

International Financial Institutions and Energy Investments

September 2013

by

David Hall, Sandra van Niekerk, Jenny Nguyen, Steve Thomas

d.j.hall@gre.ac.uk; sandravn@iafrica.com; t.nguyen@gre.ac.uk; s.thomas@gre.ac.uk

1. INTRODUCTION	2
2. INTERNATIONAL FINANCIAL INSTITUTIONS - IFIS	2
3. IMF: PRIVATISATION AND WITHDRAWAL OF ENERGY SUBSIDIES	2
3.1. ENERGY SUBSIDIES	2
4. WORLD BANK	3
4.1. EXTENT OF WB ENERGY LOANS	3
Table 1. World Bank projects in Energy sector July 2013 (active and pipeline)	3
4.2. WORLD BANK POLICIES AND CONDITIONS	4
4.2.1. <i>Privatisation, PPPs and liberalisation</i>	4
4.2.2. <i>Energy prices</i>	4
4.2.3. <i>Electricity trading and regional 'power pools'</i>	4
4.2.1. <i>Extension and development of capacity</i>	5
5. REGIONAL BANKS AND DEVELOPMENT FINANCE INSTITUTIONS.....	5
5.1. ASIAN DEVELOPMENT BANK (ADB).....	5
5.2. AFRICAN DEVELOPMENT BANK (AfDB).....	5
5.3. INTER-AMERICAN DEVELOPMENT BANK (IDB OR IADB).....	6
5.4. DEVELOPMENT FINANCE INSTITUTIONS AND PRIVATE EQUITY FUNDS	7
Table 2. DFIs of donors	7
Table 3. DFI Investments 2009	7
6. FINANCING ELECTRICITY IN DEVELOPING COUNTRIES.....	8
6.1. NEEDS AND AFFORDABILITY	8
Table 4. People without access to electricity, 2010	8
6.2. LITTLE PRIVATE INVESTMENT IN SYSTEM	8
6.2.1. <i>No private investment in extensions in Africa</i>	8
Table 5. Public sector leads investment in electricity in Africa – private sector very small	8
6.2.2. <i>Other problems and limits of private investment</i>	9
6.3. SUCCESSFUL EXTENSION OF ELECTRICITY CONNECTIONS THROUGH PUBLIC FINANCE	9
6.3.1. <i>Brazil: Luz Para Todos ("Light for All")</i>	9
6.3.2. <i>Vietnam</i>	10
6.3.3. <i>South Africa</i>	10
6.3.4. <i>Nigeria: universal access possible in 10 years using 0.6% of oil revenues</i>	10
Table 1. Affordability of universal electricity access for Nigeria.....	10
7. ANNEXE:	11
7.1. IMF LOANS AS OF JUNE 2013	11
7.2. WORLD BANK LOANS IN ENERGY IN ENERGY >\$500M. AUGUST 2013	13
Table 6. World Bank loans sector projects over \$500m., active and pipeline, August 2013.....	13
7.3. ADB LOANS IN ENERGY SECTOR.....	14
Table 7. ADB projects in energy sector >\$200m. current or proposed August 2013	14
7.4. IADB LOANS RELATED TO ELECTRICITY, IN PIPELINE 2013 AND STARTED SINCE 2010	15
Table 8. IADB – electricity-related projects in pipeline August 2013	15
Table 9. IADB – electricity-related projects started since July 2010.....	15
NOTES.....	16

1. Introduction

This paper examines:

- The activities of the international financial institutions (IFIs) as they affect finance for the energy sector, through their preferences for private companies and insistence on eliminating price subsidies
- How investments to extend electricity networks and develop new electricity generation depend largely on public finance
- The annexe includes lists of current IFI projects affecting the energy sector

2. International Financial Institutions - IFIs

The international financial institutions (IFIs) consist of the IMF, the World Bank, and the other regional development banks, principally the Asian Development Bank (ADB), African Development Bank (AfDB), Inter-American Development Bank (IADB), the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD). These institutions provide loans to developing countries, in return for which they expect governments to observe various conditions and follow specific policies. As a result, the IFIs wield great economic and political power over developing countries.

The IFIs usually coordinate their activities, which increases their power.

- In 2011, following the Arab spring, a conference of the richest countries in the world (the G8) agreed to encourage loans worth USD \$38 billion to Egypt, Tunisia, Morocco, Jordan and Libya. The IMF would provide the lead policy conditions, which would also be the framework for loans from the World Bank, the African Development Bank, the European Investment Bank (EIB), the European Bank for Reconstruction and Development (EBRD), the Islamic Development Bank, and aid from donor countries.¹
- This coordination also magnifies the punishment for not following policies required by the IFIs. For example, in 2011 the WB withheld \$40m. in loans from Malawi because the IMF ruled that the country had not yet complied with conditions of an IMF package.²

This approach has been criticised as an attempt to ensure that the economic policies of any new democratic governments will continue to follow the principles of neo-liberalism: “the initial focus of this structural adjustment will be the privatization of Egypt’s infrastructure and the opening of the economy to foreign investment and trade through PPPs”. (Adam Hanieh).

In 2010 the IMF had previously endorsed the policies of the Mubarak regime as “Five years of reforms and prudent macroeconomic policies” and called for “Resuming privatization and increasing the role of carefully structured and appropriately priced PPPs”; an IMF staff mission had also congratulated the Gaddafi regime in Libya for a programme to make 340,000 public employees redundant, recommended that the process “should be accelerated”, and stated that “The mission would like to thank the authorities for their excellent cooperation and hospitality.”³

3. IMF: privatisation and withdrawal of energy subsidies

The IMF lends money to countries to help deal with economic crises. A full list of countries with IMF loans is attached as an annexe to this section. The great majority of current IMF loans are with countries in Europe, sub-Saharan Africa and central America. Nearly all countries in east and south-east Asia, and in south America (except Colombia), have a national policy never to seek a loan from the IMF. There have been a number of successful campaigns against countries accepting loans from the IMF: for example, attempts by the IMF to force a loan on Egypt have so far been resisted by strong campaigns.

In relation to the energy sector, the IMF frequently requires a country to privatise all or part of its energy system. For example, in both Greece and Portugal the IMF (and its partners the EU and the ECB) requires the countries to sell the state-owned electricity companies as part of the agreed conditions for the ‘rescue’ loans. The IMF, and other IFIs, are now also demanding that countries should remove energy subsidies.

3.1. Energy subsidies

In March 2013 the IMF published and promoted a new report on ‘Energy Subsidy reform’, which argues that all governments should start eliminating these subsidies, because they are ‘too large [for government finances] to bear.... unmanageable and threatening the stability of the economy’. This policy applies to all countries, rich and poor alike. The IMF argues that it would be better to use the money for other purposes, including reducing taxes, and that they

encourage excessive consumption of energy and so contribute to climate change. It advises governments to go for a comprehensive reform of the energy sector, strong propaganda, and phased price increases – and then use ‘targeted measures’ to compensate some of the the poor. It also urges ‘depoliticising’ the issue by setting up some automatic mechanism for increasing prices.

- For example, in Tunisia, where the IMF agreed a USD \$1.1 billion ‘standby’ arrangement in June 2013, part of the policy document linked to this loan states that the Tunisian government are committed to raising energy prices: “The 2013 budget already included TDN 400 million savings on energy subsidies. Accordingly, we have raised fuel prices (gasoline and diesel) and electricity tariffs in order to achieve the anticipated savings.”⁴

However, the price of energy involves complex judgments about political, social, industrial and economic consequences, not just an automatic solution.

- Increases in energy prices place an especially heavy burden on the poor, the informal sector and small businesses, and therefore frequently provoke riots. Recent examples include Bulgaria, where a government was forced to resign in early 2013 as a result.
- An academic study found that if the subsidies on energy prices in China were simply removed, the net effect would be to cut GDP by about 1.6%, employment by 1.4%, and people’s overall welfare by 2.0% - but energy consumption would be reduced. If the current subsidies were reduced by half but redeployed to support food and services and other products, then GDP and employment and welfare would all rise, and energy consumption could still fall.⁵
- In Argentina, and in other countries, state subsidies keep electricity prices low for consumers, but also act as a form of guaranteed prices for the private electricity companies. Moreno, a campaign led by trade unionists, is calling for public control of all energy companies through nationalisation and cancelation of private concessions, to enable a completely new framework for the sector and its assets.⁶
- In many countries the greatest electricity subsidy is given to aluminium companies, who need huge amounts of electricity for their smelters, and use secret agreements to get prices far lower than ordinary customers. In South Africa, for example, the multinational aluminium company BHP Billiton has been consuming 9% of all the electricity produced in the country, at less than one-fifth of the tariff paid by other consumers. In Australia, the Alcoa company was given a 30-year guarantee of cheap electricity, which cost the government over US \$1 billion, and consumed about 9% of all electricity in the state of Victoria. Aluminium companies already consume more than 10% of the entire electricity production of Brazil. Reducing or eliminating these subsidies would remove a great burden on the sector.⁷

4. World Bank

4.1. Extent of WB energy loans

The World Bank currently finances 532 projects classified as primarily concerned with the energy sector, worth a total of USD \$102.8 billion. Parts of some projects cover other sectors, and parts of projects classified under other sectors also include an energy element, so the overall figures are broadly accurate. The lending is concentrated in big projects. The largest single project, for a coal-fired power station in South Africa, accounts for over 10% of the total value. 42% of the total value is in the 21 largest projects, each over \$1bn., and 61% of the total value in the 50 projects worth more than \$0.5bn. The projects are distributed across all regions, with the least number in Latin America.

