

# Sector: Energy and Mineral Development

## S1: Sector Overview

This section provides an overview of sector expenditures and proposed medium term budget allocations, policy objectives, and key performance issues.

### (i) Snapshot of Medium Term Budget Allocations

Table S1.1 below summarises the Medium Term Budget allocations for the Sector:

**Table S1.1: Overview of Sector Expenditures (US\$ Billion)**

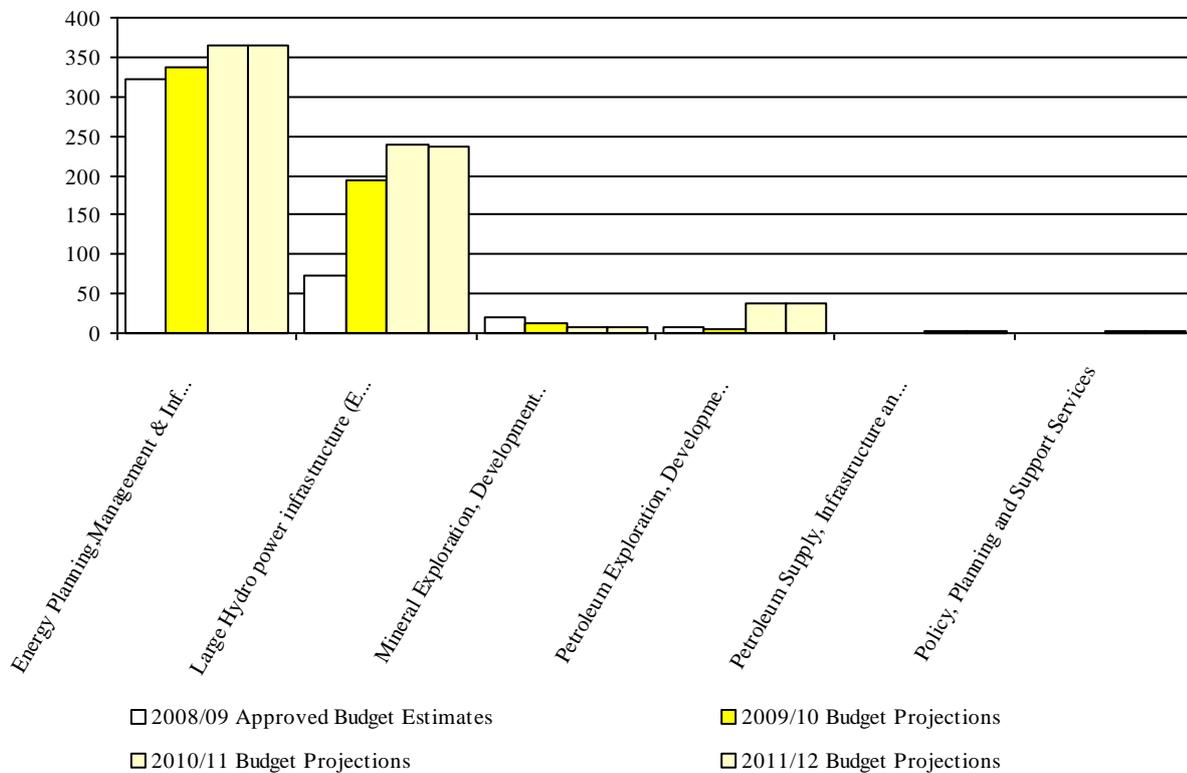
	2007/08 Outturn	2008/09		MTEF Budget Projections			
		Approved Budget	Half 1 Outturn	2009/10	2010/11	2011/12	
Recurrent	Wage	1.4	1.8	0.7	1.8	1.9	2.2
	Non Wage	2.7	3.2	1.3	3.2	3.2	3.8
Development	GoU	409.6	250.2	47.6	345.2	467.2	461.4
	Donor*	N/A	206.1	N/A	200.7	179.5	181.9
	<b>GoU Total**</b>	<b>413.6</b>	<b>255.1</b>	<b>49.5</b>	<b>350.2</b>	<b>472.3</b>	<b>467.3</b>
	<b>Grand Total</b>	<b>N/A</b>	<b>461.2</b>	<b>N/A</b>	<b>550.9</b>	<b>651.8</b>	<b>649.3</b>

\* Donor expenditure data unavailable

\*\* Excludes taxes, arrears and non tax revenues retained and spent by vote

The chart below shows overall funding allocations to the sector by Vote Function over the medium term:

**Chart S1.1: Medium Term Budget Projections by Vote Function (US\$ Billion)**



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### (ii) Medium Term Sector Policy Objectives

The sector objectives which guide medium term outputs and resource allocations are:

*In order to contribute effectively to poverty reduction, the Ministry's main policy objectives are;*

- (i) to meet the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner*
- (ii) to develop the Mineral sector for it to contribute significantly to sustainable national economic and social growth; and*
- (iii) to develop the petroleum sector for it to contribute significantly to sustainable national economic and social growth.*

### (iii) Key Sector Performance Issues to be addressed over the Medium Term

The sector considers the following issues crucial to address over the medium term, to improve sector performance and the achievement of sector policy objectives

- *High electricity generation costs and energy loss levels*
- *Low access to modern energy services*
- *Inadequate Fuel Reserves*
- *Difficulty in accessing development finance by the Private sector*

## S2: Past Sector Performance and Medium Term Plans

*This section describes past and future performance, in terms of key sector outputs and plans to address key sector performance issues and achieve sector objectives.*

### (i) Past and Future Planned Sector Outputs

#### *2007/08 Performance*

The Renewable Energy Policy for Uganda was approved in November 2007 and this will lead to increase in the use of modern renewable energy from the current 4% to 61% of the total energy consumption by the year 2017. The Policy also aims to establish an appropriate financing and fiscal policy framework for Renewable Energy Technologies investments and to promote the sustainable production and utilization of biofuels. It also contains a standard Power Purchase Agreement and Feed in Tariffs for renewable energy generators of less than 20 MW. Under Energy efficiency, the procurement of 800,000 compact fluorescent lamps was accomplished. 550,000 bulbs were distributed in the reporting period, resulting into a reduced peak demand by about 30MW. For household energy, a total 117,000 improved Rocket Lorena household stoves, 887 Metal Rocket institutional stoves and 4,709 improved charcoal stoves were disseminated.

The Energy Fund was established and operationalised in the course of the year. The Fund will provide a source of money for the development of power projects lined up in the Plan to meet the electricity supply needs of the country. Construction of the 50 MW HFO plant by a Norwegian company M/s Jacobsen Elektro a.s. at Namanve, on a Build, Own Operate and Transfer (BOOT) basis commenced. This plant was commissioned in October 2008. Another 50 MW thermal power plant based on light diesel operated by Aggreko was installed at Mutundwe and commissioned in 2008. Construction of the Bujagali Hydropower Project commenced in June 2007 and commissioning is expected in 2011. The first generation units will be completed during 2010. The Karuma Hydropower Project was packaged for development as a public-private-partnership venture. The Indicative Rural Electrification Master Plan (IREMP) was completed. Kakira Sugar Works Ltd Cogeneration project was completed and is delivering 12 MW to the grid. The 3.5 MW Nyagak Small Hydropower Project, 13 MW Bugoye Small Hydropower Project, 18 MW Mpanga Small Hydropower Project, Buseruka Small Hydropower Project, Ishasha Small Hydropower Project and Kisizi Micro Hydropower Project are all under construction. Access to modern energy services through rural electrification now stands at 5% up from 1 % in 2001. Government extended electricity services to Kibaale, Kanungu and Kalangala Districts. The scheme in Kibaale and Kanungu will also serve Muzizi Tea Plantation and Kayonza Tea Factory respectively.

