



THE REPUBLIC OF UGANDA

***MINISTRY OF ENERGY AND MINERAL
DEVELOPMENT***

ANNUAL REPORT 2013

Mandate: "To establish, promote the development, strategically manage and safeguard the rational and sustainable exploitation and utilisation of energy and mineral resources for social and economic development".

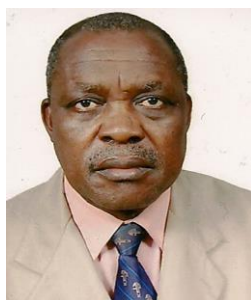
FOREWORD



Hon. Eng. Irene Muloni, MP
Minister of Energy & Mineral Development



Hon. Simon D'Ujanga
Minister of State for Energy



Hon. Peter Lokeris, MP
Minister of State for
Mineral Development

This 14th Annual report consolidates all the activities undertaken by the ministry during the calendar year 2013. It seeks to inform the interested parties of all the projects undertaken with regards to the Energy sector. It presents an analysis of the progress made by the ministry in achieving the ministry goals. This report comes at a time when there are high expectations from the public with regards to oil and gas. Therefore with this in mind, an elaborate analysis of the key developments and issues has been addressed so as to inform the public and solicit support from investors.

In addition to oil and gas, this report addresses the other key priority areas which are the development of the Karuma HPP, Oil Refinery, iron ore and the phosphates development. However, it is important to note that the ability of the Ministry to perform is largely dependent on the availability of adequate financial resources.

I therefore, encourage the interested parties to visit our technical departments in order to obtain more information for their own use, or write and request for the data and information packages.

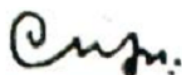
Fig. 1: The Political Leadership of the Ministry

I wish to recognize the contribution of all those who played a significant role in enabling the ministry to perform its duties and functions. Specifically, I wish to express my utmost gratitude to H.E. the President, H.E. the Vice President, the Rt. Hon. Prime Minister, colleagues in Cabinet and Parliament, who gave us the necessary support and guidance to execute our mandate.

I would also like to thank my colleagues at the Ministry, the Ministers of State and the Permanent Secretary together with the technical departments, the Director, Heads of Departments and all members of staff who worked diligently to overcome the challenges and achieve the key outputs under our mandate.

I hope you enjoy reading this Annual Report.

For God and My Country



Eng. Irene Muloni, MP.

MINISTER OF ENERGY AND MINERAL DEVELOPMENT

LIST OF ABBREVIATIONS (Acronyms)

AEC	Atomic Energy Council
AfDB	African Development Bank
AR	Annual Report
ASM	Artisanal and Small Scale Miners
BFP	Budget Framework Paper
BOOT	Build Own Operate and Transfer
BoPD	Barrels of Oil Per Day
CDAP	Community Development Action Plan
CGGC	China Gezhouba Group Company Limited
CPF	Country Programme Framework
CREEC	Center for Research in Energy and Energy Conservation
CWE	China Water and Electric Corporation
EA	Exploration Area
EAC	East African Community
EACREEE	East African Centre for Renewable Energy and Energy Efficiency
EAPC	East African Petroleum Conference
EEP	Energy and Environment Partnership
EPS	Early Production Scheme
ERD	Energy Resources Department
ESDP	Electricity Sector Development Project
ESPs	Energy Service Providers
F&A	Finance and Administration
G&G	Geological and Geophysical
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GmbH)
GSMD	Geological Surveys and Mines Department
GVEP	Global Village Energy Partnership
HFO	Heavy Fuel Oil
HPP	Hydro Power Plant
IAEA	International Atomic Energy Agency
ICT	Information and Communication Technology
IPP	Independent Power Producers
JST	Jinja Storage Tanks
KV	Kilo Volts
LG	Local Government
MEMD	Ministry of Energy and Mineral Development
MEPS	Minimum Energy Performance Standards
MOU	Memorandum of Understanding
MPS	Ministerial Policy Statement
MT	Medium Term

MW	Mega Watts
NBEST	National Biomass Energy Strategy
NDP	National Development Plan
NEU	Nuclear Energy Unit
NTR	Non Tax Revenue
PEPD	Petroleum Exploration and Production Department
POL	Petroleum Operations License
PPA	Power Purchase Agreement
PPP	Public Private Partnership
PREEEP	Promotion of Renewable Energy and Energy Efficiency Programme
PRPD	Peace, Recovery and Development Plan
PSFU	Private Sector Foundation Uganda
PSD	Petroleum Supply Department
PSIA	Poverty and Social Impact Assessment
PSIP	Power Sector Investment Plan
RAP	Resettlement Action Plan
REEED	Renewable Energy and Energy Efficiency Directory
SEAMIC	Southern and Eastern African Mineral Centre
TPC	Technical Petroleum Committee
UDBP	Uganda Domestic Biogas Programme
UNACC	Uganda National Alliance on Clean Cooking

Table of Contents

FOREWORD	I
LIST OF ABBREVIATIONS (ACRONYMS)	II
LIST OF TABLES	VIII
LIST OF FIGURES.....	IX
EXECUTIVE SUMMARY	XII
1.0 INTRODUCTION	1
1.1 MANDATE OF THE MEMD.....	1
1.1.1 <i>Vision</i>	1
1.1.2 <i>Mission</i>	1
1.2 ROLES AND FUNCTIONS	1
1.2.1 <i>Guiding principles and core values of the Ministry</i>	2
1.2.2 <i>Strategic objectives and goals for the Medium Term 2010/11 – 2014/15</i>	2
1.2.3 <i>Main Priorities</i>	2
1.2.4 <i>Major Strategies</i>	3
1.3 THE MINISTRY’S ORGANIZATIONAL STRUCTURE AND ESTABLISHMENT	3
2.0 THE ENERGY RESOURCES SECTOR	5
2.1 POLICY, LEGISLATION, PLANNING, STANDARDS FORMULATION AND IMPLEMENTATION	5
2.1.1 <i>Energy Efficiency and Conservation Bill</i>	5
2.1.2 <i>Review of Electricity Act</i>	6
2.1.3 <i>Development of the Energy Efficiency and Conservation Bill</i>	6
2.1.4 <i>Development of Biofuels Bill</i>	7
2.1.5 <i>Development of the National Biomass Energy Strategy (NBEST)</i>	7
2.2 ELECTRIC POWER SUPPLY.....	9
2.3 GENERATION EXPANSION PROGRAMMES AND PLANS	12
2.3.1 <i>Large Hydropower Projects</i>	12
2.3.2 <i>Small Hydropower Projects</i>	14
2.3.3 <i>KfW Supported Projects</i>	15
2.3.4 <i>ERT Rural Electrification Baseline survey</i>	16
2.3.5 <i>Feasibility studies of Mini hydropower sites</i>	16
2.3.6 <i>Electricity Sector Development Project (ESDP)</i>	18
2.4 GRID EXPANSION PROJECTS.....	20
2.4.1 <i>Transmission Projects</i>	20
2.4.2 <i>Status on Rural Electrification Project as at End of December 2013</i>	23
2.4.3 <i>Energy for Rural Transformation (ERT) II Programme</i>	28
2.5 RENEWABLE ENERGY PROMOTION.....	32
2.5.1 <i>Promotion of Renewable Energy and Energy Efficiency Programme (PREEEP)</i>	32
2.5.2 <i>Promotion of Improved Household and Institutional Stoves</i>	39
2.5.3 <i>Nationally Appropriate Mitigation Actions (NAMAs)</i>	41
2.5.4 <i>Biomass Dialogue, 2013</i>	46
2.5.5 <i>Renewable Energy Exhibition</i>	46
2.5.6 <i>Uganda Domestic Biogas Programme (UDBP)</i>	46
2.5.7 <i>Energy and Environment Partnership (EEP)</i>	47
2.5.8 <i>East African Centre for Renewable Energy and Energy Efficiency (EACREEE)</i>	47

