Oil, Energy Poverty and Resource Dependence in West Africa

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The new rush to discover and exploit hydrocarbon resources in West Africa, and particularly in the Gulf of Guinea, has raised hopes in the affected countries for new petroleum wealth and economic development. History shows, however, that major oil and gas discoveries have a very mixed record, at best, in terms of societal gains and political stability. This article therefore assesses the macroeconomic and governance implications of the recent oil and gas rush in West Africa. Clearly, sound management of the resource revenues will be crucial in national efforts to tackle poverty and promote socio-economic development. While there is a large body of literature available on the issues and best practices related to oil and gas resource management and the design of associated institutions and financial mechanisms, the article fills two gaps. First, while Nigeria and Angola have received ample attention, this article focuses on some smaller countries in the Gulf of Guinea that have only recently emerged as oil and gas producers, such as Liberia, Niger and Sierra Leone. Secondly, it highlights implications for two major socio-economic characteristics of these emerging resource-rich states: (1) energy poverty; and (2) agricultural dependence and lock-in on single crops. The early evolution of institutions to manage the newfound revenues is found to be critical to long-term prosperity or instability. A legacy of beneficial or problematic social impact of new resources hinges on the success in using the new petroleum resources to establish an 'enabling environment' where resource wealth is seen across society as a means to build stable institutions, reduce social and economic inequality and drive national prosperity.

Worldwide demand for petroleum has risen steadily over the past few years and is forecast to grow stronger, driven by population growth and increasing affluence in emerging economies. In parallel, fears over disruptions from volatile supply bases in the Middle East and parts of Africa have also increased. These trends, together with high oil prices, have led petroleum companies increasingly to start drilling in low-income countries. In the next few years, 16 new countries – most of them in Africa, and almost all of them poor – are expected to join the ranks of oil and gas exporters.[1]

West Africa, in particular, has seen a flurry of exploration and production activities since 2007, when one of Africa's biggest oilfields was discovered off the coast of Ghana. Subsequent oil and natural gas discoveries in the region have further accelerated global interest and investment intent on exploiting these resources.[2] The 625-mile petroleum-rich geologic formation along the West African coast has been termed one of the world's 'least-covered magnets for oil companies from around the world'.[3] Fossil fuels found here are of high quality (sweet and light)[4] and are mostly located offshore, presenting favourable conditions for management, as well as for transport, because extractions can be relatively easily shipped to various destinations in the world.[5] It is suggested that the region's production could more than double in approximately the next three years.[6]

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1 Michael L Ross, *The Oil Curse: How Petroleum Wealth Shapes the Development of Nations* (Princeton: Princeton University Press, 2012), 10.

2 IEA, *World Energy Outlook 2010*, 28–29.

3 Steve LeVine, 'Liberia's Throw of the Resource-curse Dice', Foreign Policy, 19 July 2011, http://oilandglory.foreignpolicy.com/posts/2011/07/19/liberias_throw_of_the_resource_curse_dice.

4 Crude oil is commonly classified as 'light', 'medium' or 'heavy', according to its viscosity (measured on the American Petroleum Institute's gravity scale); and as 'sweet' or 'sour' depending on its sulphur content. Light, sweet crude is the most sought-after version of crude oil since it requires less processing and produces a slate of products with a greater percentage of value added, such as gasoline, diesel and aviation fuel.

5 AfDB and AU, *Oil & Gas in Africa* (Oxford: Oxford University Press, 2009); FES, *Fuelling the World – Failing the Region? Oil Governance and Development in Africa's Gulf of Guinea*, vol 1 (Abuja, Nigeria: Friedrich-Ebert-Stiftung, 2011).

6 LeVine, see note 3 above, 2.

For the small, low-income, but now oil and gas resource-rich, countries in West Africa, such as Liberia, Niger and Sierra Leone, this means that potentially large amounts of income will suddenly be generated.[7] Those flows are likely to largely exceed current development aid receipts as is already the case in Angola, Cameroon, the Republic of Congo and Nigeria (see Figure 1). The new petrodollars could become West Africa's largest inflow of money in a relatively short time.[8] The recent discoveries in the Gulf of Guinea have, naturally, raised expectations that revenue streams will enable new oil players in the West African sub-region finally to leverage the untapped potential of their economies.

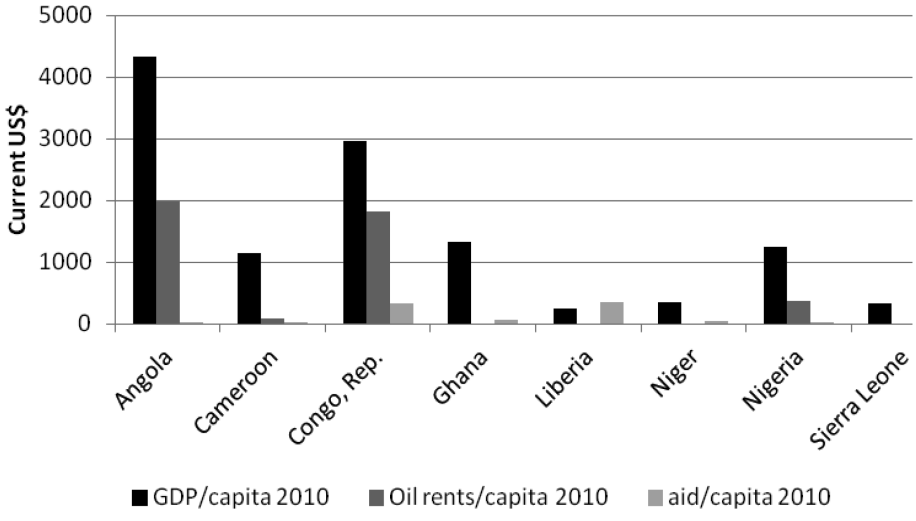

Figure 1: Oil rents per capita compared to gross domestic product (GDP) per capita and development assistance and official aid per capita in selected West African countries[9]

The impact on these societies is already being felt. Since oil companies announced new oil finds off the coasts of Liberia and Sierra Leone (February 2012), increasingly politicised popular groups have voiced both concerns and warnings to their governments about the dangers of the so-called 'resource curse'.[10] This article highlights ramifications for small and poor new players in the region with regards to energy poverty, as well as agriculture, and discusses implications for policy-makers.

7 Ricardo Soares de Oliveira, *Oil and Politics in the Gulf of Guinea* (New York: Colombia University Press, 2007).

8 *Ibid.*

9 World Bank, 'World Bank: Data' (World Bank, 2012), http://data.worldbank.org.

10 The idea of the resource curse (also known as the Paradox of Plenty) is that the development and economic growth of countries that are rich in natural resources are worse than in comparison to countries without such wealth.

