeria, because they

thought implementation of LCE would have negative impacts on the industrial development.

Table 1: Survey results of Question 1 to Question 8.

Survey Questions	Percentage
<i>Q1. Have you heard of Low-carbon economy (LCE)?</i>	
Never heard	23
Familiar	48
Very familiar	29
<i>Q2. Do you think it is necessary to promote LCE in Nigeria?</i>	
Unnecessary	26
Necessary	74
<i>Q3. What would be the future of LCE in Nigeria?</i>	
Optimistic	50
Pessimistic	19
Hard to tell	31
<i>Q4. From which information channels did you hear of LCE?</i>	
News, radio and TV	40
Public education programmes	15
Advertisements	11
Newspaper and magazine	29
Discussion with friends	32
<i>Q5. The world ranking of Nigeria as a carbon emitter?</i>	
No.1	18
No.2	20
No.3	07
No.4	03
Not sure	52
<i>Q6. Should Nigeria be responsible for carbon reduction?</i>	
Yes	81
No	19
<i>Q7. What low carbon actions you take in daily life?</i>	
Refuse to use plastic bags	38
Refuse to use disposable products	42
Reduce waste and recycling	54
Conserve electricity, water, etc.	56
Purchase low carbon products	11
Turn off electronic devices	50
Discuss LCE with friends	40
Natural disasters prevention	11
<i>Q8. Why do you think it is necessary to promote LCE?</i>	
Global warming	60
Better living conditions	58
Economic growth	28
Sustainable development	40
Environmental protection	58
Low energy utilization rate	22
Low per capita share of natural resources	35
Natural disaster prevention	48

Concerns about the consequences of implementing environmental policies are not uncommon, and may stem from mistrust or misinformation, a poor level of understanding of information that is available or a shortage or absence of information from trusted sources. Moreover, research has exposed the weaknesses in the idea that the solution is simply more information (the information-deficit model), in particular its inability to influence directly the behavior of the target audience (often the general

public) (Blake, 1999; Young, 1993; Davies, 2001; Schultz, 2002). However, a shortage of appropriate information from trusted sources is often seen as a major factor limiting behavioral change and therefore the effective implementation of environmental friendly policies. The current study revealed that present levels of understanding of LCE could potentially undermine successful implementation of LCE.

Pro-environmental actions regarding lifestyles and the products and services the public consume directly and indirectly impact the environment and personal wellbeing (Jackson, 2005). Along the transformation path towards a society characterized by sustainable consumption, finding the balance between limiting unsustainable behaviors and maintaining freedom of choice is a major challenge (Blake, 1999). Finding this balance requires recognition of the range of behavioral and structural factors, combined with incentives and punitive actions, which are likely to be required (Blake, 1999; Jackson, 2005).

As a rapidly emerging industrial and agricultural powerhouse with a growing demand for resources

and with a population that is still, in many parts of the country, burdened with poverty, the challenges to implementing a LCE in Nigeria are perhaps greater than for any other nation. A close working relationship between the Government, industry and the general public is likely to be essential to the successful implementation of LCE. The evidence presented here, albeit from a limited study, suggests that the general public is unlikely to impede roll out of LCE in Nigeria. More likely they have the potential to be strong agents for environmental improvements in the country, including implementation of LCE.

Table 2. Survey results of Question 9 to Question 10

Survey Question 9 and 10	Percentage
<i>Q9. Which mechanisms would play an important role in promoting LCE?</i>	
Laws, policies and regulations	67
Technology innovation	42
Renewable energy promotion	11
Economic disincentives (e.g. fines and taxes)	03
<i>Q10. Why do you think it is unnecessary to promote LCE?</i>	
High capital cost	21
LCE would affect the current living standards	38
The price of Low-carbon products is high	24
LCE is "Poor Economy"	07
LCE would limit the industrial development	16
LCE would limit the economic growth	07

Conclusions: The current research focusing on a sample of residents of Akwa Ibom State was stimulated by an interest in determining the extent to which the awareness and attitudes of the Nigerian public are likely to facilitate or constrain movement of the economy to one less dependent on fossil fuels.

The findings suggest that participants generally display a high awareness towards LCE while their understanding and knowledge of key issues is relative poorly developed, which is possibly derived from the lack of information. However, rather than being unknowledgeable about environmental problems and resistant to sustainable consumption, respondents showed a strong willingness to learn and take actions aimed at facilitating the transition to a LCE. Pro-environmental actions that already occur include refusing to use plastic bags, waste recycling, and water/electricity conservation. In response to the question "Which LCE promotion measure are you in favor of?" The data demonstrate that the public generally are pro technology innovation, educational provisions, and encouragement-based market mechanisms (such as green subsidy and funds), while displaying far less satisfaction with economically punitive measures (such as fines and taxes).

Furthermore, respondents expressed strong trust in the government and acknowledged the efforts that government has put so far in terms of local environmental protection. Overall respondents were in favour of a transition towards LCE. The general public in Nigeria can therefore become a strong agent for environmental improvements in the country, including the implementation of LCE.

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