2.5.9	Modern Energy from Biomass for Rural Development Project	47
2.5.10	Wind and Solar Energy Activities	54
2.6	ENERGY EFFICIENCY PROGRAMMES.....	56
2.6.1	Energy Week 2013	54
2.6.2	Road Shows and other exhibitions.....	59
2.6.3	Trainings Conducted	61
2.6.4	Minimum Energy Performance Standards (MEPS)	63
2.6.5	Energy Efficiency and Management for schools and Technical institutes	63
2.6.6	Energy Audits.....	64
2.6.7	Power Loss Reduction	64
2.7	PROMOTION AND DEVELOPMENT OF NUCLEAR ENERGY.....	64
2.7.1	Nuclear Power Development Programme	67
2.7.2	IAEA Technical Cooperation Programme.....	69
3.0	PETROLEUM EXPLORATION AND PRODUCTION	76
3.1	PROMOTION OF THE COUNTRY'S PETROLEUM POTENTIAL.....	77
3.1.1	Inquiries on Investment Opportunities in the sector.....	77
3.1.2	The 1 st Uganda, Mining, Energy and Oil & Gas Conference.....	77
3.1.3	The 4 th Eastern Africa Oil, Gas & Energy Conference.....	77
3.1.4	Delegation to Korea and Japan	77
3.1.5	The Africa Upstream Conference.....	77
3.1.6	Visit to the Russian Federation	77
3.1.7	Visit to the United Kingdom.....	80
3.1.8	Data packaging and sale	80
3.1.9	Multi-client seismic survey.....	80
3.1.10	Kingfisher Production License	81
3.1.11	Monitoring and Evaluation of the National Oil and Gas Policy	81
3.1.12	Offshore Europe Conference and Exhibition	81
3.1.13	Private Sector Foundation Uganda (PSFU) International Trade Facilitation Expo.....	81
3.2	RESOURCE ASSESSMENT	81
3.2.1	Reserves Estimation, Risk and Uncertainties	81
3.2.2	Development of a Stratigraphic Framework for the Albertine Graben	81
3.2.3	Basin Analysis	81
3.2.4	Evaluation of Potential for Unconventional Hydrocarbon Resources.....	81
3.3	STATUS OF LICENSING	84
3.4	MONITORING AND REGULATING LICENSED OIL COMPANIES.....	84
3.4.1	Exploration Area 1 (EA 1) and 1A (EA 1A).....	84
3.4.2	Exploration Area 2 (EA 2).....	92
3.4.3	Kingfisher Discovery Area	94
3.4.4	Kanywataba Prospect Area	95
3.4.5	Health Safety Environment (HSE) Monitoring	95
3.4.6	Guidelines for monitoring field operations.....	96
3.4.7	Guidelines for preparation of Field Development Plans (FDP) and Petroleum Reservoir Reports (PRR)	96
3.4.8	Guidelines for reporting Petroleum Resources	96
3.4.9	Guidelines for Data submission by operating Oil companies	96
3.5	PLANS FOR COMMERCIALISING THE DISCOVERED OIL AND GAS RESOURCES.....	97
3.5.1	Refinery Development	97

3.5.2 Crude oil transportation to the refinery.....	100
3.5.3 Pipelines and Storage Development.....	100
3.5.4 Crude Export Pipeline.....	101
3.5.5 Short-term commercialisation plans	101
3.6 REGULATORY, INSTITUTIONAL AND CAPACITY DEVELOPMENT	108
3.6.1 Drafting of new petroleum legislation.....	102
3.6.2 Crane Database	103
3.6.3 ICT Policy and Strategy	103
3.6.4 Infrastructure Development	104
3.6.5 Capacity building for the Oil and Gas sector	104
3.6.6 National Content Policy and Plan	107
3.6.7 Study Visit to Mangala Oil Fields in India	107
3.7 COMMUNICATING FOR THE OIL AND GAS SECTOR.....	108
3.7.1 Media Relations.....	108
3.7.2 Radio programmes	108
3.7.3 Engagements with stakeholder groups	108
3.7.4 Popular version of National Oil and Gas Policy.....	108
3.7.5 Publication of Information, Education and Communication Materials	108
3.7.6 Coordination among pillar institutions.....	108
3.7.7 WEBSITE www.petroleum.go.ug	119
3.8 REGIONAL COOPERATION	108
3.8.1 Sixth (6 TH) East African Petroleum Conference and Exhibition (EAPCE'13).....	108
3.8.2 Uganda/ Democratic Republic of Congo (DRC) Cooperation.....	108
3.8.3 Trilateral Summit	108
3.8.4 Second Infrastructure Summit	108
3.8.5 The 7 TH East African Petroleum Conference and Exhibition 2015 (EAPCE'15)	108
3.9 FINANCIAL REPORT	108
3.9.1 Recurrent Programmes.....	108
3.9.2 Development Budget	108
3.9.3 Norwegian Support for Strengthening Management of the Oil and Gas sector in Uganda	108
3.9.4 Non-Tax Revenues	108
3.10 CONCLUSION	108
4.0 PETROLEUM SUPPLY, INFRASTRUCTURE AND REGULATION	131
4.1 STANDARDS AND LICENSING OPERATIONS	108
4.2 OIL PIPELINES EXTENSION	108
4.3 TRADE IN PETROLEUM PRODUCTS	108
4.4 BUSINESS MONITORING AND ENFORCEMENT OPERATIONS.....	108
4.4.1 Petroleum Products Supply	137
4.4.2 Monitoring and Inspection.....	138
4.4.3 Storage Facilities.....	138
4.4.4 Enforcement to compliance with Petroleum Supply legislations	138
5.0 THE MINERAL SECTOR.....	140
5.1 MINERAL EXPLORATION AND INVESTMENT PROMOTION	108
5.1.1 Airborne Geophysical Surveys and Geological Mapping of Karamoja.....	138
5.1.2 Geothermal Energy Resource Exploration and Development	138
5.1.3 Geological Surveys	138

5.1.4	<i>Geodata Services</i>	138
5.2	CARTOGRAPHY AND GIS ACTIVITIES	166
5.2.1	<i>Geoscience data/information acquired and maintained</i>	138
5.2.2	<i>Geoinformation dissemination and mineral sector promotion</i>	138
5.3	LABORATORY SERVICES.....	166
5.4	MINES ADMINISTRATION	166
5.4.1	<i>Legislation and Policy Matters</i>	138
5.4.2	<i>Provision of services</i>	138
5.5	MONITORING INVESTMENTS.....	166
5.5.1	<i>Field Inspections and Monitoring</i>	138
5.5.2	<i>Licensing</i>	138
5.5.3	<i>Non-Tax-Revenue (NTR)</i>	138
5.5.4	<i>Mineral Statistics</i>	138
6.0	THE SUPPORT SERVICES	172
6.1	FINANCE MANAGEMENT AND ACCOUNTING	174
6.2	HUMAN RESOURCE MANAGEMENT AND DEVELOPMENT	174
6.2.1	<i>Establishment</i>	185
6.2.2	<i>Recruitment of Staff and Promotions</i>	185
6.2.3	<i>Career Progression/ promotions/Exit</i>	185
6.2.4	<i>HIV/AIDS Work Place Policy</i>	185
6.2.5	<i>Capacity Building</i>	185
6.2.6	<i>Supplies, Facilities Management and Welfare</i>	184
6.3	RESOURCE CENTRE	185
6.4	SECTOR PLANNING/POLICY ANALYSIS.....	185
6.4.1	<i>Budgeting and Budget Estimates</i>	185
6.4.2	<i>Monitoring and Reporting</i>	187
7.0	CHALLENGES AND CONCLUDING REMARKS	188
7.1	CHALLENGES.....	188
7.2	CONCLUDING REMARKS.....	188
APPENDICES		189
	APPENDIX 1: THE MINISTRY ORGANIZATION STRUCTURE.....	189
	APPENDIX 2: STAFF POSITION.....	190
	APPENDIX 3: CAPACITY BUILDING	210
	APPENDIX 4: ENERGY AND ENVIRONMENT RESULTS.....	210
	APPENDIX 5: LIST OF ARTISANS WHO PARTICIPATED IN THE TRAINING ON BIOLATRINE CONSTRUCTION	223
	APPENDIX 6: SITING WORKING GROUP (SWG) MEMBERS	224
	APPENDIX 7: LIST OF EXHIBITORS FOR ENERGY WEEK EXHIBITION 2013	225

List of Tables

Table 1: Existing plant Generation Capacity	10
Table 2: ESDP Training and capacity building for 2013	19
Table 3: Status of Power Transmission Projects under Development	28
Table 4: Status of ERT II Grid Line Extensions, December (2013)	28
Table 5: Institutions and Events conducted by the Energy Explorers in 2013	35
Table 6: Dissemination of improved cooking technologies in 2013	39
Table 7: Number of Energy Service Providers trained per region	40
Table 8: Briquette Equipment with Community Based Organisations (CBOs)	43
Table 9: Comparison of Planned and Actual Production Trends under UDBP	45
Table 10: Status of the systems at the Laundry and operating theatre	55
Table 11: The Road Show participating companies in the different areas	60
Table 12: Number of units of different technologies sold during road shows	60
Table 13: Energy Audits conducted among High Energy Consumers for 2013	64
Table 14: Schedule for Newspaper inserts on implementation of the National Oil & Gas Policy for Uganda	108
Table 15: Bi-monthly radio programmes held	111
Table 16: Stakeholder visits to oil and gas operations in the Albertine Graben	112
Table 17: Stakeholder Engagements in EA 2	114
Table 18: Oil and Gas training of Hoima District stakeholders	115
Table 19: Engagements for Tourism Stakeholders	116
Table 20: Engagements with CSOs and stakeholder groups	117
Table 21: Summary of the Development Budget Expenditure for January to March 2013	10
Table 22: Summary of the Development Budget Expenditure for April to June 2013	120
Table 23: Summary of the Development & Refinery Development Project Budgets Expenditure for July-Sept 2013	127
Table 24: Summary of the Non-Tax Revenues for January to March 2013	129
Table 25: Summary of the Non Tax revenue for the period July to September 2013	129
Table 26: Mineral Commodity analyses	164
Table 27: Mineral Licensing Status January – December, 2013	169
Table 28: NTR assessed and reported collected (January – December 2013)	169
Table 29: Mineral Production for January to December 2013	170
Table 30: Mineral Exports as per permits issued and for minerals produced in year 2013	171
Table 31: Mineral imports as per permits issued for year 2013	172
Table 32: GoU Development Budget comparison between 2013/14 and 2014/15 (UGX billions)	175