Still a curse?

The concept of the 'resource curse' suggests that large, newfound resource endowments can both directly and indirectly result in poor forms of governance that in turn incite, prolong and intensify political instability, graft and violent conflict.[11] Large windfall revenues from oil or gas production, for example, can change government behaviour, damage economic growth and imperil development.[12] The consolidation and extraction of natural resources can solidify asymmetries in wealth that then contribute to rising income gaps between the rich and poor, institutionalise corruption and enable oppressive regimes to maintain their political power.[13] Resources can be used to finance conflicts or can be a motive for other countries to go to war.[14]

For proof of this so-called resource curse, consider that in Saudi Arabia, the country with the largest conventional oil reserves in the world,[15] per capita income plunged from $15,400 in 1981 to $9,900 in 2011 (measured as GDP per capita in constant US$2,000).[16] In Venezuela, real per capita income has regressed to the levels of the 1960s. Controlling for structural attributes, a recent study, estimated that resource-rich countries (defined as those with many petroleum projects in place or under development) as a whole showed less economic development than resource-poor countries from 1975 to 2000.[17] A separate study compared the economic performance

11 Ross, see note 1 above, 1.

12 Paul Stevens, 'Resource Curse and Investment in Energy Industries' in Cutler Cleveland (ed) (2004) 5 Encyclopedia of Energy 451–459.

13 Terry Lynn Karl, 'State Building and Petro Revenues', in Marc Garcelon, Edward W Walker, Alexandra Patten-Wood and Alexsandra Radovich (eds), *The Geopolitics of Oil, Gas, and Ecology in the Caucasus and Caspian Sea Basin* (Berkeley: Berkeley Institute of Slavic, East European, and Eurasian Studies, 1998), 3–14; Terry Lynn Karl, 'Crude Calculations: OPEC Lessons for the Caspian Region', in Robert Ebel and Rajan Menon (eds), *Energy and Conflict in Central Asia and the Caucasus* (New York: Rowman & Littlefield, 2000), 29–54; Terry Lynn Karl, 'Understanding the Resource Curse', in Svetlana Tsalik and Anya Schiffrin (eds), *Covering Oil: A Reporter's Guide to Energy and Development* (New York: Open Society Institute, 2005), 21–27; I De Soysa, 'The Resource Curse: Are Civil Wars Driven by Rapacity or Paucity?' In M Berdal and D M Malone (eds), *Greed and Grievance: Economic Agendas in Civil Wars* (London: Lynne Reinner, 2000), 113–135; Marilyn Silberfein, 'The Geopolitics of Conflict and Diamonds in Sierra Leone' (2004) 9(1) Geopolitics 213–241.

14 Philippe Billon, 'Geopolitical Economy of Resource Wars' (2004) 9(1) Geopolitics 1–28.

15 According to BP's latest *Statistical Review of World Energy*, released in June 2012, Venezuela has recently overtaken Saudi Arabia to become the world's largest holder of oil reserves. However, BP's estimate includes the unconventional extra-heavy crude from Venezuela's Orinoco Belt.

16 World Bank, see note 9 above, 3.

17 Macartan Humphreys, Jeffrey D Sachs and Joseph E Stiglitz, 'What is the Problem with Natural Resource Wealth?' In Macartan Humphreys, Jeffrey D Sachs and Joseph E Stiglitz (eds), *Escaping the Resource Curse* (New York: Columbia University Press, 2007), 1–21.

of developing countries 'rich in resources' with those 'poor in resources' and found that resource-rich countries had a median GDP per capita of about $200 less than resource poor ones.[18] Yet another study investigated the extraction of four types of natural resources – agricultural raw materials, fuels, food and ores and metals – and tested for the resource curse using data from 1970 to 2006. They confirmed the existence of such a curse and found that countries highly dependent on primary product exports seem to suffer from weaker or slower economic growth.[19]

Explanations for the resource curse often follow variants of the 'crowding-out argument'. As Sachs and Warner put it, 'Natural Resources crowd out activity *x*. Activity *x* drives growth'.[20] Sachs and Warner as well as Gylfason[21] equate '*x*' with traded-manufacturing activities. The logic goes that a positive wealth shock from the natural resource sector drives up real exchange rates and results in often dramatically higher wages in that sector than in others. This in turn reduces profits in manufacturing and other non-primary export sectors.[22] The subsequent decline in the manufacturing sector translates into a gradual slow down and an eventual halt of economic growth, popularly known as the 'Dutch disease'. The term derives from the Dutch experience following the discovery of large fields of natural gas in the Netherlands in the late 1950s, when the country witnessed a huge inflow of revenues due to the rapid development of becoming a gas exporter. The initial result was an increase in overall welfare, but soon the manufacturing sector declined as a result of a large inflow of foreign currency that made manufacturing exports less competitive on international markets and increased production costs internally.[23]

New hydrocarbon discoveries in an intricate context

Oil-producing countries in Sub-Saharan Africa (SSA) are generally characterised by low electricity access levels and low levels of industrial production. Figures 2 and 3 show a stark difference between the performance

18 Richard M Auty, 'Natural Resources and Civil Strife: A Two-Stage Process' (2004) 9(1) Geopolitics 29–48.

19 Louis-Philippe Beland and Raaj Tiagi, *Economic Freedom and the Resource Curse: An Empirical Analysis* (Fraser Institute, October 2009).

20 J D Sachs and A M Warner, 'Natural Resources and Economic Development: The Curse of Natural Resources' (2001) 45 European Economic Review 827–838.