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Government commenced the implementation of the following major rural electrification schemes:- Corner-Kilak-Kalongo - Pader-Abim; Fort - Portal-Karuguta – Bundibudgyo- Nyahuka; Rugombe – Kyenjojo - Katoke; Namayemba-Namuntare; Munteme - Kagadi; Masaka - Bukakata; Kyotera - Mutukula and Kasensero; Mbarara – Kikagati - Ntungamo; Soroti-Kaberamaido; and extension of West Nile minigrd.

The National Oil and Gas policy was approved by Cabinet in January 2008. This Policy sets the direction in which the oil industry will be managed in the country. In addition, drafting of the new oil and gas legislation commenced. Within the same period, seven (7) additional oil wells (Mputa - 3 and Mputa -4; Nzizi-1&-2; Taitai -1; Ngege -1 and Ngassa -1) were drilled. All of them found hydrocarbons (oil and gas). On testing, Mputa-3 and-4 flowed at 1986 bopd and 2100 bopd respectively. The Taitai-1 and Ngege-1 wells have not been flow tested. Drilling of Ngassa-1 Well was abandoned due to technical problems soon after going through a shallow gas zone. The drilling of Kingfisher -2 in Exploration area 3A is ongoing and reports indicate that this well has already intersected some hydrocarbon zones. Plans are underway to get off-shore drilling solutions for the large prospects that have been identified beneath Lake albert. In order to evaluate the discovered oil fields, oil companies carried out three dimensional (3D) seismic surveys in Buhuka and Kaiso-Tonya areas to better define and estimate reserves in Kingfisher, Nzizi, Waraga and Mputa oil fields. In addition, Tullow carried out a 2-Dimensional seismic survey in the Butiaba-Wanseko area which has resulted into the identification of six (6) prospects. Some of these prospects have already been drilled, namely Taitai -1 and Ngege -1 and the rest will be drilled in the 2008/2009 Financial Year. Herritage Oil & Gas, Tullow Oil and Neptune have carried out seismic surveys in Pakwach-Paraa and Rhino-Camp areas (EAs 1 and 5) respectively. A number of interesting prospects have been identified and will be drilled during 2008 and 2009. Dominion has now commenced the acquisition of 2-D Seismic data in Exploration Area 4B (EA4B) in the southern part of Lake Edward and George basin.

Under the Petroleum subsector, the prices of crude broke all time record high and hit the \$140 per barrel mark. On the local front, Uganda experienced supply constraints especially on the Kenya route. Between March and May 2007 there were serious petroleum products shortages when the Kenya Pipeline could not deliver our requirements of fuel. This was followed by another similar shortage at the end of the year which overflowed into 2008 with debilitating effect on the economy. These factors resulted in a very modest increase in our consumption of petroleum products from 803 .1 million litres in 2006 to 842.3 million litres in 2007. The growth in consumption dropped from the previous trend of 23.4% in 2005 to 4.9% in 2007. During 2007 twelve new companies were issued with petroleum operating licences. This brought the total number of oil companies licensed to operate in Uganda to 63. The new investments licensed totalled \$15 million. In 2007 Tamoil East Africa Ltd was appointed as the private sector project developer. Construction is scheduled to commence in 2009

Under geological data infrastructure, airborne geophysical surveys aimed at understanding rock formations and identification of mineral targets were carried out and to-date, 627,163 line kilometres of magnetic, radiometric and electromagnetic data were acquired. The completed areas comprise of the following districts: Under Block 1: Mukono, Kayunga, Jinja, Kamuli, Mayuge, Bugiri, Kaliiro, Namutumba, Busia, Manafwa and Tororo. Under Block 2: Mityana, Kiboga, part of Luwero, Hoima, Kyenjojo, Kibaale, Kabarole, Kamwenge and Kasese. Under Block 5: Nebbi, Arua, Koboko, Yumbe, Adjumani and Moyo. Under Block 6: Mbale, Butaleja, Palisa, Kumi, Soroti, part of Lira, part of Apac, Amolatar, Dokolo, Nakasongola, Masindi and Buliisa. Under Block 7: Masaka, part of Mpigi, Sembabule and part of Mbarara and Kiruhura. Geological mapping has been undertaken in Kiruhura District while mineral exploration activities have been undertaken in Kyenjojo for gold, Kisoro for tin, and Rakai for kaolin. With increased investor interest in the sector, about 400 licenses were operational during 2007 of which 240 were granted during the year compared with 164 granted in 2006. Arising out of the exploration and mining activities, Shs. 2.978 billion was generated as Non-Tax Revenue from license fees, royalties and sale of publications.

### *Performance for the first half of the 2008/09 financial year*

A total of 150 MW of thermal power plants was procured and installed at Namanve in Kampala (50 MW), Kiira power plant substation in Jinja (50 MW) and Mutundwe Substation in Kampala (50 MW). Government is providing a subsidy to make the tariff affordable. The 50 MW high speed diesel thermal plant installed at Lugogo was decommissioned in September 2008 on expiry of its lease period. Furthermore; another 50 MW

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Heavy Fuel Oil (HFO) plant was installed by a private company M/S Jacobsen on a Build Own Operate and Transfer (BOOT) basis at Namanve Industrial Park in Kampala and commissioned in September 2008.

Government during FY 2007/08 extended electricity services to Kibaale, Kanungu and Kalangala Districts. The scheme in Kibaale and Kanungu also serves Muzizi Tea Plantation and Kayonza Tea Factory respectively. In addition, power supply has been extended to Bugiri-Nankoma up to Waka Waka fish landing site and Rugyeyo tea factory. The following major rural electrification schemes are ; Fort - Portal-Karugutu – Bundibugyo-Nyahuka; Rugombe – Kyenjojo - Katoke; Muntume - Kagadi; Masaka - Bukakata; Kyotera - Mutukula and Kasensero; Mbarara – Kikagate - Ntungamo; Soroti-Kaberamaido, extension of West Nile minigrid, Bukungu fish landing site, power extension to Oyam district headquarters and Buhweju tea factory. Ground breaking took place for Corner-Kilak-Kalongo - Pader-Abim and contractors were mobilised on site, works completion is expected in the F/Y 2009/10. Other projects which the government has embarked on are :- upgrading the Tororo-Lira transmission line, feasibility studies for Karuma - Kampala and Karuma - Lira transmission lines; rehabilitation of MHP Maziba, upgrading Entebbe-Mutundwe, grid extension West Nile to Pakwach and Koboko, Olewa and Mvepi MHP. Interim measures to supply electricity to Moroto Municipal Council, Moyo and Adjumani Town Councils have been finalized following the procurement and installation of new robust 750kVA diesel generators. The two district headquarters will be on power supply this year. Plans for a high voltage transmission line (132KV) from Opuyo (Soroti) to supply Katakwi, Moroto, Katikekile, Amudat, Nakapiripirit and Namalu have also been completed. Furthermore, the extension of Gulu-Adjumani-Moyo line is being planned.

Under Energy Efficiency, Energy Auditing has been conducted in 21 Referral Hospitals, 120 Schools & Colleges, 10 Industries, 20 Public Buildings, Police Barracks, 6 Universities Facilities and National Water and Sewerage Corporation. From the findings of the energy audits investments, Government will provide the investments to reduce energy waste in these institutions. This measure is expected to reduce energy demand by about 20MW. Over 50,000 household and 140 institutional improved energy saving stoves have been disseminated leading to reduction in fuel wood use, thus preserving the environment. These have been in West Nile (Yumbe, Arua, Moyo).