Table 1. World Bank projects in Energy sector July 2013 (active and pipeline)

	Number	% total	Value (USD \$million)	% total
Total	532	100%	102,846	100%
Total > USD \$1000m.	21	4%	42,947	42%
Total > USD \$500m.	50	9%	62,419	61%
Africa	175	33%	33,531	33%
East Asia and Pacific	108	20%	17,676	17%
Europe and central Asia	83	16%	13,331	13%
Latin America and Caribbean	65	12%	6,008	6%
Middle East and North Africa	38	7%	13,071	13%
South Asia	63	12%	19,228	19%

Source: World Bank website <http://www.worldbank.org/projects> and PSIRU calculations

4.2. World Bank Policies and conditions

The World Bank's largest loans are used to (a) fund or guarantee coal-, gas- and oil-fired power stations; (b) finance hydroelectric, wind, solar and geothermal generation; (c) build transmission lines required for 'power pool' trading across national boundaries; (d) promote privatisation, liberalisation and unbundling; (e) promote increases in energy prices; and to a much lesser extent (f) improvement of distribution systems, or (g) investing in urban or rural extensions of the systems.

4.2.1. Privatisation, PPPs and liberalisation

Privatisation remains an overt objective of the World Bank and other IFIs. One way in which this is achieved is by defining the loan so it can only be used for private sector development, for example in Turkey and India:

- The WB is lending Turkey \$1.9 billion through projects for 'Private Sector Renewable Energy and Energy Efficiency'. The bank states that: "The objective of the Private Sector Renewable Energy and Energy Efficiency Project for Turkey is to help increase privately owned and operated energy production from indigenous renewable sources within the market-based framework of the Turkish electricity market law, enhance energy efficiency, and thereby help reduce greenhouse gas emissions." Thus the money appears to target renewables and energy efficiency, but in practice only private energy companies can benefit.⁸
- India is receiving \$1.2 billion in loans from the WB for 'Financing Public Private Partnerships (PPPs) in Infrastructure'. The objective is simply to provide finance that the private sponsors would otherwise be unable to raise, and the loans are simply channelled through the public sector India Infrastructure Finance Company Limited (IIFCL) 'for on-lending to PPP-based infrastructure projects'. The WB itself has identified suitable projects to receive such funding: 'The pipeline of sub-projects being considered includes selected power, roads, and ports projects'.⁹
- A hydropower and regional power pool WB project in the Senegal river basin, affecting Mali, Mauritania and Senegal, is centered on a PPP, designed as a model that can be copied in other subregions.¹⁰
- The IFC is the arm of the World Bank which lends only to the private sector. It is responsible for an increasing proportion of loans by the WB group. This means that the IFC is automatically promoting privatisation: "in the cases of Bangladesh and Nepal, private sector projects under the PPCR appear to have been largely driven and designed by the implementing agency, the IFC... after consultations with private companies and without the participation of target communities, civil society organisations and other stakeholder groups." Funds to support climate change – the Climate Investment Funds (CIFs) - have also been specifically directed through the IFC as a way of supporting private companies.¹¹

4.2.2. Energy prices

The World Bank also seeks to increase energy prices. For example, in 2012 it approved a very large USD \$1.33 billion loan to Romania, for policy measures to 'Improve governance of energy State-owned enterprises and strengthen their fiscal Sustainability' (and also to reform tax collection, and health spending). This requires the state company Hidroelectrica to sell output through competitive market processes, make the regulator independent of government, and 'a roadmap for phasing out regulated prices for electricity'.¹²

4.2.3. Electricity trading and regional 'power pools'

In Africa, 9 projects worth a total of USD \$3.3 billion are devoted to the construction of transmission lines to enable the international commercial trading of electricity by companies which own power stations. The three trading networks are:

- the Southern Africa Power Market was set up in 1995 and covers 12 countries in the region: Angola, Botswana, DR Congo, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe. There is still very little electricity traded, as not enough electricity is being generated to meet national needs.¹³
- the West Africa Power Pool, covering Burkina Faso, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo/Benin. A plan for the potential use of renewable energy in the region has also been developed.¹⁴

- the Eastern Electricity Highway – initially connecting Kenya and Ethiopia, as the first stage in a regional power network linking also Burundi, Rwanda, Tanzania, Uganda. The project has been heavily criticised by NGOs including Human Rights Watch, because it is based on the construction of a huge dam in Ethiopia with large negative social and environmental impacts.¹⁵

The WB describes the objectives of these projects as ‘infrastructure for private development’, ‘regional integration’ or ‘export development and competitiveness’.

4.2.1. Extension and development of capacity

Some WB projects are still concerned partly with expansion of the system, for example the Kenya Electricity Expansion project. This includes financing for 280MW of geothermal generation; transmission lines; ‘institutional development and operational support’; and ‘expansion and upgrading of the distribution network along with the connection of an additional 300,000 customers over the period of 2011-2016’.

5. Regional banks and development finance institutions

This section focuses on the Asian, African and Inter-American development banks. In addition there are development banks set up by the EU - the EIB and the EBRD, which cover Europe and its neighbourhood.

There are also other development banks operating in the regions, including CAF – the development bank for Latin America, created in 1950 and owned solely by Latin American countries, it is able to pursue policies independently from the influence of the USA or European countries. For example, in 2013 it agreed to provide financial support for Bolivia for developing the electricity network, waste management services, and public transport.¹⁶

5.1. Asian Development Bank (ADB)

The ADB has actively promoted unbundling and privatisation of the electricity sector throughout the region over the last 20 years. It also now finances expensive long-distance transmission lines to enable electricity trading by the private sector.

- India: ADB has been lending to India since 1986 and has 159 loans that total roughly \$24 billion by end-2011. Since 2003, ADB’s lending focused on support for “deepening” the reforms, continuing to promote PPPs, strengthening transmission and distribution networks and piloting innovative financing mechanisms that benefit the private sector. More recently, ADB utilizes huge multi-tranche financing facility (MFF) loans for ‘power sector improvement’ programs to build transmission and distribution networks (at public expense) to transfer bulk power from IPPs to high-demand areas like Delhi and Mumbai.
- Pakistan: Since the 1990s, the ADB, World Bank and IMF have supported the restructuring and privatization of the power sector. ADB is lead donor for Karachi Electricity Supply Co (KESC), while WB takes the lead role for Water and Power Development Authority (WAPDA). ADB has also taken the lead in supporting efforts to attract private sector capital into the power sector. More recently, ADB has been providing large multi-tranche financing facility (MFF) loans in support of a new transmission network, and also to finance many wind farm energy producers.

5.2. African Development Bank (AfDB)

The African Development Bank (AfDB) set out its policy priorities in a strategy paper in 2012, which identified “three key areas for action: (i) fostering regional integration, (ii) leveraging resources and (iii) enabling public-private partnerships”.

Details of individual projects can be accessed through <http://www.afdb.org/en/projects-and-operations/project-portfolio/>. Recent examples include:

- \$34million loans to support “Public-Private Partnerships (PPP) in infrastructure sectors in Nigeria, particularly in power and transport. The Government of Nigeria ...seeks to expand growth by involving the private sector through PPP projects.”¹⁷

5.3. Inter-American Development Bank (IDB or IADB)

The Inter-American Development Bank (IDB or IADB) (in Spanish: Banco Interamericano de Desarrollo (BID)) is the largest development bank for the Americas region. It works closely with the World Bank, and actively promotes privatisation and liberalisation of public services and utilities, including electricity and gas.