21 T Gylfason, 'Resources, Agriculture and Economic Growth in Economies in Transition' (2000) 4 Kyklos–580.

22 FES, *Fuelling the World – Failing the Region? Oil Governance and Development in Africa's Gulf of Guinea*, 1.

23 PIAC, *Report on Petroleum Revenue Management for 2011 – Annual Report* (Public Interest and Accountability Committee, 2012).

of countries such as Mexico (ie, non-SSA oil-dependent nations) and the situation of SSA countries (eg, Sierra Leone and Nigeria). The majority of oil producers have a rather low contribution to GDP from agriculture; the difference, however, being that most (oil-producing) countries in the non-SSA cluster (upper-right corner) in Figure 3 are undergoing a process of industrialisation as their secondary sector has been expanding significantly in economies originally dominated by primary activities (see also Table 1 on p42). Meanwhile, industrialisation in SSA has been slow at best, with a manufacturing value add (VA) per capita of $34; SSA's share of manufacturing exports in total exports remain the lowest, with economies relying heavily on resource-based industries (see Figure 2). Nigeria, Ghana and Gabon rank 103rd, 109th and 116th out of 118 in the Competitive Industrial Performance Index.[24]

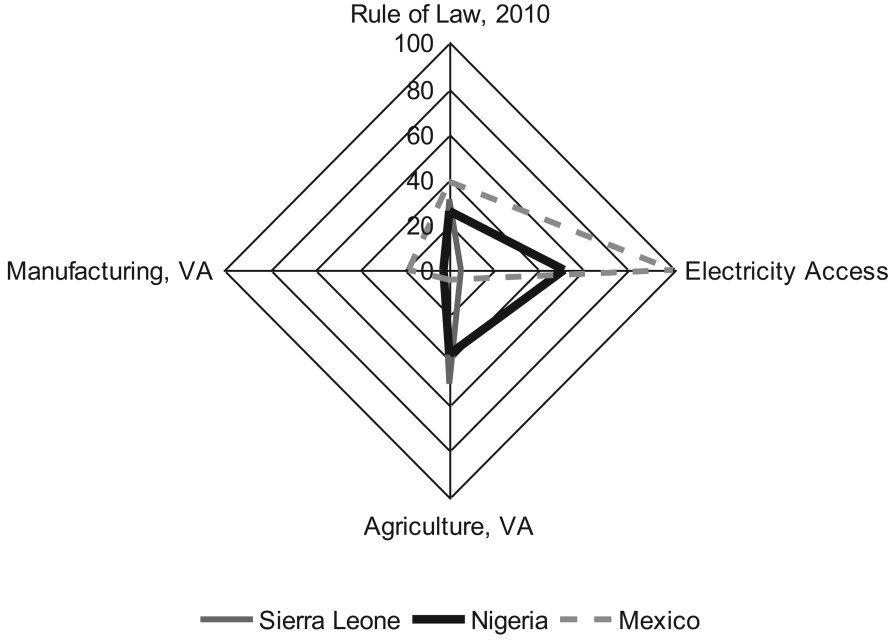

Figure 2: Manufacturing VA (per cent of GDP), agriculture VA (per cent of GDP), rule of law (per cent of best practice achieved) and electricity access rate (per cent of total population)[25]

24 The Competitive Industrial Performance (CIP) index, first developed by UNIDO ten years ago, assesses industrial performance using indicators of an economy's ability to produce and export manufactured goods. The CIP index can be used to rank and benchmark countries' industrial performance, making it particularly relevant for policy-makers. Industrial performance, and its varietal dimensions, factors and variables, is associated with socio-economic development (UNIDO, 2009, *Changing Patterns in Industrial Performance*, WP 05/2009, Vienna).

25 World Bank, see note 9 above, 3.

It is against this backdrop that we turn our attention to potential new players in the region, notably Liberia, Niger and Sierra Leone. According to the United Nations (UN) classification, they belong to the least developed countries (LDCs), characterised by 'a low per capita income', 'a low level of human resource development' and 'a high degree of economic vulnerability'[26] Niger, Sierra Leone and Liberia have reached the heavily indebted poor countries (HIPC)[27] initiative completion point and had their external debt cancelled in full.[28] They are small, low-income economies in the West African region that depend heavily on agriculture and feature among the lowest electricity access rates worldwide (see Figures 2 and 3). This article will focus on agriculture and energy access because: (1) given the structural composition of these economies, agriculture is most likely to suffer from the adverse consequences of an expanding oil industry; and (2) expanding energy access and strengthening energy security are vital for these countries' and the entire region's economic transformation towards industrialisation.[29]

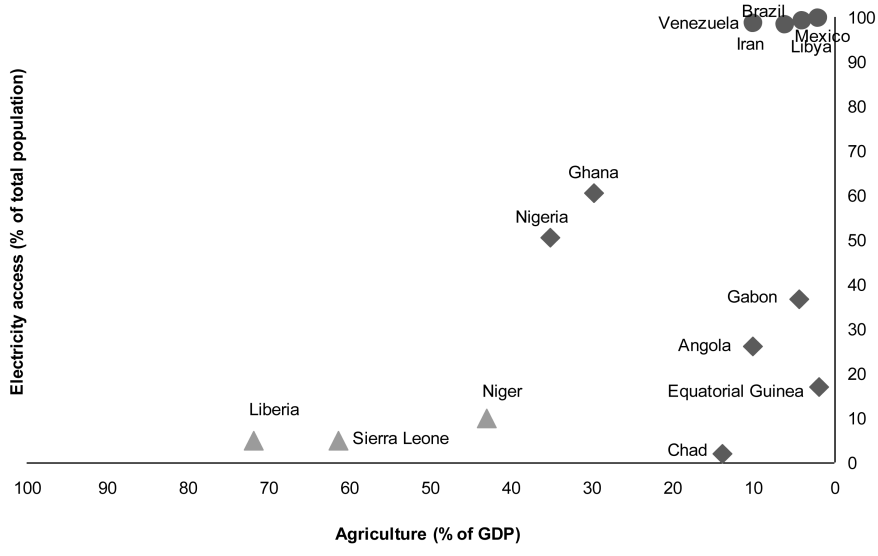

Figure 3: Access to electricity and agriculture value added in selected oil-rich developing countries

26 *Ibid* 5.

27 Heavily Indebted Poor Countries (HIPCs) is a group of 39 developing countries with high levels of poverty and debt overhang, which are eligible for special assistance from the International Monetary Fund (IMF) and the World Bank.

28 IMF, Factsheet: Debt Relief Under the Heavily Indebted Poor Countries (HIPC) Initiative, June 2012. Available from www.imf.org/external/np/exr/facts/hipc.htm.

29 Further, the presence or absence of agricultural extension networks has been cited and discussed as a potential model for the rural infrastructure needed to bring energy services to rural areas. C Juma et al, *The New Harvest: Agricultural Innovation in Africa* (Oxford, UK: Oxford University Press, 2011).