Kakira Cogeneration: currently the project is providing a total of 12MW to the main grid after satisfying their internal demand. Kinyara is now delivering 5 MW. Nyagak small hydropower project which has experienced some delays will be commissioned later this year and will provide power to the West Nile region. Bugoye 13MW small hydropower project in Kasese district: construction is in progress. Mpanga 18MW small hydropower project in Kamwenge district: construction is in progress. Buseruka 10MW small hydropower project in Hoima District: construction is in progress. Kikagati 10MW small hydropower project in Isingiro district: government and the developer are finalizing cross border issues with the government of Tanzania. Kisizi micro hydro power project in Rukungiri district: the Power plant was upgraded from 60kW to 300kW (0.3MW) in November 2008. Other co-generation projects are Lugazi with current generation capacity of 1.6MW will have its capacity uprated in order to supply to the main grid and it has the potential to produce 8MW.

The Karuma Project was supposed to be developed by a Consortium of Norwegian companies, NORPAK Power limited and Government of Uganda was ready to enter into a Public-Private Partnership with the Consortium. Unfortunately Norpak pulled out of the development of the Karuma hydropower project due to external factors. Norpak carried out feasibility studies on the project including an Environment Impact Assessment, land acquisition totaling 104 hectares and project designs. A due diligence was conducted on what NORPAK has done so far on the Project to form the basis of moving forward. Government has since decided to acquire some of the intellectual property on the site and develop it as a Public Private Partnership investment with government taking the lead. Government has also decided to optimize the site to generate more power (about 700 MW instead of 250 MW) by increasing its design head. Government is in the process of procuring consultancy services to repackage the project and assist in the procurement of a construction Contractor to develop the site. It is anticipated that construction will start in early 2010.

The Atomic Energy Act 2008 was enacted by Parliament and assented to by H.E. the President on the 5th

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November 2008. The Act entered into force on the 18th February 2009. The Act established Atomic Energy Council as a corporate body for independent regulation of atomic energy application. The Act also establishes the Nuclear Energy Unit for the promotion of nuclear power programme and other peaceful application of atomic energy.

Government has continued to support efforts to promote petroleum exploration in Uganda. The discovery of commercial quantities of petroleum reserves in the Albertine Graben has boosted efforts and interests to find more petroleum and has also attracted more interest from oil companies to invest in the Petroleum Sub Sector. Investment in this sector by December 2008 is of the order of US\$ 540 million and is expected to increase tremendously, especially when the Early Production Scheme (EPS) commences in 2010. To date, five out of the nine Exploration Areas in the Albertine Graben are licensed to various companies. Heritage Oil and Gas Ltd, the Operator of Exploration Area 1 completed the acquisition and processing of seismic data of 568.2 km and a number of drillable prospects identified both South and North of the Victoria Nile in the districts of Buliisa and Amuru. Three (3) of these prospects have been drilled and have encountered oil. Tullow oil, the Licensee of Exploration Area 2 completed the acquisition of 3D seismic data in the Kaiso-Tonya and infill 2D seismic data in Butiaba- Wanseko area, which will be used to properly define the discoveries in this area and also aid in the planning of the Early Production Scheme. In Exploration Area 5, Neptune Petroleum (U) Ltd completed acquisition, processing and interpretation of 298 km of 2D seismic data in the Rhino camp basin. The Environmental Impact Assessment for the drilling of the identified prospects has also been concluded and preparations for drilling the identified prospects have commenced. In Exploration Area 4B, Dominion Petroleum completed the acquisition of about 530 line kilometres of 2-D seismic data on both land and lake areas covering parts of Bushenyi, Rukungiri and Kanungu districts, in December 2008. Preliminary processing and interpretation of the data collected reveals good subsurface structures that are conducive for hydrocarbon accumulation. Ten (10) additional wells have been drilled; some flow tested while others will be tested in the course of this financial year. These are Taitai-1, Ngege-1, Karuka-1, Kasamene-1, Kingfisher-2, Kigogole-1, Ngiri-1 (Warthog), Jobi-1 (Buffalo), Rii-1 (Giraffe), and Kingfisher-3. Each of these wells has encountered hydrocarbons, hence maintaining a 100% technical success rate in the country.

As part of the implementation of the Early Production Scheme, Tullow submitted the Environment Impact Assessment report for the EPS to the National Environment Management Authority (NEMA) for review and approval. NEMA is expected to make a final decision on the implementation of the EPS project in March 2009. Front End Engineering and Design (FEED) and procurement are also expected to be finalized in March 2009.

In addition to the EPS above whose implementation is being planned by Tullow Oil, Heritage Oil and Gas Ltd., plans have commenced for the development of the Kingfisher discovery. Plans for this development are expected to be concretized when evaluation of the three wells drilled on this discovery are completed.

A Working Group has commenced the formulation of the principles of the new petroleum exploration, development and production law. These principles will be submitted to Cabinet for approval and thereafter, the drafting of the new law will commence.

Under petroleum licensing, a number of investors were attracted into this industry. During HI FY 2008/09, 9 new companies were issued with petroleum operating licences. This brought the total number of oil companies licensed to operate in Uganda to 70. In addition, many local businessmen opened fuel stations in many parts of the country. The new investments licensed totalled \$45 million.

Under the Kenya – Uganda oil pipeline extension project, the pipeline design and environmental impact assessment have been completed and approved, various agreements and contracts have been drafted and funding for the project has been secured. Compensation of affected people is being worked on and construction is scheduled to commence in April 2009 and is expected to be completed in June 2010. Commercial operation is to follow thereafter for a period of 20 years before the concession expires.

Under geological data infrastructure, airborne geophysical surveys aimed at understanding rock formations and

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identification of mineral targets were carried out. In this regard, the remaining 200,612 line kilometres of magnetic and radiometric data were acquired bringing the total coverage to 630,612 line kilometers. In addition, 21,524 line kilometers of electromagnetic data was acquired bringing the total coverage to 29,017 line kilometers. As such, whereas the total coverage for magnetic and radiometric data is 100% complete, that of electromagnetic data is at 80.5%. This means that the airborne geophysical survey is remaining with acquiring 19.5% of the electromagnetic data to be duly completed. Under the Community Development and Assistance to Small-Scale Miners, intensive capacity building and sensitization awareness campaigns continued and as a result more than 188 trainers, 930 women and men miners, local leaders and key local government officers in 17 mining sub-counties received trainings. Through the project, Government will extend small grants to the established mining groups and associations, so as to improve their productivity and livelihood in the mining areas.

As a result of the airborne surveys, there has been significant increase in licensing from 402 in 2007 to 517 in 2008. During the year, 123 Prospecting License (PL), 119 Exploration License (EL), 11 Location License (LL), 2 Retention License (RL), 38 Mineral Dealers' Licenses (MDL), 1 Blasters Certificate (BL) and 1 Goldsmith's License (GL) were granted.