The IDB policy on public utilities, including energy, is still based on a policy paper on energy and water utilities written in 1996 - 17 years ago. It sets out the universal application of the neo-liberal model of unbundling, privatisation, liberalisation and commercialisation, regardless of national democratic decisions. The 1996 policy states that countries should restructure their electricity sector and change their laws "in order to facilitate various modes of private sector participation"; that public sector utilities should be restructured to have a purely regulatory role, "leaving the service provider with a purely *entrepreneurial* role for either public or privately owned utilities"; that "the development of competition may be achieved via *vertical separation* and *horizontal break-up* of the sector"; and that "the creation of international networks enhances the prospects for competition".¹⁸

The IDB changed its lending to fit these policies. Before the 1990s, the IDB lending in the sector consisted of loans to public sector utilities for investment in new electricity generation, distribution or transmission assets. The 1996 policy led to two major changes.¹⁹

- Firstly, the bank switched its lending away from investment in the electricity system itself, to finance the process of restructuring: "to support structural changes in which electricity-sector reforms figure as an important component."
- Secondly, it channelled investment finance away from the public sector and towards private companies: "it drastically reduced the number of investment loans made to public power companies and in 1995 started replacing them with direct loans to the private sector issued by the Private Sector Department (PRI)."²⁰

But the policy has been a political and technical disaster. A report by the IDB's own evaluation division in 2007 concluded that the evidence contradicted the bank's assumption that neo-liberal policies would improve the provision of electricity services: "the reforms proposed under the PUP [Public Utilities Policy] are no longer consistent with the Bank's and countries' needs and interests with regard to financing for the electricity sector."

With the return of democratic politics, there has been public resistance to the bank's policies throughout the continent:

"problems with implementation of the reform model have become apparent in many countries of the region...due to a lack of political consensus, the general public's increasingly negative view of privatizations and concessions, and private investors' waning interest".

The policy did nothing to extend coverage, and actively damaged the development of renewable energy. While the number of people without connections fell between 1990 and 2003:

"no cause-and-effect relationship can be ascribed to the incorporation of the reform model's basic conditions and the increase in coverage. Implementation of the reform model could not be shown to have any beneficial effects in terms of environmental protection either. On the contrary, according to the literature, the proliferation of small thermal power plants has worked to the detriment of the expansion of renewable energy sources and has substantially raised carbon dioxide emissions."

The policy also failed to improve either investment or efficiency:

"it has not met the objective of ensuring the long-term sustainability of services....As regards the objectives of achieving economic efficiency and safeguarding the quality of electricity services, the evidence compiled by OVE indicates that the situation in the region as a whole has not improved."²¹

Six years later, in 2013, the bank announced a review of the policy, but without any prospect of real change. It chose three people to offer their views at a consultative meeting: one was John Briscoe, the leading ideologist of utility privatisation at the World Bank during the 1990s and 2000s; the second was Gesner Oliveira, a former official of the right-wing Cardoso regime in Brazil, which attempted widespread privatisations, and is now a board member of an Israeli firm, Miya, which is aggressively seeking to gain privatised water business in the Philippines, Greece and elsewhere; and the third was Maximo Torero, a member of a mainstream research institute (IFPRI) whose projects suffer from the same problems as those of the IADB policy: they "have not produced anticipated benefits, despite being targeted at problems of great relevance to those countries... the lack of demonstrable impact within countries

targeted by specific projects also gives rise to concerns regarding the ways in which projects have been designed and implemented.”²²

The IDB needs to scrap its utilities policy completely and replace it with a policy centred on supporting democratic decisions at country level, by providing loans to finance investment in infrastructure through public utilities.

5.4. Development finance institutions and private equity funds

Donor countries and the development banks both channel an increasing proportion of their funds through divisions which invest directly in private companies: the World Bank’s IFC was the first example of this. Known as ‘Development Finance Institutions’ (DFIs), they are responsible for about 25% of all aid spending. In 2012 European DFIs investments totalled €26 billion, about 10% of which was in energy.²³

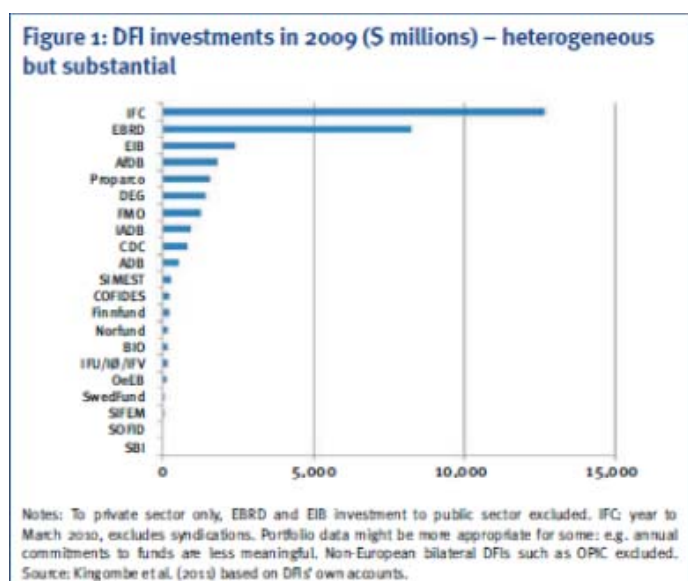
The DFIs invest a high proportion of their money into private equity funds. They expect to get high profits from these investments, but private equity funds have bad reputations in terms of their treatment of labour and respect for environmental standards. Many private equity firms which invest in energy or other infrastructure in developing countries rely on the DFIs as major sources of finance, along with pension funds and sovereign wealth funds.²⁴

Table 2. DFIs of donors

Source: EDFI Annual report <http://www.edfi.be/news/news/30-2012-annual-report.html>

Country	Institution		Total investments €million
Austria	OeEB	OeEB- The Development Bank of Austria	500
Belgium	SBI	SBI-BMI - Belgian Corporation for International Investment	23
Belgium	BIO	BIO - Belgian Investment Company for Developing Countries	462
Denmark	IFU/IØ	IFU/IØ - The Investment Fund for Developing Countries	474
Finland	FINNFUND	FINNFUND- Finnish Fund for Industrial Cooperation Ltd	453
France	PROPARCO	PROPARCO - Société de Promotion et de Participation pour la Coopération Economique	4460
Germany	DEG	DEG - Deutsche Investitions- und Entwicklungsgesellschaft mbH	5958
Italy	SIMEST	SIMEST- Società Italiana per le Imprese all'Estero	849
Netherlands	FMO	FMO- Netherlands Development Finance Company	6280
Norway	NORFUND	NORFUND - Norwegian Investment Fund for Developing Countries	1134
Portugal	SOFID	SOFID- Sociedade para o Financiamento do Desenvolvimento	8
Spain	COFIDES	COFIDES - Compañía Española de Financiación del Desarrollo	700
Sweden	SWEDFUND	SWEDFUND- Swedfund International AB	311
Switzerland	SIFEM	SIFEM - Swiss Investment Fund for Emerging Markets	356
UK	CDC	CDC – Capital for Development (formerly Commonwealth Development Corporation)	4018
UK and others	PIDG	Private Infrastructure Development Group (PIDG);	
USA	OPIC	Overseas Private Investment Corporation (OPIC)	

Table 3. DFI Investments 2009



Source: ODI 2011 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/67635/comparing-DFIs.pdf

6. Financing electricity in developing countries

6.1. Needs and affordability

In 2010 1.3 billion people were without access to electricity, the great majority of whom are in sub-Saharan Africa and South Asia, and in rural areas.

Table 4. People without access to electricity, 2010

	Population without access to electricity	% of total population	Annual investment required for universal connection by 2030
Sub-Saharan Africa	589	68%	\$23bn
Asia (developing)	628	18%	\$20bn
Latin America	29	6%	
Middle East	18	9%	
World (including high income)	1267	19%	

Source: IEA²⁵

Nearly \$1 trillion in cumulative investment is needed to achieve universal energy access by 2030, an average of \$49 billion per year, according to the IEA.²⁶ This is a large figure, but it is quite affordable. It is equal to only 0.06% of global GDP – less than \$7 per person per year. For developing countries themselves, it represents a higher proportion of their national income, but still quite affordable for many governments, even without aid (see below on Nigeria).