List of Figures

Figure 1: The Political Leadership of the Ministry.....	i
Figure 2: Top Executives of the Ministry.....	xii
Figure 3: Management of the Energy Resources Department.....	5
Figure 4: Stakeholders attending Consultative review Workshop on Draft Biomass Energy Strategy	7
Figure 5: Graph showing the net supply to UETCL for the last 5 years.....	9
Figure 6: UETCL POWER SUPPLY FOR THE YEAR 2013 (GWH).....	10
Figure 7: Map of Uganda showing power generation sites.....	11
Figure 8: H.E. The President of Uganda, Energy Minister and Representatives of Sinohydro Contractors Launching the construction of Karuma HPP.....	12
Figure 9: Launching of Isimba Hydro Power Project in Kayunga on 6 th October 2013.....	13
Figure 10: H.E the President of Uganda Addressing Guests during the Commissioning of the Kabalega Hydropower plant in Buseruka, Hoima.....	14
Figure 11: Map of Uganda showing the location of the 10 potential Mini hydropower sites for study under KfW.....	17
Figure 12: One of the houses built for the PAPs on the Kawanda -Masaka Transmission Line funded by ESDP.....	19
Figure 13: Soroti–Katakwi–Amuria grid line at Usuk , Soroti District.....	29
Figure 14: Solar installations at Kaladima HC III, Amuru District.....	30
Figure 15: Solar panels mounted on roofs of classroom blocks at Pope Paul S.S, Anaka – Gulu District.....	31
Figure 16: (left) Solar Array at Koboko Water Station; (right) The scheme’s 100,000m ³ capacity reservoir tank; and The scheme’s standby diesel generator.....	31
Figure 17: Staff quarters at Belemeling Vocational Training Institute in Moyo district.....	33
Figure 18: Hon. Dirk Niebel (German Minister of Economic Cooperation and Development) and Hon. D’Ujanga Simon (Minister of State for Energy) and other delegates launching of the pilot project in Kabunyata.....	36
Figure 19: The Speaker of Parliament – Rt. Hon. Rebecca Kadaga and MPs at the Parliament Climate Expo, 2013.....	37
Figure 20: The Ag. Commissioner ERD visiting the stalls of Kavumba Women's Guild and other Exhibitors.....	42
Figure 21: Improved stove in which volcanic ash absorbs heat used for cooking & uses solar energy to power blower.....	42
Figure 22: Guest of Honour and a UNDP Delegate planting Earth trees.....	43
Figure 23: Handover ceremony for briquette Equipment to CBOs.....	44
Figure 24: Construction of Biogas systems under UDBP in 2013.....	44
Figure 25: UDBP Production Trend of Biogas systems for five years.....	45
Figure 26: Artisans during classroom lectures.....	47
Figure 27: Artisans during practical construction.....	48
Figure 28: Biolatrine system showing expansion chamber.....	48
Figure 29: Biogas system owned by Mr. Emmanuel Sajjabbi and a lit biogas stove in Sajjabbi’s kitchen in Kitwe B in Masaka district.....	49
Figure 30: The Biomass gasification pilot plant in Tiribogo village, Tiribogo Muduuma parish – Mpigi district.....	50
Figure 31: Trained operators of the gasification plant.....	51
Figure 32: Ministry team and BGIEA Ltd team at Mr. Mohammed Binayomba's farm in Nakaseeta village, Kayunga district.....	53
Figure 33: Selected sites at Napak and Kotido District Headquarters respectively.....	54
Figure 34: Trouble shooting and Rehabilitation of the system at the Laundry.....	55
Figure 35: Eng. Paul Mubiru giving a brief during the press conference held prior to the Energy Week.....	56
Figure 36: Some of the products displayed during the Energy Exhibition.....	57
Figure 37: MEMD Officers demonstrating during the awareness activities in schools.....	59
Figure 38: Some of the energy products exhibited in Ibanda - Solar chargers (Left) and Rocket Lorena stove and baking oven.....	60

Figure 39: A facilitator presenting a case on energy management; A participant explaining results of a group discussion; A facilitator explains a case on heat recovery systems; participants receiving certificates	62
Figure 40: Trend of power losses performance from 2005 to end of 2013.....	66
Figure 41: Students of Busitema University during the Seminar on the role of nuclear energy in social and economic development.	68
Figure 42: National Delegates and IAEA Staff at the Consultative Meeting between Uganda and the IAEA on the Country Programme Framework, July 2013 Vienna, Austria.....	72
Figure 43: Signing of the Country Programme Framework between Government of Uganda and IAEA.....	72
Figure 44: Uganda Delegation to 57th General Conference and IAEA Staff.....	73
Figure 45: Participants for Regional Meeting on Nuclear Power Development in Africa.....	74
Figure 46: Management of PEPD.....	76
Figure 47: A meeting at TATNEFT Complex in Nizhnekamsk.....	80
Figure 48: A Bar Chart showing a comparison of PEPD Vs Company estimates of reserves.....	82
Figure 49: Progress of 3 Dimensional seismic survey in EA1 and EA 1A	92
Figure 50: Mr. Robert Kasande Project Manager – Refinery consulting the Minister of state for Energy Hon. Simon D’Ujanga.....	93
Figure 51: Construction work for the second phase of the National Petroleum Data Repository, Laboratories and Offices for the Directorate of Petroleum	104
Figure 52: At the 6th EAPCE’13.....	122
Figure 53: Management of Petroleum Supply Department.....	131
Figure 54: Local Pump Oil Prices 2013	135
Figure 55: Market shares of Oil Companies in 2013	135
Figure 56: International prices of Crude oil in 2013.....	136
Figure 57: International Prices of refined Petroleum Products in 2013	137
Figure 58: The facility in Jinja.....	138
Figure 59: Restocking of Jinja storage tanks commenced in October 2013.....	139
Figure 60: Management of GSMD.....	140
Figure 61: Review of Mineral Policy and Mining Legislation Workshop at the DGSM Board Room.....	141
Figure 62: Sensitization at Nakabat, Moroto District	142
Figure 63: Training Sessions in Moroto Municipality District Hall.	142
Figure 64: Training workshop at DGSM Boardroom, Entebbe.....	143
Figure 65: A compilation of Copper map of Kaabong area	144
Figure 66: Geophysical map of Karamoja- Low resolution data.....	144
Figure 67: Exfoliation and veins in charnokites and micro folding in felsic granulites.	145
Figure 68: Garnets in granulites and alluvial gold working at Morulem	145
Figure 69: At location 567390mE/274696mN, synoptic view of sole feet /grinding stone occur at Otukey Charnockite.	145
Figure 70: M/S DAO Marble operation under Exploration License no.0638.....	146
Figure 71: A truck loading marble mined by local miners from Tank Hill in Moroto to be transported to Tororo Cement Factory.....	147
Figure 72: Bouger gravity, Total magnetic intensity and Analytic signal maps.....	148
Figure 73: Geologists mapping in Katwe-Kikorongo (Nyindo Zansi).....	149
Figure 74: Geothermal zonation of manifestations based on silica, sulphur and calcite.	150
Figure 75: Aerial Photo showing explosion craters around Katwe-Kikorongo Geothermal Resource Site.	151
Figure 76: Satellite imagery of Katwe-Kikorongo Geothermal Resource Site.....	151
Figure 77: DEM of Katwe area showing major faults in the area.....	151
Figure 78: Low magnetic signature East and North East Katwe warm springs	152
Figure 79: Low magnetic signature East and North East Katwe warm springs	152
Figure 80: Geothermal database	153

<i>Figure 81: Geothermal concession map</i>	<i>154</i>
<i>Figure 82: Mapping at Katwe-Kikorongo geothermal site</i>	<i>154</i>
<i>Figure 83: Workshop participants</i>	<i>155</i>
<i>Figure 84: West Jec Consultant showing interpreted satellite image data to staff at DGSM boardroom.....</i>	<i>156</i>
<i>Figure 85: Updated location map of known geothermal sites.....</i>	<i>158</i>
<i>Figure 86: Half oval shaped features in charnockite at Akado Hill (A); ‘Rugby – ball’ shape at Otukei Ridge (B)</i>	<i>159</i>
<i>Figure 87: Management of F&A</i>	<i>173</i>

EXECUTIVE SUMMARY



F.A. Kabagambe-Kaliisa
Permanent Secretary



Eng. Paul Mubiru
Director, Energy and Mineral
Development

The mandate of the Ministry of Energy and Mineral Development is to “***Establish, Promote the Development, Strategically Manage and Safeguard the Rational and Sustainable Exploitation and Utilization of Energy and Mineral Resources for Social, and Economic Development***”.

The medium term key priorities that the Ministry continues to implement are: -

- i) increasing electricity generation capacity and transmission network;
- ii) increasing access to modern energy services through rural electrification and renewable energy development;
- iii) promoting and monitoring petroleum exploration and development in order to achieve national production;
- iv) developing petroleum refining and pipeline transportation infrastructure.
- v) streamline petroleum supply and distribution; and
- vi) promoting and regulating mineral exploration, development, production and value addition.

Fig. 2: Top Executives of the Ministry

Other priorities include:

- i) promotion of efficient utilisation of energy;
- ii) promoting free and fair competition in petroleum supply and marketing industry; and
- iii) monitoring geotectonic disturbances and radioactive emissions.