**Table S2.1: Past and Medium Term Key Sector Output Indicators\***

Vote Function Key Output Indicators and Costs:	2007/08 Outturn	2008/09 Approved Plan	Half 1 Outturn	MTEF Projections		
				2009/10	2010/11	2010/12
<b>Vote: 017 Ministry of Energy and Mineral Development</b>						
<i>Vote Function:0301 Energy Planning, Management &amp; Infrastructure Dev't</i>						
Number of Renewable Energy systems installed (Biomass, solar, gasification technologies) household stoves	100,000	200,000	154,000	100,000	100,000	100,000
-Additional hydropower generation capacity	N/A	N/A	N/A	18 MW	93 MW	147 MW
-Number of km of power lines extended	N/A					
Number of new connections	20,000	20,000	12,000	20,000	20,000	20,000
<i>Cost of Vote Function Services (US\$ bn)</i>	<i>N/A</i>	<i>322.22</i>	<i>N/A</i>	<i>336.09</i>	<i>364.77</i>	<i>365.12</i>
<i>Vote Function:0302 Large Hydro power infrastructure (Energy Fund)</i>						
-Number of studies done						
<i>Cost of Vote Function Services (US\$ bn)</i>	<i>52.07</i>	<i>72.85</i>	<i>0.00</i>	<i>194.28</i>	<i>239.00</i>	<i>235.25</i>
<i>Vote Function:0303 Petroleum Exploration, Development &amp; Production</i>						
- New institutions created to regulate oil and gas activities in the country	N/A	N/A	N/A	3		
- Number of National Expertisees for Oil & Gas developed	N/A	4	N/A	4	2	
	N/A	N/A	N/A	N/A	N/A	N/A
<i>Cost of Vote Function Services (US\$ bn)</i>	<i>N/A</i>	<i>6.35</i>	<i>N/A</i>	<i>5.14</i>	<i>38.09</i>	<i>38.07</i>
<i>Vote Function:0304 Petroleum Supply, Infrastructure and Regulation</i>						
- Number national reserves of fuel reserves operational	1	1	1	1	1	2
- Percentage of the contractual milestones completed on time and to specifications	2	2	2	2	2	2
- Number of KMs of oil pipeline completed.		150	0	225		
- The capacity of fuel depots completed	30 Million litres	30 Million litres	30 Million litres	30 Million litres	30 Million litres	30 Million litres
<i>Cost of Vote Function Services (US\$ bn)</i>	<i>0.96</i>	<i>0.87</i>	<i>0.25</i>	<i>0.87</i>	<i>1.63</i>	<i>1.80</i>

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Vote Function Key Output Indicators and Costs:	2007/08 Outturn	2008/09 Approved Plan	Half 1 Outturn	MTEF Projections		
				2009/10	2010/11	2010/12
<i>Vote Function:0305 Mineral Exploration, Development &amp; Production</i>						
Amount of Non Tax Revenue generated	3.7	5.0		6.03	7.5	10
Number of reports prepared and disseminated	8	8	4	8	8	8
- Number of times Social and environmental assesment conducted	Continous	Continous	Continous	Continous	Continous	Continous
-Number of site inspections	Continous activity	Continous activity	Continous activity	Continous activity	Continous activity	Continous activity
<i>Cost of Vote Function Services (US\$ bn)</i>	<i>N/A</i>	<i>21.28</i>	<i>N/A</i>	<i>13.28</i>	<i>7.00</i>	<i>7.34</i>
<i>Vote Function:0349 Policy, Planning and Support Services</i>						
- BFP, Budget Estimates, Policy Statement, performance plans in place	7	7	2	7	7	7
- Quality of Financial management in place						
- Number of Procurements Functions undertaken	100	150	76	150	150	160
- Number of vacancies submitted and filled.	50	44	44	20	20	20
<i>Cost of Vote Function Services (US\$ bn)</i>	<i>0.88</i>	<i>1.24</i>	<i>0.50</i>	<i>1.24</i>	<i>1.30</i>	<i>1.69</i>
<b>Cost of Vote Services (US\$ Bn)</b>	<b>N/A</b>	<b>424.8</b>	<b>N/A</b>	<b>550.9</b>	<b>651.8</b>	<b>649.3</b>
<b>Cost of Sector Services (US\$ Bn)</b>	<b>N/A</b>	<b>424.8</b>	<b>N/A</b>	<b>550.9</b>	<b>651.8</b>	<b>649.3</b>

\* Table S5.1 at the end of this section provides more details of outputs planned for 2009/10 and achievements in the first half of 2008/09

### 2009/10 Planned Outputs

The construction of the Bujagali Hydro power project (250MW) will continue as scheduled with the first turbine expected to be complete. The sector will ensure commencement of the new feasibility study for the development of the Karuma Hydro power project (about 700 MW) as well as the feasibility study for development of Isimba hydro power project (100MW). Complete the RAP for Nkenda - Mbarara. Draft Sustainable Management Plan for Kalagala Offset in place. Put in place the Energy Conservation Act and Principles.

Under renewable energy, the sector will disseminate information on the use of biogas, improved efficiency stoves to cater for the rural energy requirement and production of electricity from municipal waste and sale of power to the grid. Dissemination of 200,000 household stoves and 200 institutional stoves in order to reduce wood fuel requirements by 30%. Dissemination of 200 solar PV and 100 solar water heatres. Installation and commissioning of gasifiers at Buddo, Kyambogo and Nyabyeya. Construct 5000 boigas digesters. 40 institutions will be electrified with solar PVs . Construction of Bwindi MHP, Suam (Bukwa) and Fofu (Moyo) and finalise the feasibility study for Nyalit. The sector will also finalise the development of other renewable energy projects which are currently under development such as:- Bugoye 13MW small hydropower project in Kasese district: construction is in progress, Mpanga 18MW small hydropower project in Kamwenge district, Buseruka 10MW small hydropower project in Hoima District

The sector will ensure promulgation of regulations and codes required to operationalise the Atomic Energy Act 2008. Establish a national programme for radiological protection of workers occupationally exposed to radiation. Update the inventory of nuclear and radioactive materials and security categorisation of radioactive sources in Uganda. Establishment of a National strategy for managing radioactive materials.

Under the Petroleum Exploration and Development sub-sector, the sector will spearhead the formulation of the principles of the new petroleum exploration, development and production law, finalise the implementation of

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the Early Production Scheme (EPS) which involves the following components: A modest production of about 4,000 barrels of oil per day; a topping plant (mini-refinery) to process the crude oil to produce diesel, kerosene and Heavy Fuel Oil; a generation unit using the HFO to generate about 50-85MW of power; building a 273KM transmission line from Kaiso-Tonya to Nkenda to evacuate power to the national grid. Promotional packages and web based promotion will be developed. 4 international conferences will be attended and at least 1 PSA signed. Acquisition of 200 km line of geophysical data. Geological and geochemical mapping of 50 sq.km in the Albertine Graben will be carried out. The petroleum law will be formulated, regulations and guidelines developed for the upstream activities. Creation of new institutions like the Petroleum Authority, Directorate of Petroleum and the National Oil Company will commence and new management will be put in place for commencement of petroleum production, refining and utilisation. Drilling will be carried out in exploration wells in EA4B and EA2. Acquisition of 3D seismic data in EA1, EA5 and EA4. Development and commencement of oil production under the EPS. Establishment of a taskforce for the dissemination of information and communication strategy for the oil and gas. Procurement of office equipment, computers, printers and software maintenance. A legal framework for midstream activities will be developed and a well defined midstream organisational structure developed. Regulations developed for operations of refineries as well as an operational monitoring system for refineries. Acquisition of a robust NPIS data processing system. 15 new companies and 18 new stations will be licenced. Complete land evaluation and acquisition from Malaba - Kampala and start construction. EPS agreements finalised and implementation starts.