Oil and development

Literature on the resource curse concludes that oil-rich emerging countries must maintain and/or expand their non-oil industries in order to sustain economic diversity and balance. Investments from oil revenues must target the improvement of productive capacity and efficiency of non-oil industries.[30] Improving local and 'pre-oil revenue industries' is a way of engaging the greater majority of the population not necessarily in the oil sector, as the oil sector cannot engage everyone. As the Hartwick rule[31] states, any depletion of natural resources should be compensated for by increases in non-human and/or human capital if the goal is to build economic stability. It essentially requires resource-rich economies to adopt ways of transforming their natural resource wealth into other forms of productive capital.[32]

'Dutch disease' and agriculture

In SSA countries it is the agricultural sector, rather than the manufacturing sector, that, until now, has most strongly been subjected to the consequences of the Dutch disease.[33] This is because in most SSA countries structural transformation has been slow[34] and industrial productivity levels are low. According to UNIDO,[35] SSA's manufacturing value added per capita was $34 (ie, 1/13th of the developing country average) as of 2008. Its global share of manufactured exports in total exports remains the lowest, and economies in the region appear to be de-industrialising; most economies in the region are characterised by a heavy reliance on agriculture. Agriculture, however, provides 60 per cent of all employment and constitutes the backbone of most economies in the SSA region.[36] In the majority of countries, agriculture is the largest contributor to gross national income (GNI) as well as the biggest source of foreign exchange. Table 1 and Figure 2 show a strong difference

30 AfDB, *Managing Oil Revenue in Uganda: A Policy Note*, OREA Knowledge Series (African Development Bank, 2008), Managing Oil Revenue in Uganda: A Policy Note.

31 The Hartwick rule asserts that to achieve constant consumption (utility) in a closed economy, all rents from the flow of resource depletion need to be reinvested into reproducible capital (Hartwick, 1977).

32 AfDB and AU, see note 5 above, 2.

33 AfDB, see note 30 above, 6.

34 As economic development advances, the relative size of the agricultural sector usually decreases, while that of the industrial sector increases.

35 UNIDO, 'Industrial Development Report 2011: Industrial energy efficiency for sustainable wealth creation.'

36 Practical Action, *The Crisis in African Agriculture: a More Effective Role for EC Aid?* (Practical Action Publishing Ltd, 2005), http://practicalaction.org/docs/advocacy/the_crisis_in_african_agriculture.pdf.

between agriculture value added (per cent of GDP) in SSA countries and non-SSA countries. Therefore, sustainable development of agriculture plays a key role in generating inclusive economic growth.

In Ghana, which began producing oil in commercial quantities in 2010, agriculture is seriously exposed to the risk of losing external competitiveness through appreciation in the real exchange rate.[37] In addition, because of the high degree of mobility of the labour force, an increased demand for labour in urban areas could lead to upward pressure on wages in the agricultural sector, further reducing external competitiveness for import-competing as well as export-orientated agricultural sectors.[38] Empirical evidence suggests that market share can be extremely difficult to recover, once lost, owing mainly to the loss of commodity-specific capital (both physical and human). It is essential for Ghana to put in place measures to protect the development of its agro-based industries in the production of raw materials, such as oil palm, cassava or cocoa.

As a precedent for this, Venezuela, the world's 11th-largest oil producer in 2011,[39] experienced such a decline. Prior to the 1950s, when it became a large-scale oil exporter, more than 50 per cent of GDP was produced by the agricultural sector; but as the oil industry expanded in the 1970s and 1980s agriculture continued to decline.[40] Today, Venezuela's agricultural sector continues to be characterised by inefficiency and low investment.[41] Trinidad and Tobago followed a similar path, and today the island's value added by agriculture accounts for a mere 1 per cent of the GDP.

37 Sébastian Dessus, 'The Challenges and Opportunities of Ghana's Offshore Oil Discovery', Africa Trade Policy Notes, No 14 (The World Bank 2011), http://siteresources.worldbank.org/INTAFRREGTOPTRADE/Resources/14GhanaOilpolicynoteREVISED.pdf.

38 *Ibid* 7.

39 BP, Statistical Review of World Energy, June 2012.

40 US Library of Congress, 'Country Profile: Venezuela', March 2005, http://lcweb2.loc.gov/frd/cs/profiles/Venezuela.pdf.

41 *Ibid* 10.

Table 1: Socio-economic indicators of selected oil-rich countries (2010)

Country	HDI rank[42]	Government effectiveness[43]	Competitive Industrial Performance index rank[44]	Agriculture[45]	Manufacturing[46]
	(out of 187)	[-2.5 (weak) - 2.5 (strong)]	(out of 118)	VA (per cent of GDP)	VA (per cent of GDP)
Sub-Saharan Africa					
Angola	148	-1.12	n/a	10.1	6.4
Chad	183	-1.5	n/a	16.2	5.6
Equatorial Guinea	136	-1.68	n/a	1.9	0.2
Gabon	106	-0.85	116	4.5	4
Ghana	135	-0.11	109	29.9	6.8
Liberia	182	-1.87	n/a	72	6.7
Niger	186	-1.22	95	43.1	5.4
Nigeria	156	-0.97	103	35.2	2.2
Sierra Leone	180	-1.46	n/a	61.5	2
Other developing regions					
Brazil	84	0.07	44	6	16
Mexico	57	0.17	30	4	18
Trinidad & Tobago	62	0.25	67	1	5
Venezuela	73	-1.02	77	4	15
Iran	88	-0.52	83	10	11
Iraq	132	-1.23	n/a	n/a	n/a
Libya	64	-1.21	n/a	2	4
Qatar	37	0.94	60	n/a	n/a

If care is not taken, Sierra Leone, Niger and Liberia might await similar fates, with agriculture (including forestry, fishing and hunting) accounting for roughly 60 per cent, 40 per cent and 70 per cent of GDP, respectively. It is therefore important that all policies in such countries be geared towards safeguarding the collapse of or loss of competitiveness of agriculture. In the case of Ghana, the World Bank suggests augmenting the provision of various agricultural public goods, such as feeder roads, research and storage capacities.[47] In the 1940s and 1950s, Mexico carried out extensive irrigation projects, which rapidly expanded its total land area under cultivation. Other government programmes have promoted the wider use of machinery, fertilisers and soil conservation techniques.[48]

42 UNDP, 'International Human Development Indicators' (United Nations Development Program, 2011), http://hdr.undp.org/en/statistics.

43 World Bank, 'Worldwide Governance Indicators' (The World Bank, 2011), http://info.worldbank.org/governance/wgi/index.asp.

44 UNIDO, *Industrial Development Report 2011: Industrial Energy Efficiency for Sustainable Wealth Creation* (Vienna, Austria: United Nations Industrial Development Organization, 2011).