PROGRESS IN INCREASING ELECTRICITY GENERATION CAPACITY

Development of the Karuma Hydropower Project (600MW): On 16th August, 2013, a contract was signed between GoU and Sinohydro to construct the hydropower plant as an Engineering, Procurement and Construction (EPC) project. The contractor, China's Sino Hydro Corporation,

has finished the construction of staff and office camp facilities, access roads to the project site the diversion channel and the main access tunnel. The start date for the Project was 14th September, 2013. By the end of the year, the contractor had started mobilization of manpower (Chinese and locals) as well as equipment. After the completion of topographical resurvey and geological investigations at most locations, Sinohydro carried out certain design changes in the diversion channel, dam axis, power house adits, and various facilities. The preliminary layout of the project was developed and the detailed design is expected to be completed in 2014.

Development of the Isimba Hydropower Project (188MW): A contract between GoU and CWE was signed on the 6th September, 2013. CWE completed the basic design based on the feasibility study and the tender documents. Site supplementary geological investigation, drilling and rock grouting commenced on 17th October, 2013 by M/s Geotech Solutions (U) Ltd which was procured by CWE. Sensitization campaigns were carried out on the 19th and 20th of September 2013 in the districts of Kayunga, Kamuli, Jinja and Buikwe. RAP implementation is ongoing.

Development of the Ayago Hydropower Project (600 MW): A Memorandum of Understanding was signed between GoU and China Gezhouba Group Company Limited (CGGC) to complete the feasibility study of the 600MW Hydro power plant.

China Gezhouba Group Company Limited (CGGC) made a formal request to continue with the Feasibility study. This request was considered by the Ministry and an amendment was made to the MoU between CGGC and GoU in this regard.

JICA is to officially handover the survey reports to the Ministry to enable completion of the feasibility study.

Renewable Energy Projects: The Kabalega power station (9MW) at Buseruka was commissioned on 25th January, 2013. However, there were evacuation challenges due to tripping of the line. Meetings between MEMD, UMEME and UETCL were held on 4th, July 2013 to work out a possible solution. Plans are underway to upgrade the evacuation line from a 33kV line to a 132kV line and UETCL is to upgrade the Kabulasoke-Kiboga Substation (33kV to 132kV) to enable evacuation of all the power from the plant to Kiboga substation.

The Nyagak III (4.5 MW) HPP is to be developed as a PPP and therefore, GoU is looking to partner with a Private firm for the development of this project. The bids were submitted by 19th July, 2013. The procurement process for a developer for the site was halted as PPDA was still handling investigations into a complaint by one of the bidders. PPDA gave a recommendation on how to proceed with the procurement. RFPs were prepared and provided to the shortlisted firms.

The Feasibility studies for the Muzizi HPP site were completed in September, 2013. Some funding was secured with a loan of 42 million euros from KfW and 20 million from the French Development Agency (AFD). There is still a funding deficit of 20 million euros.

Energy efficiency Programmes: The Ministry continued to implement Energy Efficiency programmes with the objective of ensuring efficient utilization of energy resources in all the sectors. The activities that were conducted were in line with creating awareness, training and other energy efficiency related projects in industry, commercial buildings, SMEs and Government institutions.

Power Loss Reduction: The government of Uganda continued with the efforts to ensure losses accrued from the distribution network are reduced with the aim of achieving a financially sound energy sector with affordable tariffs.

PROGRESS IN INCREASING ACCESS TO MODERN ENERGY SERVICES

Grid Expansion Programmes – Transmission infrastructure

Bujagali Interconnection Project: Construction of the Bujagali Interconnection Project was concluded and commissioned. The project consists of a 220 kV transmission line from Bujagali to Kawanda (75km) and a 220/132 kV substation at Kawanda. The line transmits power from the Bujagali Hydropower Project to the national grid. At present, there are ongoing efforts to upgrade the Bujagali switchyard to 220kV.

Transmission Lines under implementation are: Bujagali-Tororo (Uganda) 220 kV transmission (127.7km); Mbarara – Mirama Hill (Uganda) - Birembo (Rwanda) 220 kV transmission line (172km) and Mirama Hill substation; Mbarara – Nkenda 132kV Transmission Line (160km); Tororo – Opuyo –Lira 132kV transmission Line (260km); Kawanda – Masaka 220kV transmission line (142km); Nkenda – Fort Portal – Hoima 220kV lines (234km); Masaka – Mutukula (Uganda) – Mwanza (Tanzania) 220kV transmission line (85km); Mutundwe – Entebbe 132kV transmission line (35km); Mutundwe – Kabulasoke Restranging 132kV (84.5km); Tororo substation transformer 132/33kV, 32/40MVA; Kampala North substation transformer 132/33kV, 32/40MVA; Kahungye permanent substation 132/33kV, 2 x 20MVA.

Feasibility studies are on going for the following transmission lines; Masaka-Mbarara 220kV; Lira-Gulu-Nebbi-Arua 132kV 350km; Nkenda (Uganda)-Mpondwe-Beni (DR Congo) 220kV 72.5km; Mirama-Kikagati-Nsongezi 132kV 38km; Ayago interconnection project 400kV 10km.

Feasibility Studies have been concluded for the following transmission lines; Isimba interconnection project 132 Kv; Opuyo-Moroto transmission line; Mirama Hill –Kabale 132kV; Hoima – Kafu 220kV line; Masaka-Muktukula-Mwanza 220kV.

Rural Electrification: By the end of 2013 the following rural electrification projects had been completed; Kilembe Investment Ltd Phase I Projects of Kyaihumba, Karambi, Ibanda – Bugoye

and Ibanda – Nyakalingijo, Gulu-Adjumani and tee-off to Amuru, electricity power networks in Kamulu (Nakulyaku-Bugobi) & Namutumba (Namutumba – Bugobi), Electricity power networks in Hoima (Bujwahya-Bulyango) & Nakasongola (Migyera-Nyakitoma), Mubende-Kyenjojo, Rakai-Sembabule, Kabale-Kisoro, Apala – Adwari-Kiiru with tee-off to Morulem, Rackokoko – Awere – Lalogi, Ibanda – Kazo – Kyabirukwa – Nyarukika, Soroti-Katakawi – Amuria, Ayer-Kamdini-Bobi-Minakulu, Opeta-Achokora/Iceme Otwal, Ntenjeru-Bule-Mpenja, Ruhiira Millennium Village.

PROGRESS IN PROMOTION AND MONITORING OF PETROLEUM EXPLORATION, DEVELOPMENT AND PRODUCTION

Legal Framework

Following the passing of the Petroleum (Exploration, Development and Production) Bill 2012 by Parliament on 7th December 2012, the Bill was assented to by H.E the President on 21st March 2013 and the Petroleum (Exploration, Development and Production) Act 2013 has since been gazetted by the Uganda Printing and Publishing Corporation on 5th April 2013.

Licensing Status and Investment Promotion

The Petroleum (Exploration, Development and Production) Act, 2013 provides for licensing of acreage for petroleum exploration in Uganda through open, transparent and competitive bidding. In order to optimize development and facilitate sustainable development of the existing and undiscovered resources in the country, phased licensing of acreage is planned. Currently four areas are under licence to three operators; Tullow Uganda Operations Pty, Total E&P Uganda and China National Offshore Oil Corporation (CNOOC) Uganda. The department continued with preparations for the first licensing round through open competitive bidding as provided for in the Petroleum (Exploration, Development and Production) Act, 2013. In this regard, Government is planning to undertake a licensing of areas that have good coverage of geophysical and geological data. The target areas for the first licensing round include areas which have previously been licensed to oil companies and have been relinquished to Government and they include: the Kanywantaba, Ngagi, Turaco, Ngassa, Tatai and Karuka prospect areas.

Status of Exploration

The department is undertaking a comprehensive basin analysis of the Albertine Graben. The scope of the study is to determine tectonic history, depositional and thermal history, petroleum systems characterization and modeling, comparative basin analysis and assessment of undiscovered resources at play and prospect levels. Activities undertaken during the year included identification of available data including data gaps and procurement of Petroleum Systems modeling Software and related training.

PROGRESS IN DEVELOPING PETROLEUM REFINING AND PIPELINE TRANSPORTATION INFRASTRUCTURE

Commercialization Strategies

Refinery Development: The acquisition of land for the refinery is progressing well. The RAP study findings presented a total number of 7,118 project affected persons and 1,221 households. The RAP implementation period was estimated to be eight (8) months. The compensation amount was approved by the Chief Government Valuer and by the end of the year, 2427 of the 2473 PAPs signed the compensation agreements, of which 70 opted for relocation.

In addition to refinery land acquisition, a number of promotional meetings were held with investment companies interested in the refinery and pipeline development during the period under review. These companies expressed interest and five of them purchased the refinery feasibility report.

Crude oil transportation to the refinery: Following the completion of the study to evaluate the transportation of crude oil from the oil fields to the refinery, a Cabinet paper seeking for approval of the key recommendations arising from the study was prepared. Some of the key recommendations in the Cabinet paper include, ownership structure for the pipelines, financing options, etc. The paper was submitted for consideration.

Pipelines and storage development: During 2012, the Ministry of Energy and Mineral Development completed two studies; one on storage and transportation of crude oil from the oil fields to the refinery and another on the storage and distribution of refined petroleum products from the refinery to the market. The studies made recommendations upon which the Ministry is developing a National Strategic Plan for Petroleum Pipelines and Storage Facilities.