Under rural electrification, the following major rural electrification schemes will be constructed; Fort - Portal-Karugutu – Bundibugyo- Nyahuka; Rugombe – Kyenjojo - Katoke; Muntume - Kagadi; Masaka - Bukakata; Kyotera - Mutukula and Kasensero; Mbarara – Kikagata - Ntungamo; Soroti-Kaberamaido, extension of West Nile minigrid, Bukungu fish landing site, power extension to Oyam district headquarters and Buhweju tea factory. Ground breaking took place for Corner-Kilak-Kalongo - Pader-Abim and contractors were mobilised on site, works completion is expected in the F/Y 2009/10. Other projects which the government will complete are :- upgrading the Tororo-Lira transmission line, feasibility studies for Karuma - Kampala and Karuma - Lira transmission lines; rehabilitation of MHP Maziba, upgrading Entebbe-Mutundwe, grid extension West Nile to Pakwach and Koboko, Olewa and Mvepi MHP. Interim measures to supply electricity to Moroto Municipal Council, Moyo and Adjumani Town Councils have been finalized following the procurement and installation of new robust 750kVA diesel generators. The two district headquarters of Moroto, Moyo and Adjumani will be on power supply early this year. Plans for a high voltage transmission line (132KV) from Opuyo (Soroti) to supply Katakwi, Moroto, Katikekile, Amudat, Nakapiripirit and Namalu have also been completed. Furthermore, the extension of Gulu-Adjumani-Moyo line will be completed.

Under Geological survey and mines, the sector will continue the licensing of mineral exploration and mining and attraction of investors. Continued monitoring of mining activities in the country and training of small artisanal miners.

### *Medium Term Plans*

In the medium-term, the sector will continue to embark on the following measures:-

Renewable Energy Generation Projects: Use of Solar Photovoltaics (PV) and Solar Water Heaters; Use Biogas, improved efficiency stoves to cater for rural energy requirements and production; Promote the development of Geothermal Energy, Studies have been undertaken and the exploration so far done indicate that there is a potential of about 450MW, if fully tapped. Areas such as Kibiro (HOIMA), Lake Katwe-Kikorongo (Kasese) and Buranga (Bundibugyo), plus other 23 small potential geothermal sites in western Uganda, West Nile, Amuru and Kaboong district have been studied on the surface geothermal manifestations, through geophysics, geochemistry and other related seismological studies. In the medium term, the Government plans to generate 25MW by 2012 and progressing to 45MW by 2017. And also embark on other medium to long-term measures such as :-

The development of the four large hydro power sites, namely, Ayago North (300MW), Ayago South (200MW) and Kalagala (450MW) and Murchison falls (Uhuru - 300 MW); and also embark on the Interconnection of the

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regional power grid;

Implement the Petroleum exploration, development and production law and Monitor the petroleum exploration operations

### (ii) Plans to Improve Sector Performance

Energy Sub-sector

On Electricity Generation Capacity, Since 2006, the Country has faced an acute electricity supply shortage arising from the drop in lake water levels due to the drought and also the delay to construct new power plants which adversely affected the hydro power generation capacity. In order to address the situation, Government formulated a Plan to meet the country's electricity supply and other energy needs in the Short, Medium and Long-term.

The Short-term measures (2006/2007) were:-

- i) procurement of Thermal Generation Capacity.
- ii) addressing energy losses; and
- iii) the implementation of Energy Efficiency/Demand Side Management measures

Medium-term Plans (2006/07 – 2010/11) are:-

- i) Development of the Bujagali Hydroelectric Project (250MW).
- ii) Development of Renewable Energy Generation Projects including small hydropower, Solar Photovoltaics (PV), biomass cogeneration, Solar Water Heaters.
- iii) Use of indigenous petroleum resources for thermal generation.
- iv) Development of the Karuma Hydroelectric project (700MW).
- v) Development of Isimba Hydroelectric (100MW).
- vi) Use of biogas, improved efficiency stoves to cater for rural energy requirements and production of electricity from municipal waste for sale of power into the grid will be enhanced.

Long-term Measures (2012 – 2025) included:-

- i) the development of large hydro power sites, namely, Ayago North, Ayago South and Uhuru;
- ii) interconnection of the regional power grid;
- iii) use of new and renewable sources of energy (like geothermal) biomass and peat resources; and
- iv) robust use of fossil fuels locally produced to generate thermal power and provide gas for industrial use in Cement, Iron and Steel plants among others.
- v) Introduction of peaceful Nuclear Power programme

Petroleum Exploration and Promotion

Oil and Gas Policy

The National Oil and Gas Policy which was approved by Cabinet in January 2008 provide the guiding principles in the petroleum value chain and institutional framework for prudent management of resources and oil revenues. A Working Group has commenced the formulation of the principles of the new petroleum exploration, development and production law. These principles will be submitted to Cabinet for approval and thereafter, the drafting of the new law will commence.

Implementation of the National Oil and Gas Policy requires strong coordination since development of the oil and gas sector requires a multi-sectoral approach. While the Ministry of Energy and Mineral Development is moving the coordination process forward, the other government institutions have serious human and financial constraints to implement their roles. Special attention is needed in areas of environmental protection and conservation, Occupation Health and Safety, Infrastructure Development like roads and Physical planning among others.

## Sector: Energy and Mineral Development

### Petroleum Supplies and Distribution

#### Midstream Activities

The discovery of the petroleum reserves in the Albertine Graben has necessitated the fast-tracking of the production activities and consequent refining of the crude. In this respect, a midstream unit has been established to specifically promote, monitor and regulate the midstream petroleum activities (crude oil sales, crude oil transportation, refining and pricing of locally refined products). In the medium-term, priority will be put in developing capacity of this unit.

#### Strategic Fuel Reserves

In addition to Jinja Storage Tanks Government plans to build four new regional storage facilities in Nakasongola, Gulu, Mbale and Kasese. Government will stock these facilities to ensure that the country's fuel security is assured. The storage facilities will be integrated in the country's pipeline network with the intention of linking them to Albertine Graben oil fields in western Uganda.

**Table S2.2: Specific 2009/10 Actions and Medium Term Strategy to Improve Sector Performance**

2009/10 Planned Actions:	MT Strategy:	Responsible	Vote and Vote Function:
<b>Sector Performance Issue: Difficulty in accessing development finance by the Private sector</b>			
Attract/ encourage private sector participation.	Continued attraction of private sector participation.	017	Ministry of Energy and Mineral Development <i>03 01 Energy Planning, Management &amp; Infrastructure Dev't</i>
Attract Development Finance	Energy Fund utilised	017	Ministry of Energy and Mineral Development <i>03 02 Large Hydro power infrastructure (Energy Fund)</i>
- Fast track minihydro power projects - Reduce energy losses - Replace automotive diesel plants with thermal HFO Thermal Power generation plant.	Continued development of hydro power projects.	017	Ministry of Energy and Mineral Development <i>03 02 Large Hydro power infrastructure (Energy Fund)</i>
<b>Sector Performance Issue: High electricity generation costs and energy loss levels</b>			
- Compensate for land acquisition for new power projects.	Undertake construction	017	Ministry of Energy and Mineral Development <i>03 02 Large Hydro power infrastructure (Energy Fund)</i>
<b>Sector Performance Issue: Inadequate Fuel Reserves</b>			
- Kenya-Uganda oil pipeline construction commences - Reactivate the southern route	- Complete and commission the Kenya-Uganda oil pipeline. - Work out modalities for using the southern route - Develop and stock the fuel reserves and connect them to the pipeline network. - Develop and utilise national strategic reserves	017	Ministry of Energy and Mineral Development <i>03 04 Petroleum Supply, Infrastructure and Regulation</i>
Present a budgetary request for restocking	Continued Resocking	017	Ministry of Energy and Mineral Development <i>03 04 Petroleum Supply, Infrastructure and Regulation</i>
<b>Sector Performance Issue: Low access to modern energy services</b>			
Strengthen institutional capacity for the oil and gas sector	Continued strengthening of the institutional capacity	017	Ministry of Energy and Mineral Development <i>03 03 Petroleum Exploration, Development &amp; Production</i>

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The commencement of the formulation of the principles of the new petroleum exploration, development and production law which will be submitted to Cabinet for approval and thereafter, the drafting of the new law commences	Continued implementation of the oil and gas policy	017 Ministry of Energy and Mineral Development 03 03 Petroleum Exploration, Development & Production
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### (iii) Off-Budget Activities

Access to Development Finance; the sector has largely been faced with a slow process of leveraging private financing by Development Finance Institutions (DFIs). While government welcomed private sector investments to provide the necessary financing for electricity supply, the DFIs carry out time consuming project reviews which usually delay the projects and may totally derail their implementation.