6.2. Little private investment in system

6.2.1. No private investment in extensions in Africa

Two major official reports published in 2010 make clear that private companies do not, and will not, provide any significant proportion of investment in electricity in Africa. A World Bank study of investment in electricity and other infrastructure in sub-Saharan Africa shows that private companies have provided only about 10% of total investment in the sector – and nearly all of that is in IPPs, not in extensions to the system. The majority of investment comes from public finance, followed by aid from donor countries and development banks.²⁷ An IEA report goes further, arguing that “in most developing countries upfront public investment in developing national and local capacity is the most important ingredient” for attracting any private investment at all – and even then it will only take place “where a commercial return can be reliably earned on the investment”.²⁸ These confirm the results of previous World Bank reports in 2005 and 2006 reports which found that only 10% of Africa’s investment needs for infrastructure have been financed by the private sector, and neither private sector participation nor regulation makes any significant contribution to the extension of access to network services.²⁹

Table 5. Public sector leads investment in electricity in Africa – private sector very small

Country group	Investment (\$ billions)				Operational expenditure (\$ billions)	Total investment and operational	Public sector as % of total
	Public sector	Aid	Private sector	Total			
Total sub-Saharan Africa	2.4	1.8	0.5	4.6	7.0	11.6	81%
<i>of which:</i>							
- Resource-rich countries	1.2	0.8	0.3	2.3	1.6	3.9	72%
- Middle income countries	0.8	0.03	0.01	0.8	2.7	3.5	99%
- Low-income countries	0.4	0.9	0.2	1.6	2.6	4.0	75%

Source: World Bank/AFD 2010 Africa’s Infrastructure 2010 Table 8.3 p.186, and PSIRU calculations. Figures may not add exactly due to rounding. http://www.infrastructureafrica.org/aicd/system/files/AIATT_Consolidated_smaller.pdf

Extending systems requires the use not only of public finance but also of social policies. The World Bank report says about half of the non-electrified urban population consists of extremely poor people living in slums with insecure legal tenure. Delivering connections thus requires government action, with social policies to subsidise high connection charges. Private companies will not risk expanding into such areas however because they would face “power theft” through illegal connections by the poor.

Low coverage in cities also affects the prospects for the rural poor: the World Bank study points out that “Countries with seriously underdeveloped generation capacity and tiny urban customer bases are not well placed to tackle rural electrification.... because of the lack of a basis for cross-subsidization.” In such countries government tax revenues are even more crucial for financing extensions. Privatisation makes either approach much more difficult.³⁰

The report also says that experience shows that a centralised public sector utility delivers much better results in rural electrification than fragmented or privatised approaches:

“countries that have taken a centralized approach to electrification, with the national utility responsible for extending the grid, have been more successful than those that followed decentralized approaches, where a rural electrification agency attempted to recruit multiple utilities or private companies into the electrification campaign.”³¹

6.2.2. Other problems and limits of private investment

- Most of the private sector investment in Africa relates to investment in generation, through independent power producers (IPPs). These have been encouraged by the World Bank, donors and many others since the early 1990s. But after 20 years they still make very little contribution to the power generation needs of Africa: a comprehensive report in September 2010 of IPPs in Africa states that they “represent a small fraction of total generation capacity and have mostly complemented incumbent state-owned utilities.”³² The World Bank study also describes them as “relatively costly because of technology choices, procurement problems, and currency devaluations”.³³ IPPs use gas generation, which is not as cheap or clean as hydro plants, for example: “This is why in countries like Ghana tariffs increased steeply after the introduction of thermal generation with IPPs.” (Dagdeviren 2009)³⁴
- IPPs depend on long-term power purchase agreements (PPAs), lasting for 20-30 years, under which the government or a state agency guarantees to buy the output at an agreed price. The profits obviously depend on the price levels written into the contract, so there is a huge incentive for corruption. There have been many examples of corrupt and overpriced IPPs in African countries, including Kenya, Uganda and Tanzania, as well as the scandal of the Enron/AES power barges in Nigeria itself, and in many other countries including Pakistan and Indonesia.³⁵
- In Chile: “Transmission facility failures and coordination problems have led to supply disruptions that have reached notorious levels. The disruptions, with a population accustomed to thinking of electricity as an infallible service, have led to unrest. The environmental and social sustainability of the Chilean model of electrical development has also been questioned and frequently results in public demonstrations, political arguments, and judicial confrontations.All this has been accompanied by what is probably the most sensitive issue, for both the population and most productive sectors: a substantial increase in electricity prices”³⁶
- In Vietnam: To enable private companies to operate in the sector, large amounts of public money are invested in sectoral reforms, including unbundling public utilities, privatisation, the creation of wholesale and retail markets, changes in pricing policy. 77% of all World Bank loans to the energy sector (USD \$2.181 billion) have been to support sector ‘reform’, rather than investment in generating capacity or extension of the system. The latest loan, Power Sector Reform DPO2, worth \$200 million, supports ‘electricity tariff reform, ... development of a competitive power market and subsidy reduction’. Yet the system created by these loans does not even lead to competitive markets: the government and the public utility, EVN, have signed dollar-pegged 20 year power purchase agreements (PPAs) with Electricité de France (EDF), Sumitomo and the Tokyo Electric Power Company, under which EVN is forced to buy any amount produced at the regularly exchange-rate-adjusted price.

6.3. Successful extension of electricity connections through public finance

A number of developing countries have already shown that it is possible to provide rapid electrification – in all cases, through using public finance, with no contribution from private investment.

6.3.1. Brazil: Luz Para Todos (“Light for All”)

Launched in 2003, the Luz Para Todos programme aims to achieve universal access to electricity in Brazil by 2014. It had provided access to an additional 14.5 million people by late 2011, and Brazil can now boast an electrification rate of almost 99%. The programme provides an electricity connection free of charge, together with three lamps and the

installation of two outlets in each home. Tariffs are regulated at a “social” rate, with a 65% discount for monthly consumption below 30 kWh, a 40% discount from 31-100 kWh, 10% discount from 101-220 kWh and no discount above this level. The programme is paid for through public finance from the Ministry of Mines and Energy, coordinated by Electrobrás (the holding company of the Brazilian electricity sector) and executed by the utilities and rural electrification co-operatives. (Niez, 2010).³⁷

6.3.2. Vietnam

Vietnam increased access to electricity from 15% to 95% in just 15 years, using public finance. The programme was delivered through “the leadership of a strong state utility (EVN) and an effective partnership between it and local utilities” as well as “sustaining strong public and political support for efforts to improve electrification” (World Bank, 2010b; Asian Development Bank, 2011).

6.3.3. South Africa

South Africa massively increased the number of households connected to its electricity system, after the end of the apartheid regime in 1994. The percentage of the population with access to electricity rose from 40 percent in 1994 to 66 percent in 2002: 79 percent of the population in urban areas and 46 percent in rural areas had access to electricity. By the end of 2006 over 3.3 million households had been connected. This was financed first by cross-subsidies, through a surcharge on other electricity users, and then from tax revenues: the continuing programme is financed from a national government fund. One effect of rural electrification was a significant increase in employment of women in rural areas. South Africa also provides subsidies to enable poor households to receive 50 kWh per month free, with reduced tariffs after that point. By the end of 2006, 1 million households were benefiting from this.³⁸

6.3.4. Nigeria: universal access possible in 10 years using 0.6% of oil revenues

A similar approach is possible and affordable for other countries. After India and Bangladesh, Nigeria has the third largest population in the world without access to electricity, a total of about 79 million people – half the population. The Nigerian government has embarked on breaking up and privatising the public utility, claiming that only private companies can afford this kind of investment, despite all the evidence that private companies do not invest in access.

However, the total cost of providing the networks, connections and power stations necessary for universal access to electricity – for all households in Nigeria – is \$6 billion, according to the IEA. And Nigeria can easily afford to carry out this investment in just 10 years, using public finance: \$6 billion represents only 0.6% of Nigeria’s oil revenues. As an IEA economist, Fatih Birol, stated in September 2010, if Nigeria spent just a small fraction: “of its oil and gas revenues on energy power and electricity, they would solve this problem immediately.... If left to the markets they will never get access to electricity.”³⁹

Nigeria could connect its entire population within a decade, if it keeps the system in public hands, and invests.

Table 1. Affordability of universal electricity access for Nigeria

		\$billion	Investment required as % of revenues from oil and gas royalties each year
Total investment required for universal electricity access		6	
Oil revenues 2010-2020	10 years	1020	0.6%

Source: WEO 2008: Chapter 15 “Prospects in oil- and gas- exporting sub-Saharan African countries” table 15.6, figure 15.6 http://www.iea.org/weo/database_electricity/WEO2008-Chapter%2015.pdf; and PSIRU calculations⁴⁰

7. Annexe:

7.1. IMF loans as of June 2013

Source: <http://www.imf.org/external/np/fin/tad/extarr11.aspx?memberKey1=ZZZZ&date1key=2013-06-30>

Lending arrangements, which are similar to a line of credit, are approved by the IMF Executive Board to support a country's adjustment program. The arrangement requires the member to observe specific terms in order to be eligible to receive a disbursement. The IMF lends under Stand-by, Extended, Flexible Credit Line and Precautionary and Liquidity Line arrangements, and at reduced rates, under Poverty Reduction and Growth Trust and Exogenous Shocks Facility arrangements.