45 World Bank, see note 9 above, 2.

46 *Ibid.*

47 Dessus, see note 37 above.

48 US Library of Congress, 'Country Studies' (US Library of Congress, ND), http://countrystudies.us.

Energy poverty

There are further lessons to be learned from the Dutch experience. After the initial mismanagement of revenue streams and the subsequent decline of the Dutch economy following the discovery of natural gas, the government started investing gas revenues on physical infrastructure projects including bridges, roads and communication, giving rise to higher economic growth (ie, the 'Dutch Cure').[49] Most countries around the Gulf of Guinea, and in the SSA region in general, are in dire need of the development of such basic infrastructure.

In this context, a particularly pressing issue is the lack of access to modern energy services. The International Energy Agency (IEA)[50] reports that in the vast majority of hydrocarbon-rich SSA countries, less than one-third of the population has access to electricity, and those with access grapple with unreliable supply (see Table 2). If developing economies are to follow the historical pattern of development through a path of industrialisation, then the adequate provision of access to electricity is crucial. After all, it was electricity that enabled the transition from small-scale batch production to continuous processing during the US 'Second Industrial Revolution'; today, continuous processing technologies represent the standard technologies for bulk material manufacturing in a large number of industries.[51] In this sense, energy – more specifically electricity – is one of the key channels through which oil wealth can fuel industrialisation in small, hydrocarbon-rich, least-developed economies.

Table 2: Number of people with access to electricity and hydrocarbon reserves in selected Sub-Saharan African countries[52]

	Per cent of people with electricity access	Oil reserves (billion barrels)	Gas reserves (bcm)
Angola	12	9	270
Cameroon	22	0.2	135
Chad	3	1.5	–
Congo	22	1.6	–
Cote d'Ivoire	39	0.1	28
Equatorial Guinea	27	1.1	37
Gabon	30	2	28
Ghana	60.5	0.8	–
Mozambique	11	–	127
Nigeria	47	36.2	5,207
Sudan	29	5	85

49 IEA, *World Energy Outlook 2008* (Paris, France: OECD/IEA, 2008).

50 IEA, *Energy Poverty: How to Make Modern Energy Access Universal?* (Paris, 2010).

51 N Rosenberg, 'The Role of Electricity in Industrial Development' (1998) 19(2) *The Energy Journal* 7.

52 World Bank, see note 9 above, 2.

In war-torn countries, such as Sierra Leone and Liberia, electricity transmission and distribution infrastructure has often been destroyed. Official numbers are hard to come by but it is estimated that only around five per cent of Sierra Leone's population has access to electricity, most of whom live in and around the capital.[53]According to a recent report by Norad, the Norwegian Agency for Development Cooperation, Liberia's electricity access rate is even close to zero, the lowest-known access rate worldwide.[54] Niger's national electricity access rate is reported to hover at around 10 per cent.[55] Considering the extent to which energy poverty is crippling most economies in the region, there is enormous potential in oil- and gas-rich countries to translate revenues from extraction into the expansion of energy access.[56] The IEA even suggests that the overall cost of expanding energy access is small in comparison with these countries' potential earnings from oil and gas exports.[57]

Moreover, natural gas-rich countries could make direct use of their gas resources, which are currently being wasted by flaring in large volumes, for power generation or distribution (or other monetisation routes such as feedstock for fertilisers).[58] Nigeria, which has the second-highest rate of natural gas flaring in the world, lost revenues exceeding $2.5bn per year from 1970 to 2006.[59] Other countries in West Africa, such as Gabon, Cameroon, Congo and Angola, are flaring even larger amounts per barrel of oil.[60] This on its own is an indication of the enormous potential for the increase of energy access and focus on infrastructure development.

53 Nataliya Pushak and Vivien Foster, *Sierra Leone's Infrastructure: A Continental Perspective*, Policy Research Working Paper 5713 (The World Bank, 2011), www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2011/06/29/000158349_20110629104032/Rendered/PDF/WPS5713.pdf.

54 Norad, *Norwegian Support to the Liberian Energy Sector Baseline Study and RBM System* (Norad, April 2011).

55 IMF, *Higher Oil Production, Better Security Improve Chad's Prospects*, IMF Survey Magazine: Countries & Regions, Economic Health Check (International Monetary Fund, November 2011), www.imf.org/external/pubs/ft/survey/so/2011/car111011a.htm.

56 GNESD, 'Regional Workshops on Electricity and Development in Africa, Asia and Latin America' (Global Network on Energy for Sustainable Development, 2006).

57 IEA, *World Energy Outlook 2008*.

58 *Ibid*; World Bank, 'The Global Gas Flaring Reduction Partnership', February 2012, http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTOGMC/EXTGGFR/0,,contentMDK:20297378~menuPK:6296802~pagePK:64168427~piPK:64168435~theSitePK:578069,00.html.

59 www.enownow.com/news/story.php?sno=412. World Bank, 'The Global Gas Flaring Reduction Partnership', February 2012, http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTOGMC/EXTGGFR/0,,contentMDK:20297378~menuPK:6296802~pagePK:64168427~piPK:64168435~theSitePK:578069,00.html.

60 Africa-EU Energy Partnership, *The Energy Challenge: Access and Security for Africa and for Europe* (European Union Energy Initiative-Partnership Dialogue Facility (EUEI PDF), 2011).

Numerous initiatives such as the World Bank's Global Gas Flaring Reduction Partnership or success stories from countries like Qatar have shown ways of reducing the adverse environmental impacts while increasing energy efficiency and access.[61] Nevertheless, operating oil companies typically have hardly any interest in small-scale distribution projects in immature local markets, mainly because of associated poor potential returns and high risks.[62]

Another crucial aspect of local content development is the presence or absence of refining capacity in emerging oil-rich countries. This is a critical political issue in West Africa.[63] The science and economics of oil refining are often left in the hands of expatriates, a situation that does not usually allow for spill-over effects[64] to the rest of the economy. Others simply opt to export crude oil and import the refined product, which significantly decreases the value extracted from oil.[65] The Nigerian government, for example, has not been able to attract significant amounts of private investment in the refining sector and as a result, refineries are currently said to be running on only about 30 per cent capacity utilisation, importing the rest to satisfy demand for refined products. In general, refineries in the region find it difficult to compete with producers from the Middle East and Asia, who often benefit from economies of scale. Increased local availability of refined oil would significantly lower the cost of supplying local markets, as well as the price of refined oil products, and therefore ease overall access to energy. Furthermore, it would considerably increase the country's energy independence and strengthen energy security. Niger, which only started producing oil in 2009, is one good example for small, low-income countries such as Sierra Leone and Liberia. Small, landlocked and one of the world's poorest countries, Niger currently produces and refines 20,000 barrels per day (bpd), making it self-sufficient in refined oil products. Since it only consumes about 7,000 bpd domestically, it exports the excess capacity of 13,000 bpd crude to its neighbour Nigeria.[66]

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61 Eni, 'Sustainability Performance 2010' (Eni, 2011); World Bank, 'The Global Gas Flaring Reduction Partnership'.