Following this, plans to develop the extension of the pipeline to transport refined petroleum products from Eldoret to Kampala to Kigali are being taken forward by the three states of Rwanda, Uganda and Kenya. The Eldoret-Kampala segment was to be developed under a 20 year Build Own Operate and Transfer (BOOT) arrangement. Negotiations with the bidder have been completed and the pipeline will now be developed by the three Governments as an EPC Government funded project.

A feasibility study is to be carried out for the Kampala-Kigali Segment, and it will be jointly financed by the three countries each contributing 33.3%.

Terms of Reference for the detailed studies on the pipeline routing and resettlement action plan for crude oil transmission from the oil field Central Processing Facilities (CPFs) to the

refinery and export hub are being finalized.

Crude export oil pipeline: Government agreed to the policy of developing a crude oil export pipeline alongside the development of a refinery. In this regard, a study was undertaken by a private developer, Toyota Tsusho Corporation (TTC), to develop a 1300km crude oil export pipeline from Hoima via Moroto to Lokichar in Northern Kenya, linking with another possible pipeline from Juba, South Sudan. The study findings were presented to Government in a workshop on 21st May 2013.

SHORT TERM COMMERCIALISATION PLANS

Sale of crude oil from extended well testing operation: At present, there are 40,000 barrels of crude oil from well testing. The government has plans to sell this crude to industry on a competitive basis. To that effect, meetings have been held to discuss a bench mark price at which to sell this crude.

Conversion of existing thermal power plants to utilize crude oil: There are also plans to use the crude from well testing for power generation in the country.

PROGRESS IN STREAMLING PETROLEUM SUPPLY AND DISTRIBUTION

Petroleum Products Marketing

Oil Marketing Companies importing into Uganda continued depending on the Mombasa route for importation of 98% of Uganda's industry requirement while the remaining 2% was supplied through Dar es Salaam in Tanzania.

The lower prices in December, 2012 with an average price of Ug. Shs. 3700, 2800 and 3350 for petrol, kerosene and diesel respectively dropped and rose in January in 2013. In March to April the prices reached peak average prices of Ug. Shs. 3900, 2900 and 3,550 for petrol, kerosene and diesel respectively before stabilising throughout the year.

There was no usual hike of prices during the festive season in December as they remained at Ug. Shs. 3650, 2850 and 3,330 respectively for petrol, kerosene and diesel.

The rising prices trend for crude petroleum products inherited from 2012, stabilised after hitting highest point for the year 2013 in February, of an average of \$ 112.99, 116.33 and 96.05 per barrel for Opec Basket, IPE Brent and Nymex Lt. Sweet respectively.

The prices then ran smoothly for all products throughout the year posting their lowest price values in November.

Licensing: The Petroleum (Exploration, Development and Production) Act, 2013 provides for licensing of acreage for petroleum exploration in Uganda through open, transparent and competitive bidding. In order to optimize and facilitate development of the existing and undiscovered resources in the country, phased licensing of acreage is planned. During the period under review, the department undertook activities in preparation for the planned licensing round.

Fifty nine (59) companies were issued with Petroleum Operating Licences and twenty six (26) with Petroleum Construction Permits. Forty four (44) Environmental Impact Survey reports and twelve (12) Environmental Audits were reviewed and recommended to the National Environmental Management Authority for approval and only 2 were rejected.

Strategic Fuel Reserves: The demand for petroleum products has grown but there has not been a corresponding change in storage facilities. This has caused difficulty in the enforcement of the 10 day stock requirement for every operator. In a bid to rectify this, a private partner to operate the Jinja storage facilities under the PPP has concluded refurbishment and has started restocking.

Eldoret-Kampala-Kigali Oil Pipeline Extension: The geographical location of our country in regard to the issue of pipeline construction critical. In January 2013, the Governments of Kenya and Uganda embarked on procurement of a new Pipeline Developer on Build-Own-Operate-Transfer (BOOT) arrangement. However, this attempt was unsuccessful due to the uncompetitive tariff offered by the two bidders.

The Government of the Republic of Rwanda joined this infrastructure development on 28th August 2013 when the three Governments signed the Memorandum of Understanding (MOU) for the development of the pipeline during the 2nd Northern Corridor Integration Projects Summit held in Mombasa, Kenya. The initiative to develop the pipeline infrastructure was reignited at the Summit which directed that the investment be completed by March 2018. The Summit further instructed that the pipeline be extended to Kigali following which an international procurement process for the feasibility study for Kampala – Kigali was due for completion early January 2014. The study is expected to take six (6) months.

Quality and Standards Monitoring: In the reporting period, five draft standards on engine oil were produced and one workshop conducted to present the above draft standards for stakeholder's discussion and input. As part of petroleum standards development, one East African Community (EAC) petroleum standards editing workshop was facilitated in Kampala and two product standards specifications were reviewed by the EAC Partner States. Discussion for four liquefied petroleum gas (LPG) draft standards at technical committee level were also facilitated and final draft standards produced for a stakeholder review and approval by the UNBS Council.

Terms of reference for consultancy services to develop HSE technical regulations, codes of practices and EIA guidelines were produced. By the reporting periods, the procurement process for this consultancy was ongoing; adverts inviting bidders had been placed in the newspapers.

PROGRESS IN PROMOTING AND REGULATING MINERAL EXPLORATION, DEVELOPMENT, PRODUCTION AND VALUE ADDITION

Geosciences Data Acquisition

Geological mapping, geochemical surveys and mineral resources assessment of Karamoja region were undertaken. Geological and geochemical surveys started with sheet 25/3 (Waiver) in Abim District. Preliminary results of the surveys revealed great mineral potential for gold, wolfram, and columbite-tantalite and tin in the area. Karamoja region that comprises 20% of the country's land mass was not mapped during the completed Sustainable Management of Mineral Resources Project (SMMRP).

Detailed geological mapping and ground geophysical surveys (gravity and magnetics) were conducted over Katwe, Kibiro, Panyimur and Buhuka geothermal prospects. The survey revealed more wide spread occurrence of surface manifestations at the above geothermal sites indicating a larger geothermal system. MagnetoTelurics (MT) has been recommended for further exploration to image sub-surface geothermal reservoir. During the year the project continued to acquire geo-science data of use to the geothermal industry and make this data available publically.

Mineral Exploration, Development and Production

Mineral Exploration: Geological mapping and geochemical surveys of Karamoja commenced with Sheet 25/3, Abim District. The geology is composed of charnockites, granulites (felsic and intermediate), migmatitic garnetiferous gneisses and superficial deposits (alluvium and laterites). Faults, quartz veins, aplitic veins, pegmatites, fold structures and jointing were remarkably observed in the field.

Mineral Development: Detailed geological mapping and ground geophysical surveys (gravity and magnetics) were conducted over Katwe, Kibiro, Panyimur and Buhuka geothermal prospects. The survey revealed more wide spread occurrence of surface manifestations at the above geothermal sites indicating a larger geothermal system. MagnetoTelurics (MT) has been recommended for further exploration to image sub-surface geothermal reservoir

Mineral Production: The value of mineral produced and reported during the calendar year 2013 was UGX 157.88 Billion. Mineral production this year increased by 17.5% from the previous year. Mineral production from aggregate cobalt, gold, iron ore, kaolin, limestone, manganese, pozzolana, tin, vermiculite, and wolfram amounted to **UGX 158,502,287 million shillings.**

Mineral Exports: Revenue worth **UGX 83.6 billion** shillings was realized from mineral exports of cobalt, columbite-tantalite, copper, gold, lead, nickel, quartz, rubies, silver, tin, tungsten and vermiculite and a total of **UGX 21.2 billion** was realized as import fees for gold.

Inspections and Licensing of Mining Activities

Inspection: During the period under review, field inspections were carried out in areas held by M/S Great Lakes Cement Limited, M/S African Minerals Limited, M/S MCB Resources Limited and M/S DAO Marble Limited. Issues of illegal mining, under-declaration of mineral production, non-performing licenses and environment degradation were raised.

Licensing: The following licenses were granted during the calendar year 2013:- 159 Prospecting Licenses (PL), 164 Exploration Licenses (EL), 21 Location Licenses (LL), 3 Retention Licenses (RL), 5 Mining Leases and 95 Mineral Dealers' Licenses (MDL). 170 Exploration Licenses and 20 location licenses expired.

Geothermal Energy Exploration

The Uganda Geothermal Development project undertook desk bound and field activities which included generation of geological, geochemical, geophysical data, monitoring, promotion of geothermal energy as well as licensing and regulation of geothermal exploration activities.

Panyimur and Kibiro: Gravity and magnetics survey was carried out in Panyimur and in Kibiro. Low magnetic signature and gravity highs were indicated at Kibiro. Geological mapping of Panyimur also indicates new surface manifestation. The occurrence at widely scattered localities from one end to another is highly suggestive of a huge geothermal system.

Buranga-Ntoroko: Geological mapping, geophysical and geochemical surveys were undertaken in Ntoroko District. New geothermal surface manifestations were discovered which included travertine, warm springs and thermophilic grass. New surface manifestations of geothermal were discovered and structures were mapped in Ntoroko. Geological mapping of Panyimur also indicates new surface manifestation. The occurrence at widely scattered localities from one end to another is highly suggestive of a huge geothermal system.