The over reliance on the Kenya – Uganda Oil road transport route of oil fuels sometimes causes a big loss to the achievement of the sector objectives. During the political turmoil in Kenya, Uganda's fuel supply route was adversely affected.

The delay by Development Partners(Donors) in meeting their obligations sometimes derails the whole process of project implementation due to unnecessary bureaucracies and conditionalities.

### (iv) Contributions from other Sectors

In achieving the ministry's key objectives and outputs, other key sector players e.g. MoWE, NFA ,MoWT have a direct influence in the energy sector goals.

The Ministry in collaboration with other government institutions are working together so as to achieve sustainable oil and gas production and also promote use of alternative sources of energy such as bio fuels and also develop a sustainable Management plan for Mabira Forest and the Kalagala Offset. This is part of Government's obligation to sustainability manage these resources.

### (v) The Impact on Sector Outcomes and the Achievement of Sector Objectives

In the Energy sector, planned interventions are to address issues of electricity shortages. It is forecast that the delivery of these outputs will eliminate power rationing, and at the same time improve on the quality of service delivery. The sector forecasts are based on the sector plans arising from the strategic objectives

**Table S2.3: Current Status and Future Forecasts for Sector Outcome Indicators**

Outcome Indicator	Baseline	Medium Term Forecast
Percentage of mineral exploration area covered	80 (2008)	100 (2011)
Oil and Gas Production	0 (2008)	4000 bopd (2011)
Number of discovered and appraised fields	2 (2008)	5 (2011)
Percentage of the population accessing electricity	10 (2008)	20 (2011)
Electricity generation capacity in Uganda	500MW (2008)	800MW (2011)

## S3 Proposed Budget Allocations for 2009/10 and the Medium Term

*This section sets out the proposed sector budget allocations for 2009/10 and the medium term, including major areas of expenditures and any notable changes in allocations.*

### (i) The Total Budget over the Medium Term

The overall budget allocations for the FY 2009/10 amounts to UGX 551.79 Billion of which UGX 1.8 billion is Wage, UGX 3.17 billion (0.6%) is Non - Wage Recurrent, UGX 345.24 billion (62.6%) is Domestic Capital Development (o/w UGX 194.28 is provided under the Energy Fund); UGX 200.66 bn (36.4 %) as Donor contribution. The overall allocation over the medium term is UGX 652.926 Billion for FY 2010/11; UGX

## Sector: Energy and Mineral Development

650.425 Billion for FY 2011/12. Strategically, this increase in the medium term is due to the projected increase in investment in power generation as well as transmission and distribution infrastructure. More budgetary allocations are also expected petroleum activities as we move into the production phase.

### (ii) The major expenditure allocations in the sector

For strategic reasons, the Energy Planning, Management and Infrastructure Development has the largest allocation of Ug shs 336.98 which is 61.1% (with the support to energy subsidy of Ug shs 92 billion and RAP for Mputa interconnection project allocation of Ug shs 35 bn to cater for Resettlement Action Plan expenditures for FY 2009/10); This vote function is followed by the large hydro power infrastructure development with Ug shs 194.28 bn which is 35.2 % of the total sector budget and this resource is allocated to the Energy Fund. The major increase in VF 0302 (Large hydropower infrastructure) is caused by the transfer of the Energy Fund from Vote 008 to Vote 017 following the establishment of the Statutory Instrument to manage this Fund.

### (iii) The major planned changes in resource allocations within the sector

The total sector ceiling for the FY 2009/10 compared to FY 2008/09 has increased by 30% from Ug shs 424.82bn to Ug shs 551.79bn. This increase is under the capital development budget largely due to the transfer of the Energy Fund to the Energy and Mineral sector and an additional allocation of Ug shs 5bn for rural electrification. However, the wage and non-wage recurrent budgets have remained similar to FY 2008/09 allocations. The budgetary allocations to Petroleum exploration, development and production are projected to increase over the medium term following the commencement of implementation of the petroleum law with new institutions expected to come on board for monitoring and regulation of the petroleum sector activities.

**Table S3.1: Past Expenditure and Medium Term Projections by Vote Function**

	2007/08 Outturn	2008/09		MTEF Budget Projections		
		Approved Budget	Half 1 Outturn	2009/10	2010/11	2011/12
<b>Vote: 017 Ministry of Energy and Mineral Development</b>						
0301 Energy Planning, Management & Infrastructure Dev't	N/A	322.22	N/A	336.09	364.77	365.12
0302 Large Hydro power infrastructure (Energy Fund)	52.07	72.85	0.00	194.28	239.00	235.25
0303 Petroleum Exploration, Development & Production	N/A	6.35	N/A	5.14	38.09	38.07
0304 Petroleum Supply, Infrastructure and Regulation	0.96	0.87	0.25	0.87	1.63	1.80
0305 Mineral Exploration, Development & Production	N/A	21.28	N/A	13.28	7.00	7.34
0349 Policy, Planning and Support Services	0.88	1.24	0.50	1.24	1.30	1.69
<b>Total for Vote:</b>	<b>N/A</b>	<b>424.8</b>	<b>N/A</b>	<b>550.9</b>	<b>651.8</b>	<b>649.3</b>
<b>Total for Sector:</b>	<b>N/A</b>	<b>424.8</b>	<b>N/A</b>	<b>550.9</b>	<b>651.8</b>	<b>649.3</b>

## S4: Sector Challenges for 2009/10 and the Medium Term

*This section sets out the major challenges the sector faces in 2009/10 and the medium term which the sector has been unable to address in its spending plans.*

### Challenges in the Energy Sector

Electricity generation capacity remains a major challenge to the sector. The negative impact of climate change/variability which has affected our hydropower production has to be mitigated through additional thermal generation. The fluctuating / unpredictable international oil prices have a heavy impact on the power tariff. This is a cardinal issue which, for the time being, should be addressed through frugal and efficient use of the available electricity.

Power system losses both technical and commercial is another challenge to the sector. Currently, the losses

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stand at about 40%. The technical losses are being addressed through rehabilitation and refurbishment of the distribution line network. However the commercial losses which are primarily caused by power thefts pose the biggest threat to the electricity industry in the country.

Over the years there has been poor regulation of atomic energy applications in the country, this has been mainly due to insufficient funding.

### Challenges in the Petroleum Exploration and Development

The increased companies' operations are overstressing the existing manpower to the extent of undermining the efficient delivery of results. However, efforts are underway to expand PEPD, but this expansion will be limited by the available office accommodation as well as manpower.

Implementation of the National Oil and Gas Policy requires strong coordination since development of the oil and gas sector requires a multi-sectoral approach. While the Ministry of Energy and Mineral Development is moving the coordination process forward, the other government institutions have serious human and financial constraints to implement their roles. Special attention is needed in areas of environmental protection and conservation, Occupation Health and Safety, Infrastructure Development like roads and Physical planning among others.

### Challenges in the petroleum supply chain

At the beginning of the year 2008, the country faced severe shortage of fuel arising from the Kenya crisis following their disputed election results. The stocks which were in the tanks were depleted. As a consequence a decision was taken to secure supplies from Tanzania. That route however had not been in use for a long time and oil companies were reluctant to use it due to its limited infrastructure facilities and also being more expensive. The main challenge remains putting in place the necessary modalities to ensure that the southern route remains active.