62 IEA, see note 57 above, 10; Tim Cocks, 'REFILE-Nigeria Oil Bill to Outlaw Gas Flaring by End-2012', Reuters, 28 May 2012, www.reuters.com/article/2012/05/28/oil-nigeria-flaring-idUSL5E8GR2IX20120528.

63 IEA, see note 57 above, 10.

64 That is, benefits in terms of in-country capacity development.

65 IEA, see note 57 above, 10.

66 Reuters, *Niger Becomes Self-sufficient with Refinery Launch* (Reuters, November 2011), http://af.reuters.com/article/nigerNews/idAFL5E7MS40Q20111128.

Oil governance and transparency

The resource curse has an impact on oil-rich economies, especially in low-income countries often with low levels of government effectiveness.[67] Despite a thriving oil economy, thanks to high oil prices, governments in the region have increasingly fallen short of providing welfare or security to their population and have instead resorted to using the state's oil revenues for personal enrichment.[68] Despite disastrous governance, they often manage to uphold international respectability as well as regime stability.

The most distinguished feature of such 'successful failed states'[69] is appropriation of oil revenues. Given the limited nature of oil reserves and the associated finite revenue stream, it is crucial to develop a sound macroeconomic policy framework to manage those revenues so as to create a permanent income for the country. The recommendation is to put in place financial mechanisms, utilise revenues in phases and construct some sort of development plan. After the oil crisis in the 1970s, Norway realised the danger of relying in large part on revenues from its oil sector to meet the fiscal needs and decided to invest its oil rents into a sovereign petroleum wealth fund (notably, the Pension Fund)[70] as a guarantee that current, as well as future generations, benefit from the country's oil wealth.[71]

To this effect, numerous hydrocarbon-rich emerging countries have put in place so-called sovereign wealth funds, which are investment funds owned by

67 Numerous studies have concluded that once a certain level of governance is achieved, the resource curse no longer poses a threat to a country's economy (eg, Canada, Norway or Botswana). Alas, the state of affairs prior to the oil extraction is a major determinant of whether oil wealth constitutes a blessing or a curse for a country.

68 Soares de Oliveira, *Oil and Politics in the Gulf of Guinea* (C Hurst & Co, March 2007).

69 *Ibid*, 11.

70 Trust funds are established, especially in the context of better monitoring and managing large inflows of oil revenues while creating transparency and accountability and counterbalancing corruption: Emeka Duruigbo, 'The World Bank, Multinational Oil Corporations, and the Resource Curse in Africa' (2005) 26(1) U Pa Int'l Econ L 1–67. It has been estimated that sovereign wealth fund assets on global financial markets will experience a rapid growth in the next five to ten years being worth $10tn. Countries such as the United Arab Emirates, Singapore, Libya, Iran or Russia have established funds of various types. While Norway Pension Fund belongs globally to the largest and fastest growing ones, with $373bn by the end of 2007, concerns have been raised about the effects on international financial markets, especially when sovereign wealth funds are lacking transparency and certainty about the purpose for their investment. Delia Velculescu, *Norway's Oil Fund Shows the Way for Wealth Funds* (Washington DC: International Monetary Fund – European Department, July 2009).

71 Thorvaldur Gylfason, *Resources and Economic Growth: Is Africa (Ghana) Different?* Policy Conference: Competitiveness & Diversification: Strategic Challenges in a Petroleum-Rich Economy (Accra, Ghana, 14 March 2011). The full lessons learned from Norway's programmes are beyond the scope of this article, but are well considered in the literature.

states consisting of financial assets (such as stocks, bonds, property and other financial instruments) acquired with revenue generated from hydrocarbon production/export and directed at improving the population's standard of living in the long term.[72]

Ghana – new hope

Many believe that Ghana is well positioned to be an example in the region of how oil revenues can be managed and used in a transparent and accountable manner, thereby avoiding the resource curse as experienced in other oil-rich countries. In order to guide the efficient collection, allocation and management of revenue from the oil resource, two petroleum funds have been established within the framework of the Petroleum Revenue Management Law (ratified in 2011). The Ghana Petroleum Funds consist of the Ghana Heritage Fund, designed to provide endowment for future generations, and the Ghana Stabilisation Fund, designed to cushion the impact of unanticipated petroleum revenue shortfalls.[73] Legislation allows the government to use 70 per cent of oil revenues to support its budget and as collateral for loans, while a minimum of 30 per cent of revenues are to be saved in the petroleum funds (9 per cent in the Heritage Fund and 21 per cent in the Stabilisation Fund).[74]

In its inaugural report on petroleum revenues published in mid-2012, the Public Interest and Accountability Committee (PIAC)[75] reported that these requirements were fulfilled in 2011. Of the total revenues from the sale of lifting ($444m), Ghana's budget received around $164m, 70 per cent of which was allocated to capital expenditure projects. The government was able to save $69m from oil revenues, which was split accordingly between the Stabilisation Fund and the Heritage Fund.

Regarding the set-up of a development plan, the Ghanaian Minister of Finance and Economic Planning has identified the priority areas for spending of petroleum revenues to be:

1. the amortisation of loans;
2. road infrastructure;
3. agricultural modernisation; and
4. capacity building.[76]

72 SWF Institute, 'SWFs', 2012, www.swfinstitute.org/swfs. For a detailed list of sovereign wealth funds, please visit www.swfinstitue.org/swfs.

73 PIAC, *Report on Petroleum Revenue Management for 2011 – Annual Report.*

74 *Ibid.*

75 *Ibid.*

76 *Ibid.*

The majority, almost 80 per cent of the capital expenditure share, was spent on road infrastructure investments. Agricultural investments received 8 per cent of the capital share of Ghana's annual budget funding amount, with 63 per cent of total amount allocated to a fertiliser subsidy and 15 per cent to supporting youth in agriculture.[77] About 12 per cent of capital expenditure was allocated for loans and amortisation of oil and gas infrastructure.

Although the annual budget funding amount received in 2011 represented only 1.7 per cent – a relatively small part of the total government budget – PIAC remarks that as petroleum revenues increase, the budget funding amount is likely to become an important source of capital investment in the country. Petroleum revenues in 2011 already provided significant fiscal relief to the Ghanaian government, freeing up funds to finance vital development projects.