Katwe-Kikorongo: Geothermal and geophysical surveys were undertaken and new discoveries were made and the wide spread occurrence of surface manifestations is suggestive of a large geothermal system in this area. XRD analyses of bentonitic clays from Katwe have been received and are yet to be interpreted.

Buhuku: A team of geologists undertook geological mapping of Buhuka area in Hoima and Kaiso Tonya area. Geothermal surface manifestations (travertine) were noted at Buhuka-Kingfisher during the Monitoring and Evaluation field visit. Other features like diatomite and volcanic rocks were mapped at Kaiso-Tonya area during petroleum exploration. Hydrothermally altered

ground has been noted around Buseruka escarpment. These geothermal features are widely scattered suggestive of an extensive geothermal system.

Remote Sensing data: In April 2013, satellite images and aerial photos were acquired and used to map lineaments and fault traces. Digital terrain maps were also processed to aid in fault trace mapping. Remote sensing data (Aster and Landsat) for Katwe and Buranga was acquired and interpreted. This aided structural mapping of these geothermal resources sites.

Infrastructure development

Monitoring of earthquakes and other geotectonic activities continued from the stations at Kilembe, Hoima and Kyahi near Mbarara. The department upgraded the Very Small Aperture Satellite (VSAT) Global communication infrastructure (GCI) to improve seismic data transmission from Kyahi Earth Earthquake monitoring station near Mbarara to Entebbe National Data Center.

The fiber optical cables and accessories were installed in order to avoid loss of seismic data packets from Vienna International Data Center. This improved the flow of seismic data.

Kilembe seismic station was upgraded with new earthquake digital monitoring instruments comprising of a broadband seismometer and Reftek data logger, replacing the old analogue paper data recording system. The station is also now powered by a solar power system. Fencing activity of new seismological sites (vaults) at Wakiso (Nakawuka) is complete while that at Mubende (Butologo) is due to commence.

Three seismometers were tested and calibrated for field deployment. Installation of software for downloading and converting data to the standard SEISAN format was done. The section staff together with the IT section of the department continued looking for other options on how to download data remotely but this is still not successful.

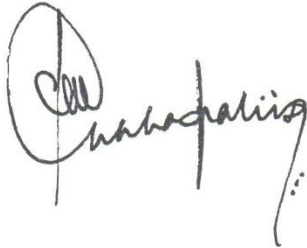
New sites for installation of temporary seismic stations were identified in Zombo, Nakasongola and Nebbi districts. The temporary stations will help to constrain earthquake locations within the Western Arm of the East African Rift System.

The key challenges in the energy and mineral sector:-

Land Acquisition: to acquire land for infrastructure, mineral exploration & development, as well as petroleum exploitation takes a very long time and land is very costly. That delays project development and results into high investment costs.

Taxation incentives: the taxation regime has been identified as a disincentive to long term investment projects in refinery and pipeline development. This is an aspect that has to be addressed in order to encourage investment in the above projects.

Management of expectations created by the petroleum discoveries: The people of Uganda in general, and in other areas where the discoveries have been made in particular, expect quick revenues, jobs and businesses, among other things. There are also anxieties about the possible negative aspects of developing the oil resources like environment degradation and how the revenues will be managed. To mitigate this challenge, government has intensified the sharing of information on the realistic development programme of the sector.

A handwritten signature in black ink, consisting of a stylized circular emblem on the left and the name 'Kabagambe' written in cursive script to its right.

F. A. Kabagambe - Kaliisa, *B.Sc. (Hons), Dip. Min Expl., M.Sc, MAAPG, MSEG, CRS*
PERMANENT SECRETARY

1.0 INTRODUCTION

The Ministry of Energy and Mineral Development (MEMD) is responsible for the Energy and Mineral Sectors in Uganda. The energy and mineral sectors are identified in the National Development Plan (NDP) as priority sectors that are vital for the realization of a transformed Ugandan society in the medium and the long term. Limited access to and use of modern energy resources significantly slows down economic and social transformation.

1.1 Mandate of the MEMD

The mandate of the Ministry of Energy and Mineral Development (MEMD) is ***“To establish, promote the development, strategically manage and safeguard the rational and sustainable exploitation and utilisation of energy and mineral resources for social and economic development”***.

1.1.1 Vision

A model of excellence in sustainable management and utilization of energy and mineral resources.

1.1.2 Mission

To ensure reliable, adequate and sustainable exploitation, management and utilization of energy and mineral resources in Uganda.

1.2 Roles and Functions

The roles and main functions of the Ministry are as follows: -

- i) To provide policy guidance in the development and exploitation of the Energy, Mineral, Oil and Gas resources.
- ii) To create an enabling environment in order to attract investment in the development, provision and utilisation of energy and mineral resources.
- iii) To acquire, process and interpret technical data in order to establish the energy and mineral resource potential of the country.
- iv) To inspect, regulate, monitor and evaluate activities of private companies in energy and mineral sectors so that the resources are developed, exploited and used on a rational and sustainable basis.

1.2.1 Guiding principles and core values of the Ministry

In executing its mandate, the Ministry promotes and practices the following:

- | | |
|-------------------|----------------------|
| ✓ Professionalism | ✓ Customer focussed |
| ✓ Integrity | ✓ Fair and equitable |
| ✓ Transparency | ✓ Predictability |
| ✓ Innovation | ✓ Health and safety |

1.2.2 Strategic objectives and goals for the Medium Term 2010/11 – 2014/15

In order to contribute effectively to the national objectives as enshrined in the National Development Plan, the Sector's policy goals are: -

- i) To meet the energy needs of Uganda's population for social and economic development in an environmentally sustainable manner.
- ii) To use the country's oil and gas resources to contribute to early achievement of poverty eradication and create lasting value to society.
- iii) To develop the mineral sector for it to contribute significantly to sustainable national economic and social growth.

1.2.3 Main Priorities

In the medium term, the key priorities of the Ministry are to: -

- i) increase electricity generation capacity and transmission network;
- ii) increase access to modern energy services through rural electrification and renewable energy development;
- iii) promote and monitor petroleum exploration and development in order to achieve national production;
- iv) develop petroleum refining and pipeline transportation infrastructure;
- v) streamline petroleum supply and distribution; and
- vi) promote and regulate mineral exploration, development, production and value addition.

Other priorities are: -

- i) promotion of efficient utilisation of energy;
- ii) promote free and fair competition in petroleum supply and marketing industry; and
- iii) monitoring geotectonic disturbances and radioactive emissions.

1.2.4 Major Strategies

To achieve the above priorities, the following major strategies were adopted: -

- i) To review and put in place modern policies and legislation that offers a conducive business environment.
- ii) Increase the energy mix in power generation, promote and co-invest in the development of new power generation and transmission projects.
- iii) To acquire and provide necessary information and data to attract and facilitate private sector participation and capital inflow.
- iv) Promote and / or implement rural electrification through grid extension, development of decentralised power supply systems and use of renewable energy resources.
- v) Promote and monitor petroleum exploration, development and production by the private sector for local consumption and export.
- vi) Promote and monitor mineral exploration, development, production and value addition by the private sector for local consumption and export.
- vii) To carry out specialized and general training of manpower and strengthening capacity of the institutions responsible for managing and safeguarding the energy and mineral resources.
- viii) Carry out energy audits and consumer awareness campaigns for energy efficiency.
- ix) Establish standards and promote product quality, industrial safety, environmental protection and code of practice in petroleum supply operations.
- x) Promote more efficient modes of transportation, in order to maintain security of petroleum products supply and curb smuggling.
- xi) Monitoring and acquisition of seismic data and radioactive emissions.

1.3 The Ministry's Organizational Structure and Establishment

The Ministry of Energy and Mineral Development consisted of four technical departments headed by Commissioners under one Directorate and one support services department headed by the Under Secretary. The four technical departments were:

- i) Energy Resources;
- ii) Petroleum Supply and Distribution;
- iii) Petroleum Exploration and Production;
- iv) Geological Survey and Mines

The Support Services Department consisted of Finance, Administration, Personnel and Internal Audit Sections; Sector Planning and Policy Analysis Unit and the Procurement and Disposal

Unit. In addition to the above, the ministry has the following agencies and parastatals under its mandate, namely: The Rural Electrification Agency (REA), Kilembe Mines Limited (KML), Uganda Electricity Generation Company Limited (UEGCL), Uganda Electricity Transmission Company Limited (UETCL) and Uganda Electricity Distribution Company Limited (UEDCL). The power sector regulator - Electricity Regulatory Authority (ERA), although independent, receives policy guidance from the Ministry.

The political leadership of the Ministry consisted of the Minister of Energy and Mineral Development, Hon. Eng. Irene Muloni and two Ministers of State, Hon. Simon D'Ujanga and Hon. Peter Lokeris for Energy and Mineral Development respectively. The Permanent Secretary and Chief Executive of the Ministry was Mr. F.A. Kabagambe-Kaliisa, deputised by Eng. Paul Mubiru - Director of Energy and Mineral Development. The organisational structure for the Ministry is summarised in Appendix 1 and the human resource for the ministry in Appendix 2.