(In Thousands of SDRs = USDollars)

General Resources Account (GRA)					
Stand-By Arrangements (SBA)					
Member	Date of Arrangement	Expiration	Total Amount Agreed	Undrawn Balance	IMF Credit Outstanding Under GRA
Bosnia and Herzegovina	September 26, 2012	September 25, 2014	338,200	169,100	423,595
Georgia	April 11, 2012	April 10, 2014	125,000	125,000	303,188
Jordan	August 03, 2012	August 02, 2015	1,364,000	852,500	511,500
Kosovo	April 27, 2012	December 26, 2013	90,968	12,752	96,976
St. Kitts and Nevis	July 27, 2011	July 26, 2014	52,510	9,407	44,216
Tunisia	June 07, 2013	June 06, 2015	1,146,000	1,047,200	98,800
Total			3,116,678	2,215,959	1,478,274
Extended Arrangements (EFF)					
Member	Date of Arrangement	Expiration	Total Amount Agreed	Undrawn Balance	IMF Credit Outstanding Under GRA
Cyprus	May 15, 2013	May 14, 2016	891,000	816,750	74,250
Greece	March 15, 2012	March 14, 2016	23,785,300	18,081,200	23,245,900
Ireland	December 16, 2010	December 15, 2013	19,465,800	1,260,375	18,205,425
Jamaica	May 01, 2013	April 30, 2017	615,380	478,630	626,763
Portugal	May 20, 2011	May 19, 2014	23,742,000	4,042,000	19,700,000
Seychelles	December 23, 2009	December 22, 2013	26,400	3,300	27,940
Total			68,525,880	24,682,255	61,880,278
Flexible Credit Line (FCL)					
Member	Date of Arrangement	Expiration	Total Amount Agreed	Undrawn Balance	IMF Credit Outstanding Under GRA
Colombia	June 24, 2013	June 23, 2015	3,870,000	3,870,000	0
Mexico	November 30, 2012	November 29, 2014	47,292,000	47,292,000	0
Poland, Republic of	January 18, 2013	January 17, 2015	22,000,000	22,000,000	0
Total			73,162,000	73,162,000	0
Precautionary and Liquidity Line (PLL) ^{1/}					
Member	Date of Arrangement	Expiration	Total Amount Agreed	Undrawn Balance	IMF Credit Outstanding Under GRA
Morocco	August 03, 2012	August 02, 2014	4,117,400	4,117,400	0
Total			4,117,400	4,117,400	0

Poverty Reduction and Growth Trust (PRGT)					
Extended Credit Facility (ECF) ^{2/}					
Member	Date of Arrangement	Expiration	Total Amount Agreed	Undrawn Balance	IMF Credit Outstanding Under PRGFT
Afghanistan, Islamic Republic of	November 14, 2011	November 13, 2014	85,000	61,000	93,320
Armenia, Republic of	June 28, 2010	September 27, 2013	133,400	26,600	129,922
Bangladesh	April 11, 2012	April 10, 2015	639,960	365,691	396,596
Benin	June 14, 2010	September 13, 2013	74,280	21,220	76,950
Burkina Faso	June 14, 2010	July 31, 2013	82,274	6,450	136,038
Burundi	January 27, 2012	January 26, 2015	30,000	20,000	90,096
Central African Republic	June 25, 2012	June 24, 2015	41,775	34,812	65,331
Comoros	September 21, 2009	December 31, 2013	13,573	1,558	11,272
Cote d'Ivoire	November 04, 2011	November 03, 2014	390,240	130,080	561,057
Gambia, The	May 25, 2012	May 24, 2015	18,660	7,775	32,833
Guinea	February 24, 2012	February 23, 2015	128,520	73,440	55,585
Haiti	July 21, 2010	July 20, 2013	40,950	4,914	36,036
Kenya	January 31, 2011	January 30, 2014	488,520	71,921	638,549
Kyrgyz Republic	June 20, 2011	June 19, 2014	66,600	19,030	127,729
Lesotho	June 02, 2010	September 30, 2013	50,605	5,680	46,675
Liberia	November 19, 2012	November 18, 2015	51,680	44,298	49,520
Malawi	July 23, 2012	July 22, 2015	104,100	65,050	128,717
Niger	March 16, 2012	March 15, 2015	78,960	56,400	52,264
Sao Tome & Principe	July 20, 2012	July 19, 2015	2,590	1,850	3,806
Solomon Islands	December 07, 2012	December 06, 2015	1,040	891	12,629
Total			2,522,727	1,018,660	2,744,924
Standby Credit Facility (SCF)					
Member	Date of Arrangement	Expiration	Total Amount Agreed	Undrawn Balance	IMF Credit Outstanding Under PRGFT
Georgia	April 11, 2012	April 10, 2014	125,000	125,000	57,400
Tanzania	July 06, 2012	January 05, 2014	149,175	74,575	299,830
Total			274,175	199,575	357,230

^{1/} Formerly Precautionary Credit Line (PCL).

^{2/} Formerly Poverty Reduction and Growth Facility (PRGF).

7.2. World Bank loans in energy in energy >\$500m. August 2013

More details on all these projects, and on other smaller WB energy projects, in all countries, can be found by accessing the World Bank site at <http://www.worldbank.org/projects>, or by following the url links to the specific projects in the table below

Table 6. World Bank loans sector projects over \$500m., active and pipeline, August 2013

COUNTRY	PROJECT NAME	PROJECT ID	TOTAL PROJECT COST \$M.	WB LOAN \$M.
Africa	The Eastern Electricity Highway Project under the First Phase of the Eastern Africa Power Integration Program	P126579	1263	684
Africa	Regional and Domestic Power Markets Development Project (Southern Africa Power Market Project: APL-1b)	P097201	501	297
Africa	First Part of the Second Phase of the Niger Basin Water Resources Development and Sustainable Ecosystems Management Program - APL 2A	P130174	785	203
Africa	Regional Transmission Development APL	P108934	500	150
Africa	3A-West African Gas Pipeline (IDA S/UP)	P082502	590	50
Botswana	Botswana - Morupule B Generation and Transmission Project	P112516	1662	136
Kenya	Electricity Expansion	P103037	1391	330
Kenya	Electricity Modernization Project	P120014	500	200
Mozambique	MZ-Southern Africa Regional Gas Project	P082308	721	30
Nigeria	Nigeria Power Sector Guarantees Project	P120207	800	800
South Africa	Eskom Investment Support Project	P116410	10750	3750
South Africa	South Africa - Eskom Renewables Support Project	P122329	1228	0
Uganda	UG - Private Power Generation (Bujagali) Project	P089659	798	115
China	Wenchuan Earthquake Recovery	P114107	740	710
China	China Energy Efficiency Financing	P084874	571	200
China	Jiangxi Wuxikou Integrated Flood Management Project	P128867	514	100
Indonesia	Upper Cisokan Pumped Storage Hydro-Electrical Power (1040 MW) Project	P112158	800	640
Indonesia	National Community Empowerment Program In Urban Areas For 2012-2015	P125405	500	266
Indonesia	Geothermal Clean Energy Investment Project	P113078	575	175
Laos	Lao Nam Theun 2 Power Project (former was under PE-P004206-LEN)	P076445	1450	42
Vietnam	Distribution Efficiency Project	P125996	800	449
Kosovo	Kosovo Power Project	P118287	2000	50
Romania	Development Policy Operation - DDO	P130051	1333	1333
Russian Federation	Russia Energy Efficiency Financing Project	P122492	775	300
Turkey	Private Sector Renewable Energy and Energy Efficiency Project	P112578	1150	500
Turkey	Private Sector Renewable Energy and Energy Efficiency Additional Financing	P124898	650	500
Turkey	GAS SECTOR DEVELOPMENT	P093765	538	325
Turkey	Gas Sector Development Additional Financing	P133565	614	225
Brazil	ELETRORAS Distribution Rehabilitation	P114204	709	495
Brazil	GUARANTEED NOTE TRANSPORTADORA BRASILEIRA GASODUTO BOLIVIA-BRASIL S.A.	P055924	2032	180
Egypt	EG-Ain Sokhna Power Project	P100047	2190	600
Egypt	EG-Giza North Power Project	P116194	1412	600
Egypt	EG - Helwan South Power Project	P117407	2404	585
Egypt	EG-Giza North Additional Financing	P116198	764	240
Egypt	Kom Ombo Solar Power	P120191	525	170
Egypt	Egypt - Wind Power Development Project	P113416	796	70
Morocco	MA-Ouarzazate Concentrated Solar Power	P122028	1438	200
Morocco	Jorf Lasfar Power Project	P045615	1600	0
Bangladesh	Bangladesh: Rural Electricity Transmission and Distribution Project	P129920	680	580