Nevertheless, there are concerns regarding the non-utilisation of the proposed methodology to estimate the benchmark revenue, as this could lead to deliberate overestimation by the government if left unchecked. An overestimated benchmark revenue would engender a higher amount being approved for transfer into the annual budget funding amount (set at 70 per cent of benchmark revenue), which in turn would adversely affect the growth of the Ghana petroleum funds.[78] The Petroleum Transparency and Accountability (P-TRAC) Index, a project undertaken by the Institute of Economic Affairs Ghana, shows an average score for revenue transparency of 64.3 per cent[79] (see Figure 4). This suggests ample room for improvement for the transparent and accountable management of hydrocarbon revenues.

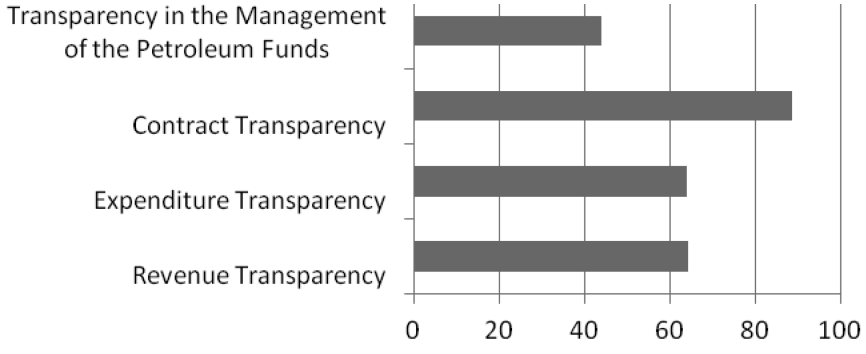

Figure 4: Petroleum Transparency and Revenue Accountability Index, 2011[80]

77 *Ibid.*

78 *Ibid* 12.

79 Asafu-Adjaye, *The IEA P-TRAC Index 2011 Report – Tracking Transparency and Accountability in Ghana's Oil and Gas Industry.*

80 John Asafu-Adjaye, *The IEA P-TRAC Index 2011 Report – Tracking Transparency and Accountability in Ghana's Oil and Gas Industry*, PTRAC Report (Accra, Ghana: Institute of Economic Affairs Ghana, 2011), www.ieagh.org/images/pdf/2011-ptrac-short-final.pdf.

As Dessus[81] puts it, even though risks of institutional failures might be seen as being lower in Ghana compared with other countries in the same income group, the crucial issue for Ghana remains the ability of its ruling political forces to renounce the 'discretionary power' available to them through windfall revenue.

Successful failed states

The requirement for strong institutions is the reason why sovereign wealth funds often turn out to be a much less feasible option for developing countries, especially those characterised by weak property rights and loose law enforcement, which basically lack strong institutions capable of effectively managing a (sudden) inflow of petrodollars.[82] This presents abundant opportunity for high-level corruption and appropriation. So the existence of such a national oil savings account alone is not sufficient for extractive revenues to benefit the economy.

The Nigerian government has recently depleted the country's excess crude account.[83] In early 2011, some major investors shunned Nigeria's debut international bond issue, citing worries over the country's deteriorating fiscal situation, in particular over the fact that billions of revenues, frequently unaccounted for, have flown out of the excess crude account since its inception in 2007.[84]

Similar reports from other African oil-producing states are frequent. As part of a pipeline deal with the World Bank in 2000, Chad had agreed to pay its 12.5 per cent share of direct revenues from oil production into a 'future generations' fund dedicated to social services.[85] Once the pipeline was built and oil started flowing, the government simply reneged on its initial commitments, and the World Bank finally had to cancel its 'model'

81 Dessus, see note 37 above, 9.

82 IEA, see note 49 above, 9.

83 William Wallis and David Oakley, 'Nigeria Oil Fund Fears Hit Bond Issue', Financial Times, 20 January 2011, www.ft.com/intl/cms/s/0/05e178da-24d3-11e0-a919-00144feab49a.html#axzz1xZljwZHV.

84 A massive fuel subsidy scam recently uncovered in Nigeria in April 2012 revealed that underhand practices fuelled a $6 billion increase in spending from the fuel subsidy fund between 2009 and 2011. BBC, 'Nigeria Reveals '$6bn Fuel Fraud', BBC, 24 April 2012, sec Africa, www.bbc.co.uk/news/world-africa-17823959; Monica Mark, 'Nigeria Fuel Subsidy Scheme Hit by Corruption', The Guardian, 19 April 2012, www.guardian.co.uk/world/2012/apr/19/nigeria-fuel-subsidy-scheme-corruption.

85 Carin Zissis, 'Chad's Oil Troubles', *Council on Foreign Relations*, April 2006, www.cfr.org/energy/chads-oil-troubles/p10532.

oil pipeline agreement in 2008.[86] Most of the money is said to have filled individuals' pockets, as the government took hold of oil revenues by altering a law to increase its access to profits.[87]

A recent IMF survey shows that although higher oil prices have boosted the country's revenues in recent years, it has struggled to control government spending to ensure effective allocation of the oil windfall towards its stated poverty-reduction priorities.[88] Based on recent indications, many are equally uncertain about the ability of a country such as Liberia to resist excessive spending of the sort often observed at the onset of resource booms. The international watchdog Global Witness[89] says it is uncomfortable with entrusting the management and utilisation of Liberia's future oil revenues to the hands of the National Oil Company of Liberia (NOCAL).[90, 91]

Solutions to the problem: inspection panels and EITIs

What, then, can be done to improve the transparency and accountability of oil and gas firms and the governments that must partner with them? One novel solution involves better oversight, monitoring and control over the activities of oil, gas and coal companies. The most common application of this solution is known as 'extractive industry transparency initiatives' (EITIs) – voluntary, multi-stakeholder codes of conduct emerging from a collection of previous ad hoc efforts by companies, governments and civil society. The general idea is that participating companies and governments publish all payments from the operators of oil, gas and mining industries. Its intent is to track the influence and interaction among energy companies

86 Xan Rice, 'World Bank cancels pipeline deal with Chad after revenues misspent', 12 September 2008; Todd Moss, 'Saving Ghana from Itself', Foreign Policy, 4 September 2009; Dessus, see note 37 above.

87 IMF, *Higher Oil Production, Better Security Improve Chad's Prospects*, IMF, 10 November 2011, www.imf.org/external/pubs/ft/survey/so/2011/car111011a.htm.