2.0 THE ENERGY RESOURCES SECTOR



JAMES BAANABE
Ag. Commissioner,
Energy Resources Department



Eng. H. BIDASALA
Assistant Commissioner,
Electric Power Division



G. NDAWULA
Assistant Commissioner,
NRSE Division



NAFUNA SARAH
Head, Nuclear Energy Unit

In 2013, the Energy Resources Sector continued to focus on the priority areas, namely; increasing generation and transmission capacity, increasing access to modern energy services through rural electrification, renewable energy development, and promotion of efficient utilization of energy resources.

The major highlights were: -

- i. The ground breaking ceremony on 12th August, 2013 for the Karuma Hydro Power Plant followed by signing of a contract on 16th August, 2013 between GoU and Sinohydro to construct the plant as an Engineering, Procurement and Construction (EPC) project.
- ii. H.E President Yoweri Kaguta Museveni presided over the ground breaking ceremony of Isimba Hydro power plant on 5th October, 2013.
- iii. The development of small and renewable energy sources continued.
- iv. A total of 24,591 on-grid new connections and 4,942 off-grid new connections were made.
- v. Several programmes were undertaken to promote the efficient use of energy across the country including training of Energy Service Providers (ESPs) for efficient cook stove dissemination, and conducting the Energy Week.

Fig 3: Management of the Energy Resources Dept

2.1 Policy, Legislation, Planning, Standards Formulation and Implementation

2.1.1 Energy Efficiency and Conservation Bill

During 2013, additional consultations were made to the Principles to be embodied in the Bill. The input from stakeholders was used to finalise the Cabinet Memorandum which will be tabled to cabinet in 2014.

2.1.2 Review of Electricity Act

A legal review of the Electricity Act, 1999 was undertaken which identified areas of conflict; areas that cause implementation hindrances; and those areas overtaken by events since the time when the Act was enacted. Furthermore, there are those aspects which were not adequately covered at the time the law was enacted. Therefore, in view of the institutional changes and formulation of new policies since 1999, the Ministry and other key stakeholders initiated the process of the review of this Act.

The main objective for the amendment of the law is to strengthen the legal and institutional framework so that the power sub-sector improves efficiency in delivery of its services to facilitate the economic and social development of Uganda.

Specific Objectives in the Amendment are:

- i) Removing inconsistencies from the law and harmonize it with other related laws.
- ii) Allowing embedded generators sell power directly to distribution companies or large customers.
- iii) Increase the level of electricity access and improve service delivery by establishing an Institution responsible for Rural Electrification that is a corporate body.
- iv) Reduction of power losses by providing stringent penalties for power theft and damage to electrical installations caused by vandalism;
- v) Improving the enforcement and compliance regulatory framework.
- vi) Increasing the membership of the Electricity Disputes Tribunal from 3 to a maximum of 7.
- vii) Streamlining the coordination between licensed entities, Government Agencies and the Regulator.

In the reporting period the review process, was still at initial stages. Stakeholder consultations will be conducted in 2014 before presenting the principals to be embodied in the review of the Act to cabinet for approval.

2.1.3 Development of the Energy Efficiency and Conservation Bill

The energy efficiency and conservation bill provides for the standards and regulations for efficient utilization of energy in Uganda's economic sectors. The objective of the bill is to:

- i) reduce the energy intensity (energy consumption per unit of production) in the economy;
- ii) enhance energy security;
- iii) reduce environmental pollution and the degradation of biomass resources;

- iv) improve efficiency in the supply and utilisation of energy;
- v) promote the dissemination of energy efficient technologies;
- vi) promote energy substitution;
- vii) promote Research and Development in energy efficiency; and create awareness regarding efficient utilization of energy.

The principals to be embodied in the proposed bill have been prepared and consultations not yet concluded.

2.1.4 Development of the Biofuels Bill

During the reporting period, the Draft Bill was developed and submitted to the Ministry for review. The Ministry reviewed the Draft Bill and made comments which were submitted to the legal counsel at Ministry of Justice and Constitutional Affairs for incorporation.

2.1.5 Development of the National Biomass Energy Strategy (NBEST)

During 2013, six (6) regional workshops were held in Mukono, Mbale, Mbarara, Hoima, Arua and Lira districts with participation of Local Government authorities namely: political leaders, Chief Administrative Officers, Natural Resource Officers, Environment Officers, NAADS coordinators and District Forestry Officers. Others included tree growers, charcoal burners and traders, and local community representatives.

The workshops served to create awareness about the Strategy and also draw activities to enhance sustainable supply and rational utilisation of biomass resources in line with the energy policy.

The consultant presented the draft NBEST to stakeholders during a one-day consultative meeting organized by the Ministry with support from UNDP. The meeting was held at Golf Course Hotel on the 22nd of November, 2013. The purpose of this meeting was to present the findings and the proposed strategy to stakeholders for review. The stakeholders gave comments that are yet to be incorporated in the final document.



Figure 4: Stakeholders attending the Consultative review Workshop on Draft Biomass Energy Strategy at Golf Course Hotel.

The findings revealed the overall biomass demand as 34.354 million tonnes in all sectors. This demand was projected to increase to 75 million tonnes over a ten (10) year period if no intervention is made. The largest consumers of biomass energy were rural households, brick industries, urban households, households in Kampala and educational institutions respectively. The consultant highlighted the following as the key challenges in the subsector among others:

- i) Lack of comprehensive awareness on biomass energy, BETs and its contribution to social, economic and industrial growth in the country, hence limiting adoption.
- ii) Insufficient data which remains scattered among different institutions and agencies, making it hard to establish concrete information about the subsector.
- iii) Weak policy and institutional framework where the subsector remains informal with minimal regulation on harvesting and utilization of biomass resources which has enhanced overexploitation of these resources for energy purposes among other uses.
- iv) Limited adoption of energy efficient BETs and lack of awareness on indoor air pollution attributed to smoky cooking environments.
- v) Overdependence on woody biomass, hence increasing demand for charcoal and fuel wood.
- vi) Use of inefficient charcoal production technologies such as the traditional earth mound kilns.
- vii) Limited biomass resource to meet the increasing demand.
- viii) High costs for acquisition of efficient BETs.

Key Interventions of the Draft Strategy

- i) Developing a communication strategy tailored to various stakeholders i.e. Decision makers, policy formulators, rural and urban poor, middle class communities, private sector, etc. in order to increase awareness so as to enhance adoption of these improved biomass energy technologies (BETs).
- ii) Developing an interlinked/integrated biomass resource database and information centre with representatives from key Government agencies so as to harmonise, consolidate and archive the data collected in the subsector.
- iii) Developing prototype timber and charcoal production plans for small woodlots; harvesting permits issued and managed at regional level and linked to taxation and wood resource management plans; developing differentiated taxation systems where non-green charcoal and timber production attracts penalties; and incorporating sustainable biomass energy supply plans into investment and environmental mitigation plans for heavy biomass users.

- iv) Increasing awareness on indoor air pollution and health risks associated with use of traditional inefficient stoves especially in rural areas and initiating carbon financing models to subsidise efficient stoves.
- v) Promoting alternative fuels such as biogas, agro residues, municipal solid waste, invasive plant species and LPG (for wealthier households).
- vi) Demonstrating modern charcoal production technologies like the use of casamance kilns to reduce on waste and attract funds for investment into green charcoal production.
- vii) Increasing biomass supply by building on existing tree planting programmes, government initiatives such as REDD+, NAMAs, CDM, etc.; promoting growing of energy crops; promote usage of forest thinnings and prunnings for energy purposes.
- viii) Developing financing mechanisms for BETs through: creation of a national fund for renewable energy projects that provide start-up capital.

2.2 Electric Power Supply

The three (3) largest hydroelectric plants (Kiira, Nalubaale and Bujagali) contributed 630MW to the installed generation capacity. The commissioning of Kabalega HPP (9MW) in January 2013 contributed an additional 9MW to the installed capacity. Kakira Sugar Works also increased the capacity of its cogeneration facility to 50MW in December 2013 raising the country’s total generation capacity from 818.5MW to 851.5MW. The total grid electricity supply increased by 16.89% from 2,599GWh to 3,038GWh. Figure 5 below shows the growth of power supply to UETCL for the last five years from 2008 to 2013.

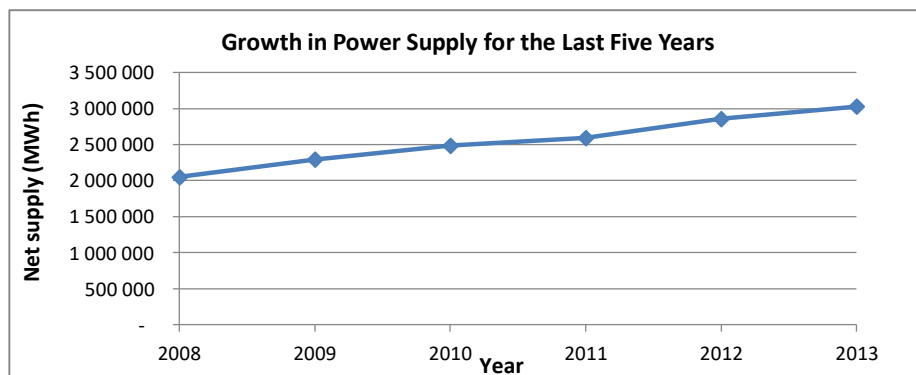


Figure 5: Graph showing the net supply to UETCL for the last 5 years

Table 1 below provides a list of the existing main grid and the off-grid power plants and Figure 7 shows the location of the generation sites, potential sites and sites under construction.