India	Financing Public Private Partnerships (PPPs) in Infrastructure through Support to the India Infrastructure Finance Company Ltd	P102771	1195	1195
India	Fifth Power System Development Project	P115566	1572	1000
India	Luhri Hydro Electric Project	P102843	1150	650
India	Vishnugad Pipalkoti Hydro Electric Project	P096124	922	648
India	POWER SYSTEM DEVELOPMENT PROJECT IV	P101653	2114	600
India	North Eastern Region Power System Improvement Project	P127974	530	425
India	Power System Development IV - Additional Financing	P112798	2114	400
India	Rampur Hydropower Project	P095114	670	400
Pakistan	Tarbela Fourth Extension Hydropower Project	P115893	914	840
Pakistan	PK: Hub Power Guarantee	P069043	1500	240
Pakistan	Uch Power Project	P040547	690	0

7.3. ADB loans in energy sector

See <http://www.adb.org/projects>

Table 7. ADB projects in energy sector >\$200m. current or proposed August 2013

Country	Project Name	ADB loan (\$million)	Approval Date	Project Number
Viet Nam	Multitranches Financing Facility Mong Duong 1 Thermal Power Project	930.71	21/09/2007	39595-013
Viet Nam	Mong Duong 1 Thermal Power Project - Tranche 2	902.85	21/12/2009	39595-033
Pakistan	MFF - Power Distribution Enhancement Investment Program	810	03/09/2008	38456-013
India	MFF - Himachal Pradesh Clean Energy Development Investment Program (Facility Concept)	800	23/10/2008	41627-013
Pakistan	MFF - Power Transmission Enhancement	800	12/12/2006	37192-013
Pakistan	Energy Efficiency Investment Program	780	17/09/2009	42051-013
India	MFF - Madhya Pradesh Power Sector Investment Program (Facility Concept)	620	29/03/2007	32298-013
India	MFF - National Power Grid Development Investment Program (Facility Concept)	600	28/03/2008	39630-013
Pakistan	MFF - Renewable Energy Development Sector Investment Program (formerly Renewable Energy Development Facility)	510.8	01/12/2006	34339-013
India	National Grid Improvement Project	500	30/09/2011	44426-014
India	MFF-Clean Energy Finance Investment Program (Facility Concept)	500		46268-001
Bangladesh	Sustainable Power Sector Development Program (Project)	405	26/06/2007	36107-013
India	Madhya Pradesh Energy Efficiency Improvement Investment Program (Facility Concept)	401	07/07/2011	43467-014
India	MFF - National Power Grid Development Investment Program (Tranche1)	400	28/03/2008	39630-023
India	Power Grid Transmission (Sector) Project	400	21/12/2004	38492-013
Viet Nam	Northern Power Transmission Expansion (Sector) Project	360		38196-013
India	MFF - Himachal Pradesh Clean Energy Transmission Investment Program (Facility Concept)	350.6	30/09/2011	43464-013
India	Madhya Pradesh Power Transmission and Distribution System Improvement Project	350		47100-004
Uzbekistan	Talimarjan Power Project (formerly CASAREM-Talimarjan Energy Development Project)	350	20/04/2010	43151-023
India	Himachal Pradesh Clean Energy Development Investment Program - Tranche 4	315	02/10/2012	41627-053
Bangladesh	MFF-Power System Expansion and Efficiency Improvement Investment Program (Tranche 2)	310		42378-016
Viet Nam	O Mon IV Combined Cycle Power Plant Project	309.89	24/11/2011	43400-013
India	MFF - Uttaranchal Power Sector Investment Program (Facility Concept)	300	30/03/2006	37139-013
India	Assam Power Sector Investment Program	300		47101-001
Pakistan	Power Distribution Enhancement Investment Program - Tranche 3	245	14/12/2012	38456-034
Pakistan	Power Transmission Enhancement Investment Program - Tranche 3	243.24	22/12/2011	37192-043
Pakistan	Power Distribution Enhancement Investment Program - Tranche 2	242	14/12/2010	38456-033

Azerbaijan	Janub Gas-Fired Power Plant Project	232.32	22/06/2010	43406-013
Bangladesh	Gas Transmission and Development Project	230	27/10/2005	35242-013
Indonesia	Java-Bali 500 KV Power Transmission Crossing	224		42362-013
Pakistan	MFF-Power Transmission Enhancement Investment Program PFR2	220	17/12/2007	37192-033
Pakistan	Power Distribution Enhancement Investment Program- Project 1	210.826	12/09/2008	38456-023
Afghanistan	Energy Sector Development Investment Program - Tranche 4	200	18/12/2012	42094-052
India	Madhya Pradesh Energy Efficiency Improvement Investment Program - Tranche 2	200	14/12/2011	43467-016
India	Madhya Pradesh Energy Efficiency Improvement Investment Program - Tranche 1	200	15/07/2011	43467-015
Pakistan	Renewable Energy Development Sector Investment Program - Tranche 2	200	13/12/2010	34339-033

7.4. IADB loans related to electricity, in pipeline 2013 and started since 2010

Source: <http://www.iadb.org/en/projects/projects,1229.html>

These tables identify all IADB loans related to electricity which are either in preparation as at August 2013, or started since July 2010.

Table 8. IADB – electricity-related projects in pipeline August 2013

COUNTRY	NAME	PROJECT NUMBER	IDB FINANCE \$m.	APPROVAL DATE
Argentina	Energy Topics - Southern Wind Project	AR-L1123	60.00	Preparation
Dominican Republic	Support for the distribution network improvement and electricity losses reductio	DR-L1034	78.00	Preparation
Ecuador	CondorSolar Solar Connection Project	EC-L1126	60.00	Preparation
Ecuador	Electrification Program for Rural and Marginal Urban Areas- II	EC-L1128	30.00	Preparation
Haiti	Rehabilitation of the Peligre Transmission Line	HA-G1030	8.00	Preparation
Honduras	Support for the Integration of Honduras in the Regional Electricity Market	HO-L1039	22.50	Preparation
Nicaragua	Program to Strengthen the Energy Sector in Nicaragua	NI-L1074	22.50	Preparation
Suriname	Support to Improve Sustainability and Accessibility of the Electricity Service	SU-L1009	25.00	Preparation

Table 9. IADB – electricity-related projects started since July 2010

COUNTRY	NAME	PROJECT NUMBER	IDB FINANCE \$m.	APPROVAL DATE
Argentina	Supply Elec. to Country's Regions under Federal Electricity Transmission Plan	AR-L1079	120.00	Jan 11, 2011
Bolivia	Cochabamba - La Paz Transmission Line	BO-L1072	78.00	Nov 30, 2011
Bolivia	Rural Electrification Program	BO-L1050	60.00	Nov 17, 2010
Bolivia	Promotion, Support & Development of Sustainable Energy in Bolivia	BO-T1179	0.50	Nov 26, 2012
Bolivia	Development of Lithium in Bolivia	BO-T1132	0.30	Sep 14, 2010
Bolivia	Support to Cochabamba-La Paz Transmission Line	BO-T1150	0.19	Jun 30, 2011
Bolivia	Inclusion, Development and Municipal Management	BO-T1133	0.15	Aug 27, 2010
Brazil	Pro-Energy RS Distribution	BR-L1284	130.56	Feb 15, 2012
Brazil	Rehabilitation for the Furnas and Luiz Carlos Barreto Hydroelectric Power Plant	BR-L1278	128.66	Jul 25, 2011
Brazil	Development Program for the Southwest Region of the State of Tocantins	BR-L1152	99.00	Nov 3, 2010
Brazil	CEEE Generation and Transmission Project	BR-L1303	88.66	Nov 1, 2012
Brazil	PROCIDADES - Economic Development Program of Distrito Federal-ADEs	BR-L1076	50.00	Jun 27, 2013
Brazil	Support to the Organizational Restructuring of FURNAS	BR-T1216	0.50	Apr 24, 2012
Brazil	Portable Light Project Brazil	BR-T1198	0.26	Mar 3, 2011
Chile	Promotion and Development of Local Solar Technologies in Chile	CH-X1007	2.73	Nov 1, 2012
Chile	Support to Energy Efficiency in Residential and Municipal Sector	CH-T1128	0.17	Sep 17, 2012
Colombia	Support for Structuring the Ituango Hydroelectric Project	CO-T1250	1.50	Jul 30, 2012
Costa Rica	Power Sector Development Program 2012-2016 (Reventazón Hydroelectric Project)	CR-L1049	250.00	Jun 25, 2012
Costa Rica	Studies and Support Environmental and Social Strategy PH Reventazón	CR-T1086	0.74	Dec 4, 2012
Costa Rica	Reventazón Hydroelectric Project Complementary Environmental Studies	CR-T1074	0.47	May 12, 2011
Dominican Republic	Power Sector Sustainability and Efficiency Program	DR-L1050	200.00	Nov 2, 2011
Dominican Republic	Support to the Design and Execution of the Power Sector Sustainability Program	DR-T1086	0.31	Dec 13, 2012
Ecuador	Support for the Transmission Program	EC-L1070	64.70	Nov 17, 2010
Ecuador	Electrification Program for rural and marginal urban areas of Ecuador	EC-L1087	40.00	Nov 2, 2011
Ecuador	Sustainable Off-grid Renewable Energy Solutions for Remote Communities	EC-M1063	1.00	Aug 1, 2013
Ecuador	Rural Electrification with Renewable Energies in Isolated Areas of Ecuador	EC-G1001	0.91	Apr 17, 2013