88 *Ibid.*

89 For 17 years, Global Witness has run pioneering campaigns against natural resource-related conflict and corruption and associated environmental and human rights abuses: www.globalwitness.org.

90 A recent report covers payments and illegal compensation involving NOCAL staff and members of the Legislature of Liberia to facilitate the passage of oil contracts; it also covers companies with poor track records that are awarded contracts in exchange for bribes. Global Witness, *Curse or Cure?* (Global Witness Limited, 2011), www.globalwitness.org/library/curse-or-cure-how-oil-can-boost-or-break-liberia's-post-war-recovery.

91 A recent Foreign Policy article, based on a report by the country's former auditor general, shines light on a particular case, allegedly linking Chevron to bribes given to the Legislature of Liberia for awarding two small firms four oil concessions. Johnny Dwyer, 'Big Oil, Small Country', Foreign Policy, 22 February 2012, www.foreignpolicy.com/articles/2012/02/22/big_oil_small_country.

and governments, protecting citizens, but also protecting governments and investors from 'rotten apples' in the industry.[92]

Though they vary in their implementation country by country, EITIs generally possess three core requirements:

1. energy companies must disclose everything they pay to the government;
2. institutions of the government must disclose everything they receive from energy companies;
3. independent auditors ensure the two sets of figures agree and produce a published report.

EITIs are not perfect. One obvious weakness is that they are voluntary – countries can elect whether to participate, and it is telling that only 14 have signed up so far out of the more than 165 countries around the world involved in producing oil, gas and/or coal. A second drawback is that most EITIs do not require individual company disclosures; they instead deal with aggregate data, allowing companies to pool their data, at times undercutting the transparency goals of the initiative.[93]

Nonetheless, EITIs have proven successful at improving the behaviour and governance of energy companies. The Nigerian Extractive Industries Transparency Initiative (NEITI), for instance, effectively conducts and publishes independent audits of payments and revenues.[94] Chad's EITI has similarly facilitated the creation of a petroleum revenue oversight committee consisting of members of parliament and civil society. São Tomé and Príncipe have also utilised their EITI to establish a Management and Investment Committee to supervise oil accounts and a Petroleum Oversight Commission to oversee compliance of the oil sector with all aspects of state law.[95] Liberia was the first African country to be designated EITI-compliant in October 2009, while Sierra Leone's candidacy status is to be validated by the end of 2012.[96]

A second solution involves formal inspection panels. The exemplar here

92 Peter Eigen, 'Fighting Corruption in a Global Economy: Transparency Initiatives in the Oil and Gas Industry' (2006–2007) 29 Houston Journal of International Law 327–354.

93 Abdullah Al Faruque, 'Transparency in Extractive Revenues in Developing Countries and Economies in Transition: a Review of Emerging Best Practices' (2006) 24 JERL 66–103.

94 Shari Bryan and Barrie Hofmann, *Transparency and Accountability in Africa's Extractive Industries: The Role of the Legislature* (Washington, DC: National Democratic Institute for International Affairs, 2007).

95 Abdullah Al Faruque, see note 93 above, 15.

96 IFC, *Extractive Industries Transparency Initiative: Combating the Resource Curse in Fragile and Conflict-Affected Countries*, Smart Lessons (International Finance Corporation, 2011), http://siteresources.worldbank.org/EXTEXTINDTRAINI/Resources/SmartLessons_Fragile_EITI.pdf?resourceurlname=SmartLessons_Fragile_EITI.pdf.

is the World Bank's Inspection Panel, which provides a forum for people to raise their concerns about *any* of the World Bank's projects directly to an independent group of experts. Two or more local people can bring a claim to the Inspection Panel, asking for an objective analysis of the World Bank's role in a project and the degree to which it violated or failed to comply with any of its policies and procedures. Between 1993 and 2008, the Inspection Panel heard 52 complaints, finding in favour of the requestors 45 times, and they have succeeded at blocking onshore and offshore oil and gas projects throughout the world – the construction of social and environmentally destructive dams in Uganda, sewage treatment facilities in the Philippines and various attempts to resettle local people unfairly.[97]

Conclusion

There are numerous opportunities and major development choices that oil-rich nations in West Africa must navigate. This article has focused on three key implications for socio-economic development that are worth reflecting on:

1. the enormous potential for the use of oil wealth for the expansion of energy access, which lays the very basic foundation for embarking on the path of industrialisation;
2. the importance of the agricultural sector when considering the 'Dutch disease' in developing countries, in light of the risk of its severe decline as a result of an emerging oil industry; and
3. the importance of effective oil governance and transparency of the collection and utilisation of revenues from hydrocarbon sources.

Based on the analysis presented here, several observations can be outlined. Key steps from the planning process for new oil and gas wealth in West African nations might include:

- Making painstaking efforts to strengthen institutional capacity. It is essential for these small, low-income countries to have 'a powerful political bloc with an interest in holding the government accountable for responsible resource management'.[98]
- Ensuring that technical, financial, regulatory and legal capacity is in place for addressing and building the fossil-fuel sector.
- Once institutions and related capacity are in place, begin putting in place

97 See also World Bank, *The World Bank Inspection Panel: The First Four Years (1994–1998)* (Washington, DC: World Bank Group); and World Bank, *Accountability at the World Bank: The Inspection Panel 10 Years On* (Washington, DC: World Bank Group).

98 Moss, see note 86 above, 15; Dessus, see note 37 above, 9.

sovereign wealth funds to save for future generations as well as to limit the negative impact of oil revenue fluctuations. Putting in place a system of checks and balances to increase accountability and transparency of the management of oil and gas revenues (eg, performance indices).

- Using oil proceeds to expand electricity access dramatically (ie, provide its population with access to affordable, reliable, abundant (and preferably clean) electricity). Universal access to electricity is fundamental for greater economic diversification, particularly for the strengthening of domestic manufacturing.
- Aiming at minimising gas flaring from the onset by banning flaring of associated gas, promoting technologies for the efficient usage of natural gas, developing the local gas market and developing and maintaining a comprehensive and flexible gas infrastructure that allows for distribution.
- Developing and maintaining/expanding refining capacity in order to increase energy independence.
- Augmenting the provision of various agricultural public goods as most economies in the region are characterised by a heavy reliance on agriculture. Sustainable development of agriculture plays a key role in generating inclusive economic growth as agriculture constitutes the backbone of most economies in the SSA region.
- Rigorously promoting EITIs beyond the countries already contemplating them and considering expanding them outside the oil and gas sectors to include other minerals and resource inputs necessary for energy systems.
- Encouraging formal inspection panels to ensure accountability and transparency standards are enforced.