The Petroleum Supply Act 2003 established the Petroleum Supplies department through upgrading the Petroleum Supplies Division. The implementation of this created a new structure with the posts being more than doubled.

## S5: Details of Key Vote Function Outputs Planned for 2009/10

This table below sets out the key outputs under every vote function achieved in the first half of 2008/09 and planned for 2009/10.

**Table S5.1: Past and 2009/10 Planned Outputs from Sector Expenditures**

<i>Vote, Vote Function Output</i>	<b>Approved Budget and Planned outputs</b>	<b>2008/09 Half 1 Actual Spending and Outputs Achieved</b>	<b>2009/10 Proposed Budget and Planned Outputs</b>
<b>Vote: 017 Ministry of Energy and Mineral Development</b>			
<i>Vote Function:0301 Energy Planning,Management &amp; Infrastructure Dev't</i>			
Output: 030101 Energy Policy/Plans Dissemination, Regulation and Monitoring	Preparation of the Energy Efficiency Bill, Strategy and Plan. Review ERT 1 and prepare for implementation of Phase 11. Develop sustainable Management plan for Kalagala Offset. Energy conservation law in place. Develop a PSIP	Presentation of the Bill to Cabinet. Draft Energy efficiency strategy and plan in place. PSIP and Kalagala offset inception reports in place.	Present the Energy efficiency Bill to Parliament. Sustainable Management Plan for Kalagala in place. ERT11 role out.
Output: 030102 Energy Efficiency Promotion	Distribute 260,000 CFLs. Conduct energy efficiencies in 120 schools, 6 universities, NWSC, 10 industries and 20 buildings	Companies identified to distribute the CFLs	Promotion of energy efficiency technics

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<i>Vote, Vote Function Output</i>	<b>Approved Budget and Planned outputs</b>	<b>2008/09 Half 1 Actual Spending and Outputs Achieved</b>	<b>2009/10 Proposed Budget and Planned Outputs</b>
Output: 030103 Renewable Energy Promotion	Disseminate 200,000 household stoves, 200 institutional stoves, 200 solar PV and 100 solar water heaters. Implementation of Renewable Energy Policy. Financial and advisory support provided to ongoing renewable energy projects	Disseminated 150,000 household stoves and 139 institutional stoves, 100 solar PV and 30 solar water heaters. Commenced gasifier installations.	Disseminate 200,000 household stoves, 200 institutional stoves, 200 solar PV and 100 solar water heaters. Development of pico and micro hydropower generation projects.
Output: 030151 Promotion and Regulation of Peaceful Application of Atomic Energy	Atomic Energy Act 2008 enacted. Atomic Energy Council appointed. Peaceful application of atomic energy in health, agriculture, water and other sectors promoted. At least 50 Ugandans participate in international training on peaceful application of atomic e	Atomic Energy Act enacted by parliament and assented to by H.E. the President. Peaceful application for atomic energy promoted in relevant sectors and 30 Ugandan participated in international trainings on peaceful applications sponsored by IAEA.	Build capacity for nuclear programme. Promulgate regulations and codes of conduct required to operationalise the Atomic Energy Act 2008. Establish National programme for radiological protection of workers whose occupations exposed.
Output: 030152 Increased Power Generation	Thermal generation plants installed	150MW capacity of thermal plants installed and operational	A topping plant to produce HFO for electricity generation
Output: 030153 Increased Rural Electrification	Complete construction of Soroti - Kaberamaido, Soroti - Katakwi, Ayer - Kamudin and Bobi - Minakulu schemes. Construct additional 20 community schemes. Finalise feasibility study for kfw projects (Olewa, Mvepi 1, &11, maziba, Nebbi - Pakwach, paromba - P	Construction ongoing	Electrification of district headquarters of Moyo, Adjuman. Complete construction of Corner Kilak- Pader- Abim powerline under SIDA 11
<i>Cost of Vote Function Services</i>	<i>US\$ Bn:</i> 322.22	<i>US\$ Bn:</i> N/A	<i>US\$ Bn:</i> 336.09
<i>Vote Function:0302 Large Hydro power infrastructure (Energy Fund)</i>			
Output: 030201 Feasibility and Technical Studies Conducted			Finalise packaging of Karuma hydropower project
Output: 030251 Increased power generation	Statutory Instrument to manage the Energy in place	Statutory Instrument to manage the Energy Fund in place	Utilise the energy fund for development of approved priority generation and transmission projects
<i>Cost of Vote Function Services</i>	<i>US\$ Bn:</i> 72.85	<i>US\$ Bn:</i> 0.00	<i>US\$ Bn:</i> 194.28
<i>Vote Function:0303 Petroleum Exploration, Development &amp; Production</i>			
Output: 030301 Promotion of the country's petroleum potential and licensing	Promotional packages and web based materials developed. Four international conferences attended and PSA signed. Acquisition of new and infill geological and geophysical data in Albertine Graben.	Three international conferences attended	Undertake licensing rounds. Promotional packages and web based materials developed. Four international conferences attended and PSA signed. Acquisition of new and infill geological and geophysical data in Albertine Graben. Acquire 200 line km of geophysi
Output: 030302 Initiate and formulate petroleum policy and legislation	Petroleum Law formulated, regulations and guidelines developed for upstream activities	Draft principles of the petroleum law in place	Petroleum Law formulated, regulations and guidelines developed for upstream activities

## Sector: Energy and Mineral Development

<i>Vote, Vote Function Output</i>	<b>Approved Budget and Planned outputs</b>	<b>2008/09 Half 1 Actual Spending and Outputs Achieved</b>	<b>2009/10 Proposed Budget and Planned Outputs</b>
Output: 030303 Capacity Building for the oil & gas sector	National expertise for oil and gas developed and maintained ( 20 staff members trained). Creation of new institutions	4 staff trained	National expertise for oil and gas developed and maintained ( 20 staff members trained). Creation of new institutions and commencement of production, under the EPS
Output: 030304 Monitoring Upstream petroleum activities	National expertise for oil and gas developed and maintained ( 20 staff members trained). Creation of new institutions and commencement of production, under the EPS	3 exploration wells drilled in EA3. Appraisal well drilled in EA3. 49 line km of 2d seismic data acquired in EA2. 200 line km of 2D seismic data acquired in EA4B	Drill exploration wells in EA4B and EA5. Drill more appraisal wells in EA2 and EA3. Acquire more 2D seismic data in EA3, EA1, EA5 and EA4. Development of and commencement of oil production under the EPS.
Output: 030305 Develop and implement a communication strategy for oil & gas in the country	Task force for the dissemination of information and communication for the oil and gas established		Task force for the dissemination of information and communication for the oil and gas established
Output: 030306 Participate in Regional Initiatives	Regional initiatives on oil and gas development attended. Participate in the energy committee of the EAC, EAPC'09 and also cooperate with DRC	3 international conferences attended and the EAC energy committee meeting held two meetings on EAPC'09 preparations	4 EAC energy committee meetings held on EAPC 2011 preparations
Output: 030372 Buildings & Other Structures	New office block constructed	Received plans for the civil works	Plans approved, procurement of civil works undertaken and construction commences
Output: 030375 Vehicles & Other Transport Equipment	Procurement of vehicles, lab and office equipment, national Petroleum resource data bank established	1 vehicle procured	Procurement of vehicles, lab and office equipment, national Petroleum resource data bank established
Output: 030376 Office and IT Equipment (including Software)	Procurement of office equipment, computers, printers and software maintainance		Procurement of office equipment, computers, printers and software maintainance
<i>Cost of Vote Function Services</i>	<i>US\$ Bn:</i> 6.35	<i>US\$ Bn:</i> N/A	<i>US\$ Bn:</i> 5.14
<i>Vote Function: 0304 Petroleum Supply, Infrastructure and Regulation</i>			
Output: 030401 Petroleum Policy Development, Regulation and Monitoring	Draft legal framework for midstream activities. Regulatory and institutional framework for mid stream activities	Midstream petroleum unit established and operationalised	Legal framework for midstream activities in place and a well defined midstream organisation structure. Regulatory framework for operations.
Output: 030402 Management and Monitoring of petroleum supply Industry	Data on fuel stock and transit collected and reported. Jinja storage tanks, insurance cover renewed, hospitality extended and fire drills conducted	Reports on fuel stocks, imports, distribution and prices of petroleum products monitored. Data on fuel in storage and transit collected and reported. Insurance cover for JST renewed.	Petroleum supply market operations monitored. Development of biofuels promoted