Ecuador	Measuring Impacts of Rural Electrification projects in Ecuador	EC-T1259	0.40	Nov 20, 2012
Ecuador	Support to the National Hydroelectric Expansion Program	EC-T1221	0.22	Jun 23, 2011
Ecuador	Support to EC-L1087 Program (Ecuadorian Rural/Marginal Electrification Program)	EC-T1222	0.20	Apr 13, 2011
Ecuador	Support to Rural Electrification Program in Ecuador	EC-T1235	0.18	Dec 12, 2011
Guyana	Sustainable Operation of the Electricity Sector and Improved Quality of Service	GY-L1037	5.00	Sep 7, 2011
Haiti	Program for Rehabilitation of Basic Economic Infrastructure	HA0093	70.00	Sep 29, 2010
Haiti	Supplementary Financing for the Peligre Hydroelectric Plant	HA-L1038	20.00	Dec 14, 2011
Haiti	Rehabilitation of Electricity Distribution System in Port au Prince	HA-L1014	18.09	Sep 29, 2010
Haiti	Artibonite 4C Hydroelectric Project - Studies	HA-T1150	1.50	May 22, 2012
Haiti	Towards a Sustainable Energy Sector Haiti - White Paper	HA-T1130	0.10	Jul 26, 2010
Honduras	Feasibility Studies Patuca III Project	HO-T1158	0.90	Jun 24, 2011
Mexico	Assessment of Geothermal Potential in Mexico	ME-T1161	0.06	Nov 4, 2010
Nicaragua	National Sustainable Electrification and Renewable Energy Program III	NI-L1063	35.00	Nov 1, 2012
Nicaragua	National Sustainable Electrification and Renewable Energy Program (PNESER) II	NI-L1050	22.00	Jul 25, 2011
Nicaragua	San Jacinto-Tizate Community Water Rehabilitation Project	NI-G1004	0.33	Nov 1, 2012
Panama	Strengthening of Energy Efficiency at the IDAAN	PN-T1093	0.30	Oct 1, 2012
Panama	Strengthening of Energy Efficiency at the IDAAN	PN-T1101	0.30	Oct 1, 2012
Paraguay	Support Conceptualization and Development of Industrial Park and Aluminum Plant	PR-T1117	0.27	Dec 12, 2011
Regional	Pre-Feasibility Study for the "Arco Norte" Interconnection Project	RG-T2257	1.90	May 29, 2013
Regional	Regional Electricity Market Consolidation in CA. Second Stage	RG-T1736	1.50	Sep 20, 2010
Regional	Sustainable Energy for All	RG-T1881	0.60	Sep 12, 2011
Regional	Sustainable Energy Rating For Latin-America And The Caribbean	RG-T2201	0.45	Jun 26, 2013
Regional	Sustainable Energy Rating for Latin-America and the Caribbean	RG-T2327	0.45	Jun 26, 2013
Regional	Support for the Mesoamerican Biofuels Research and Development Network	RG-T1966	0.35	Dec 8, 2011
Regional	Smart Grid and Its Application in Sustainable Cities	RG-T2058	0.25	Mar 7, 2012
Regional	Evaluation of Strategic Photovoltaic Solar Energy Applications in Developing Cou	RG-T1880	0.09	Dec 13, 2010
Suriname	Support to the Institutional and Operational Strengthening of the Energy Sector	SU-L1022	15.00	Nov 20, 2012
Suriname	Development of Renewable Energy, Energy Efficiency and Electrification	SU-G1001	4.40	Apr 11, 2013
Suriname	Support for the Preparation of the Sustainable Energy Framework	SU-T1055	0.70	Oct 2, 2012
Uruguay	Punta del Tigre Combined Cycle Power Generation Project	UR-L1070	200.00	Dec 17, 2012
Uruguay	Montes del Plata	UR-L1068	200.00	Aug 2, 2011
Uruguay	El Libertador Wind Project	UR-L1077	66.00	Dec 5, 2012
Venezuela	Rehabilitation of Units 1 to 6 of Powerhouse I Simón Bolívar Hydroelectric Plant	VE-L1033	700.00	Oct 27, 2010
Venezuela	Support to the Comprehensive Institutional Development of CORPOELEC Program	VE-T1020	0.30	Feb 16, 2011

Notes

¹ Declaration Of The G8 On The Arab Spring G8 Summit of Deauville - May 26-27, 2011

<http://www.g20-g8.com/g8-g20/g8/english/live/news/declaration-of-the-g8-on-the-arab-springs.1316.html> ; EIB

<http://www.eib.org/about/press/2011/2011-129-marseille-g-8-meeting-the-eib-strengthens-its-support-for-the-transition-to-democracy-in-the-mediterranean.htm>; States News Service September 16, 2011 Friday Five new countries join Deauville partnership in support for MENA reform

² Aid to Afghanistan, Malawi suspended on IMF decision Bretton Woods Project 13 June 2011 <http://www.brettonwoodsproject.org/art-568607>;
Water, electricity and the political context in Arab countries 2011 <http://www.psiru.org/sites/default/files/2011-09-WE-Arab.docx>

³ IMF 2010 Preliminary Conclusions of the Mission to Libya October 2010 <http://www.imf.org/external/np/ms/2010/102810.htm> ; Jadaliyya 29

May 2011 Adam Hanieh 'Egypt's Orderly transition? International Aid and the Rush to Structural Adjustment

<http://www.jadaliyya.com/pages/index/1711/egypts-%E2%80%98orderly-transition%E2%80%99-international-aid-and->; Patrick Bond (2011):

Neoliberal threats to North Africa, Review of African

Political Economy, 38:129, 481-495 <http://dx.doi.org/10.1080/03056244.2011.602546>

⁴ <http://www.imf.org/external/np/loi/2013/tun/052413.pdf>

⁵ Lin, Boqiang, and Zhujun Jiang. 2011. 'Estimates of Energy Subsidies in China and Impact of Energy Subsidy Reform'. *Energy Economics* 33 (2)

(March): 273–283. doi:10.1016/j.eneco.2010.07.005. <http://www.sciencedirect.com/science/article/pii/S0140988310001143>

⁶ 'Declaración Del MORENO: El Sistema Eléctrico Argentino'. 2013. Accessed August 27. <http://www.fefera.org.ar/index.php/politica-energetica/245-declaracion-del-moreno-el-sistema-electrico-argentino>

⁷ Reuters March 22, 2013 Eskom Criticised For Selling Power To BHP Billiton At Cheaper Prices <http://www.ventures-africa.com/2013/03/eskom-criticised-for-selling-power-to-bhp-billiton-at-cheaper-prices/>; Birnbauer, William; Dowling, Jason (2006-05-21). "The Age - 'Greenhouse showdown over smelter' - May 21, 2006".

⁸ World Bank Project: Turkey - Private Sector Renewable Energy and Energy Efficiency 2009 and additional financing of \$650 million:

<http://www.worldbank.org/projects/P124898/private-sector-renewable-energy-energy-efficiency-additional-financing?lang=en&tab=overview> ;

and <http://www.worldbank.org/projects/P112578/private-sector-renewable-energy-energy-efficiency-project?lang=en&tab=overview>

⁹ WB project – India - Financing Public Private Partnerships (PPPs) in Infrastructure <http://www.worldbank.org/projects/P102771/financing-public-private-partnerships-ppps-infrastructure-through-support-india-infrastructure-finance-company-ltd?lang=en&tab=overview>

¹⁰ WAPP APL2 Felou Hydroelectric Project <http://www.worldbank.org/projects/P094916/wapp-apl-2-omvs-felou-hydroelectric-project?lang=en&tab=overview>

¹¹ <http://www.brettonwoodsproject.org/art-572445# Toc354589041>

- ¹² World Bank Project: Romania - Development Policy Operation – 2012
<http://web.worldbank.org/external/projects/main?pagePK=64283627&piPK=73230&theSitePK=40941&menuPK=228424&Projectid=P130051>
- ¹³ See <http://www.afdb.org/en/blogs/integrating-africa/post/power-trade-in-africa-and-the-role-of-power-pools-12101/> ;
http://cdn.intechopen.com/pdfs/16031/InTech-Power_generation_in_southern_africa_energy_trading_and_the_southern_african_power_pool.pdf ;
 Lisa Rothkegel 2013 The Power of Power: Regime Dynamics and the Southern African Power Pool
http://scholar.sun.ac.za/bitstream/handle/10019.1/79984/rothkegel_power_2013.pdf?sequence=2
- ¹⁴ <http://www.ecowapp.org/> ; Irena 2013: WAPP: planning and prospects for renewable energy
<http://www.irena.org/DocumentDownloads/Publications/WAPP.pdf>
- ¹⁵ WB Eastern Electricity Highway Project
<http://www.worldbank.org/projects/P126579/regional-eastern-africa-power-pool-project-apl1?lang=en> ;
<http://www.worldbank.org/en/news/press-release/2012/07/12/world-bank-approves-new-power-transmission-line-ethiopia-kenya-boost-electricity-economic-growth-east-africa> ; FT 13 July 2012 World Bank criticised over Ethiopia-Kenya electricity highway <http://blogs.ft.com/beyond-brics/2012/07/13/world-bank-criticised-over-ethiopia-kenya-electricity-grid-plan/#axzz2eaeoVgje>
- ¹⁶ 08.08.2013 CAF to provide non-reimbursable technical cooperation to improve Bolivia's electricity, solid waste management and urban transport sectors
<http://www.caf.com/en/currently/news/2013/08/caf-to-provide-non-reimbursable-technical-cooperation-to-improve-bolivias-electricity-solid-waste-management-and-urban-transport-sectors>
- ¹⁷ [http://www.afdb.org/en/search?tx_solr\[ql\]=PPP&search=Search](http://www.afdb.org/en/search?tx_solr[ql]=PPP&search=Search)
- ¹⁸ IADB Public Utilities Policy July 1996 paras 9, 10,13 <http://cdi.mecon.gov.ar/biblio/docelec/MU2009.pdf>
- ¹⁹ IADB 'Evaluation of the Public Utilities Policy as Applied to the Electricity Sector (PUP-E)'. 2013. *Inter-American Development Bank*. Accessed September 9. <http://www.iadb.org/en/publications/publication-detail,7101.html?id=67098>
- ²⁰ IADB 'Evaluation of the Public Utilities Policy as Applied to the Electricity Sector (PUP-E)'. 2013. *Inter-American Development Bank*. Accessed September 9. <http://www.iadb.org/en/publications/publication-detail,7101.html?id=67098>
- ²¹ IADB 'Evaluation of the Public Utilities Policy as Applied to the Electricity Sector (PUP-E)'. 2013. *Inter-American Development Bank*. Accessed September 9. <http://www.iadb.org/en/publications/publication-detail,7101.html?id=67098>
- ²² <http://www.miya-water.com/about-miya/our-experts/gesner-oliveira> ; <http://www.ifpri.org/sites/default/files/publications/iabrief10.pdf>
- ²³ ODI Briefing <http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7305.pdf> ; EDFI Annual report <http://www.edfi.be/news/news/30-2012-annual-report.html>
- ²⁴ ODI Briefing <http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/7305.pdf> ; EDFI Annual report <http://www.edfi.be/news/news/30-2012-annual-report.html> ; More Than Bricks and Mortar 2012 The Cornerhouse <http://www.thecornerhouse.org.uk/resource/more-bricks-and-mortar>
- ²⁵ IEA 2012 Measuring progress towards energy for all
http://www.worldenergyoutlook.org/media/weowebsite/energydevelopment/2012updates/Measuringprogressstowardsenergyforall_WEO2012.pdf
- ²⁶ IEA WEO 2012 Factsheet <http://www.worldenergyoutlook.org/media/weowebsite/2012/factsheets.pdf>
- ²⁷ World Bank/AFD 2010 Africa's Infrastructure 2010 http://www.infrastructureafrica.org/aicd/system/files/AIATT_Consolidated_smaller.pdf p.186
 A range of material based on this is at <http://go.worldbank.org/NGTDDHDDBO>
- ²⁸ WEO 2010: Chapter 8 "Energy poverty - How to make modern energy access universal?"
http://www.iea.org/weo/docs/weo2010/weo2010_poverty.pdf
- ²⁹ Africa's infrastructure: challenges and opportunities Antonio Estache Word Bank And ECARES, Université Libre de Bruxelles
<http://www.imf.org/external/np/seminars/eng/2006/rppia/pdf/estach.pdf>. P.40; ESMAP Report 306/05 August 2005 Power Sector Reform in Africa: Assessing Impact on Poor People
[http://wbln0018.worldbank.org/esmap/site.nsf/files/306-05+Final_to_Printshop.pdf/\\$FILE/306-05+Final_to_Printshop.pdf#search=%22%22Power%20Sector%20Reform%20in%20Africa%22%22](http://wbln0018.worldbank.org/esmap/site.nsf/files/306-05+Final_to_Printshop.pdf/$FILE/306-05+Final_to_Printshop.pdf#search=%22%22Power%20Sector%20Reform%20in%20Africa%22%22)
- ³⁰ Source: World Bank/AFD 2010 Africa's Infrastructure 2010
http://www.infrastructureafrica.org/aicd/system/files/AIATT_Consolidated_smaller.pdf p.111
- ³¹ Source: World Bank/AFD 2010 Africa's Infrastructure 2010
http://www.infrastructureafrica.org/aicd/system/files/AIATT_Consolidated_smaller.pdf p.111
- ³² IPPs in Sub-Saharan Africa: determinants of success. Anton Eberhard and Katharine Nawaal Gratwick September 2010
http://gsbnet.uct.ac.za/MIR/admin/documents/AE%20IPPs_30_8_2010_28995.pdf
- ³³ World Bank/AFD 2010 Africa's Infrastructure 2010 http://www.infrastructureafrica.org/aicd/system/files/AIATT_Consolidated_smaller.pdf p.186
 A range of material based on this is at <http://go.worldbank.org/NGTDDHDDBO>
- ³⁴ Dagdeviren, H., 2009. LIMITS TO COMPETITION AND REGULATION IN PRIVATIZED ELECTRICITY MARKETS. *Annals of Public and Cooperative Economics*, 80(4), 641-664. Available at: <http://dx.doi.org/10.1111/j.1467-8292.2009.00395.x> [Accessed November 10, 2009].
- ³⁵ Hall D. 2007 Electrifying Africa <http://www.psiru.org/reports/2007-01-E-Africa.doc>
- ³⁶ Bezerra, B., S. Mocarquer, L. Barroso, and H. Rudnick. 2012. 'Expansion Pressure: Energy Challenges in Brazil and Chile'. *IEEE Power and Energy Magazine* 10 (3): 48–58. doi:10.1109/MPE.2012.2188665 http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6185787&tag=1
- ³⁷ IEA 2012 Measuring progress towards energy for all
http://www.worldenergyoutlook.org/media/weowebsite/energydevelopment/2012updates/Measuringprogressstowardsenergyforall_WEO2012.pdf
- ³⁸ Dubash N. (ed.) 2002. Power politics: Equity and environment in electricity reform. World Resources Institute. August 2002.. Chapter 8: South Africa http://pdf.wri.org/powerpolitics_chap8.pdf ; Eskom Annual report 2006 . Chief executive's report.
<http://www.eskom.co.za/annreport06/chiefexecutivesreport.htm> ; Taryn Dinkelman, 2008. The Effects of Rural Electrification on Employment: New Evidence from South Africa. University of Michigan Job Market Paper Available at: <http://faculty.ucr.edu/~jorgea/econ261/electricity.pdf> [Accessed November 10, 2009].
- ³⁹ Christian Science Monitor September 22, 2010 Privatizing electricity puts Nigeria on the right track: IEA economist
<http://www.csmonitor.com/World/Africa/2010/0922/Privatizing-electricity-puts-Nigeria-on-the-right-track-IEA-economist>
- ⁴⁰ WEO 2008: Chapter 15 "Prospects in oil- and gas- exporting sub-Saharan African countries"
http://www.iea.org/weo/database_electricity/WEO2008-Chapter%2015.pdf