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<i>Vote, Vote Function Output</i>	<b>Approved Budget and Planned outputs</b>	<b>2008/09 Half 1 Actual Spending and Outputs Achieved</b>	<b>2009/10 Proposed Budget and Planned Outputs</b>
Output: 030403 Maintainance of National Petroleum Information System	Establish Central petroleum registry, software for NIS acquired and petroleum data disseminated	Data on petroleum products, imports and sales collected. National oil stock data compiled	Robust data processing system acquired. Improved quarterly oil industry bulletins
Output: 030404 Operational Standards and laboratory testing of petroleum products	Testing of petroleum products. Petroleum licensing regulations, code of conduct regulations issued.	Developed standards under review by the Technical Petroleum Committee. Contract for supply of fuel marking technology signed with Global Fluids International. 6 companies were licensed and 13 stations were issued with construction permits	Finalise petroleum standards. Reduce smuggling and fuel dilution from % to %. License 15 newcompanies and 18 new stations
Output: 030452 Kenya - Uganda - Rwanda Oil pipelines	Agreement finalised, EPC contractor procured, start construction.	Project agrements were cleared by MJAC And Uganda land valuation and acquisition from malaba to kampala started	Agreements cleared by State Law of Kenya and signed. Complete land acquisition and start construction.
Output: 030453 Development of Petroleum Refinery and Processing	Develop strategy on the development of refineries. Structuring and cordination of the EPS	Developed a regional strategy for refineries. Draft agreements developed for drafting of the price and cost structure of the EPS	A petroluem utilisation plan in place. Study report on full scale refining. Study report on petro chemical development
<i>Cost of Vote Function Services</i>	<i>UShs Bn:</i>	<i>0.87</i>	<i>UShs Bn:</i>
		<i>0.25</i>	<i>0.87</i>
<i>Vote Function:0305 Mineral Exploration, Development &amp; Production</i>			
Output: 030501 Policy Formulation Regulation	Legal and regulatory framework consultancy procured	Terms of reference prepared	15 local Governments sensitized on mineral policy regulations
Output: 030502 Institutional capacity for the mineral sector	15 staff trained at UMI, Kyambogo University	7staff attended a computer course at APTEC Computer education centre	15 staff trained at UMI, Kyambogo University
Output: 030503 Mineral Exploration, development, production and value-addition promoted	Completed 642,505 line km (100%) of the planned airborne survey, disburse 20 grants to pilot districts. 4 maps and reports produced, 2 exploration targets generated, 120 samples of geodata analysed	641,572 line km of airborne survey completed (99.85%), 4 goeological maps produced of scale 1:100,000	Mineral data base in place, all maps in the department in digital format, potential for limestone and Bentonite in Rukungiri, iron ore in Kabale estimated, Report on geophysical mapping for grothermal resources at Buranga, Bundibugyo district
Output: 030504 Health safety and Social Awareness for Miners	500 artisanal smallscale miners in 13 strategic mining areas trained and empowered	930 women and men in 17 strategic mining areas in 13 districts trained plus 180 trainers	700 trained from 17 strategic mining areas in 13 districts
Output: 030505 Licencing and inspection			
Output: 030551 Contribution to international organisation(SEAMIC)	Annual contribution to SEAMIC remitted		3 workshops/meetings attended by senior staff members of the ministry
Output: 030572 Buildings & Other Structures			60% of civil works construction and renovation of DGSM completed

## Sector: Energy and Mineral Development

Vote, Vote Function Output	2008/09		2009/10			
	Approved Budget and Planned outputs	Half 1 Actual Spending and Outputs Achieved	Proposed Budget and Planned Outputs			
<i>Cost of Vote Function Services</i>	<i>US\$ Bn:</i>	<i>21.28</i>	<i>US\$ Bn:</i>	<i>N/A</i>	<i>US\$ Bn:</i>	<i>13.28</i>
<i>Vote Function:0349 Policy, Planning and Support Services</i>						
Output: 034901 Planning, Budgeting and monitoring	BFP, Budget estimates, BTTB, PIP and Performance plans submitted to MoFPED. MPS submitted to Parliament. Progress reports coordinated and submitted to OPM. Policy implementation coordinated and supervised. Spearhead the production of the annual report.	PIP submitted. Performance plans and progress reports coordinated and submitted. Annual review published.	BFP, Budget estimates, BTTB, PIP and Performance plans submitted to MoFPED. MPS submitted to Parliament. Progress reports coordinated and submitted to OPM. Coordinate and supervise the preparation of the MPS and progress reports. Annual report production			
Output: 034902 Finance Management and Procurement	LPOs closed on system. Payment accounts submitted. Assets register compiled and reports submitted to AG. Tenders awarded. Staff trained, HIV workplace policy implemented	LPOs partly closed on system. Payment accounts partly submitted and assets register compiled. Reports submitted to AG. Tenders awarded, staff trained and HIV workplace policy implemented	LPOs closed on system. Payment accounts submitted. Assets register compiled and reports submitted to AG. Tenders awarded. Staff trained, HIV workplace policy implemented			
Output: 034903 Procurement & maintainance of assets and stores	Asset register compiled, utilities catered for, reports submitted to the AG and tenders awarded	Tenders awarded and account reports submitted	Asset register compiled, utilities catered for, reports submitted to the AG and tenders awarded			
Output: 034904 Statistical Coordination and Management			Stakeholders sensitized on production of harmonised statistics, statistical data disseminated and packages available.			
Output: 034905 Management of Human	Vacancies submitted and filled, salaries paid, staff trained and appraisals carried out.	Vacancies submitted and partly filled, salaries partly paid, staff trained and appraisals carried out.	Vacancies submitted and filled, salaries paid, staff trained and appraisals carried out.			
Output: 034906 Management of Policy Issues, Public Relation, ICT and Electricity disputes resolved	Annual Report Published, Policy functions facilitated, contributions to international organisations paid and disputes resolved.	Annual Report Published, Policy functions partly facilitated, contributions to international organisations paid and disputes partly resolved.	Annual Report Published, Policy functions facilitated, contributions to international organisations paid and disputes resolved.			
<i>Cost of Vote Function Services</i>	<i>US\$ Bn:</i>	<i>1.24</i>	<i>US\$ Bn:</i>	<i>0.50</i>	<i>US\$ Bn:</i>	<i>1.24</i>
<b>Cost of Vote Services:</b>	<i>US\$ Bn:</i>	<b>424.8</b>	<i>US\$ Bn:</i>	<b>N/A</b>	<i>US\$ Bn:</i>	<b>550.9</b>
<b>Cost of Sector Services:</b>	<i>US\$ Bn:</i>	<b>424.8</b>	<i>US\$ Bn:</i>	<b>N/A</b>	<i>US\$ Bn:</i>	<b>550.9</b>