Table 1: Existing plant Generation Capacity

Status	Power Plants	Installed Capacity (MW)
Grid Connected Power plants	Nalubale and Kiira HPP	380
	Bujagali HPP	250
	Electromaxx Tororo (Thermal)	50
	Jacobsen Namanve (Thermal)	50
	Kakira Co-gen	50
	KCCL	9
	Kinyara Co-gen	5
	Mobuku 1	5
	Ishasha small hydro	6.5
	Mpanga small hydro	18
	Bugoye small hydro	13
	Kabalega HP	9
Sub Total		845.5
Off-grid Power plants	Nyagak 1	3.5
	Kisizi Small hydropower plant	0.35
	Kuluva Small hydropower plant	0.12
	Kagando Small hydropower plant	0.06
	Off-grids Thermal Power Plants	2
Sub Total		6.03
TOTAL CAPACITY		851.53

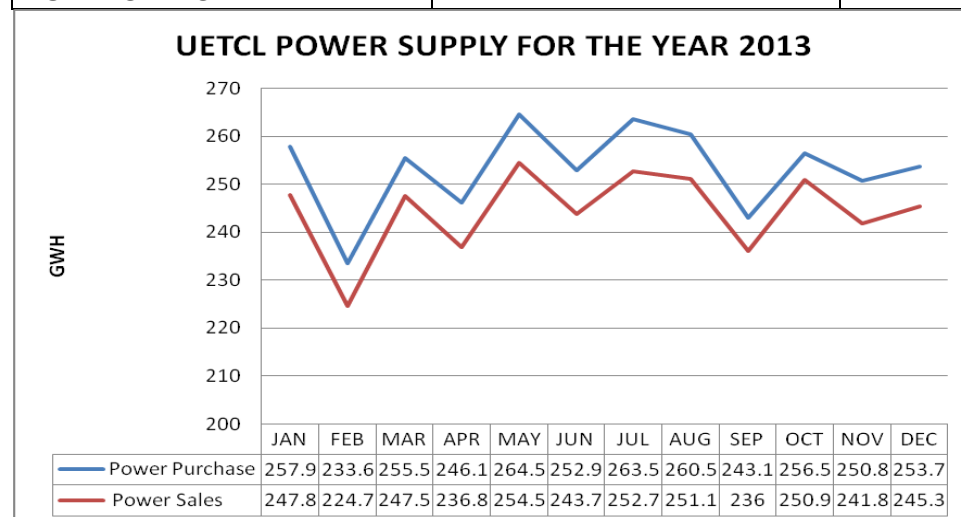


Figure 6: UETCL POWER SUPPLY FOR THE YEAR 2013

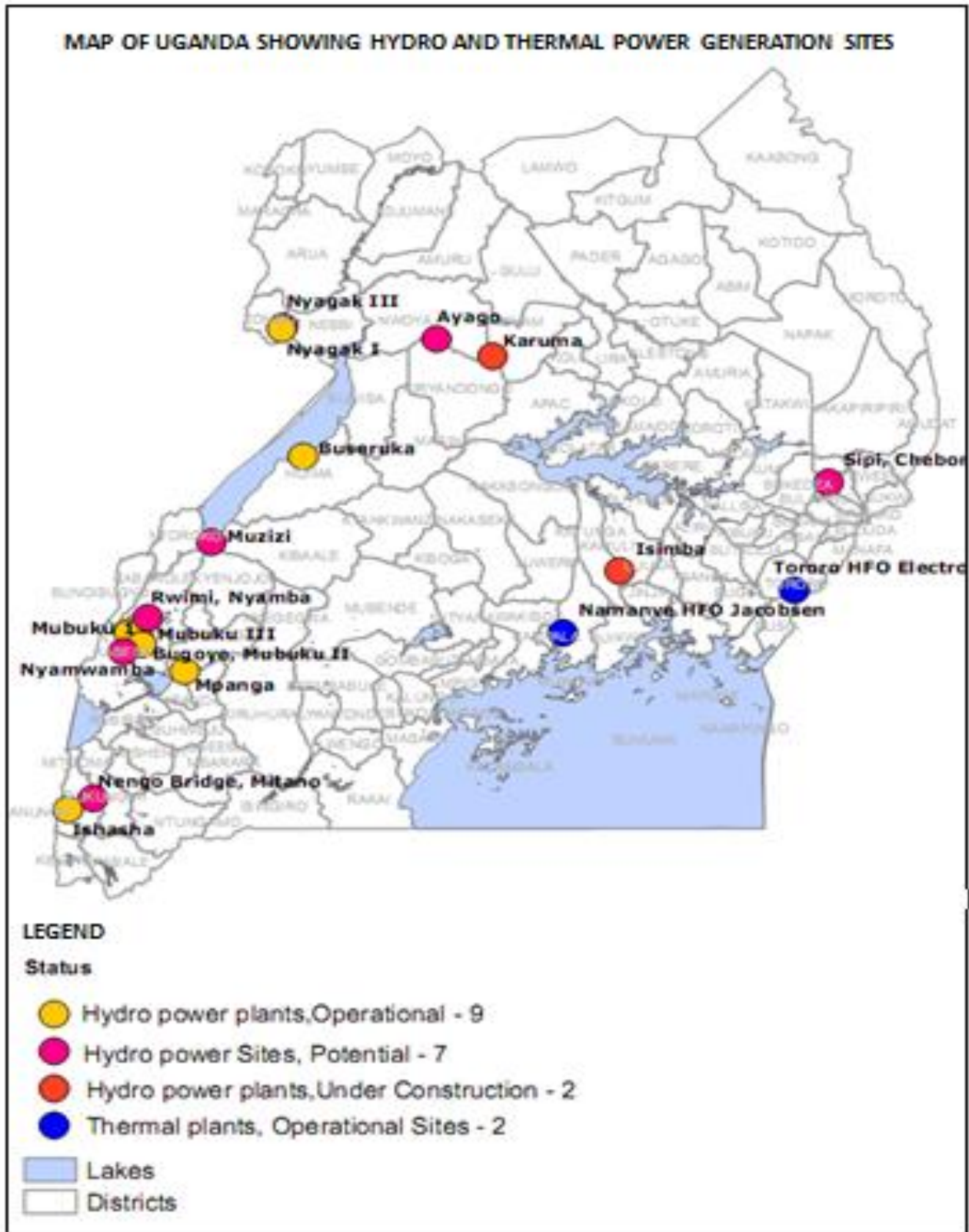


Figure 7: Map of Uganda showing power generation sites.

2.3 Generation Expansion Programmes and Plans

2.3.1 Large Hydropower Projects

a) Karuma Power Project

Government of Uganda (GoU) entered a Bilateral Agreement with the Chinese Government. A memorandum of understanding was signed between GoU and Sinohydro Company of China in June, 2013.

H.E. the President presided over the ground breaking ceremony on 12th August, 2013. This was followed by signing of a contract between GoU and Sinohydro to construct the plant as an Engineering, Procurement and Construction (EPC) project on 16th August, 2013.



Figure 8: H.E. The President of Uganda, Energy Minister and Representatives of Sinohydro Contractors launching the construction of Karuma Hydropower Project on 12th August 2013.

The start date for the Project was 14th September, 2013. By the end of the year, the contractor had started mobilization of manpower, both Chinese and locals as well as equipment. After the completion of topographical resurvey and geological investigations at most locations, Sinohydro carried out certain design changes in the diversion channel, dam axis, power house adits, and various facilities. The preliminary layout drawings of various components of the project were developed. Detailed design is expected to be completed in 2014.

Access roads to the dam area, power intake area, main access tunnel (MAT) area, escape and ventilation tunnel (EVT) area and muck dumping yard were completed in early December, 2013.

Officials from Exim Bank of China carried out an Appraisal Mission of the Project as part of due diligence before release of the loan money. This included a tour of the site on 11th, December, 2013.

Land Acquisition: The following estimated percentages of compensation were paid in the following villages of the project affected areas: Karuma – 90%; Awoo – 10% and Nora – 60%. A contract for finalizing RAP was prepared and signed by MEMD and the RAP Consultant. In addition, the consultant submitted an Inception Report for Phase II of RAP Implementation and payment of Project Affected Persons (PAPs) is expected to be completed in 2014.

MEMD and UEGCL also prepared a Community Development Action Plan (CDAP) that will address proposed efforts to participate in long term Social and Economic Development within the project area.

In addition, MEMD and UEGCL also prepared a Community Development Action Plan (CDAP) that will address proposed efforts to participate in long term Social and Economic Development within the project area.

b) Isimba Power Project

A Memorandum of Understanding was signed between GoU and China International Water and Electric Corporation (CWE). H.E the President presided over the ground breaking ceremony on 5th October, 2013. A contract between GoU and CWE was signed on 6th September, 2013.

CWE completed the basic design based on the feasibility study and the tender documents. Site supplementary geological investigation, drilling and rock grouting commenced on 17th October, 2013 by M/s Geotech Solutions (U) Ltd which was procured by CWE.

A Site topographic survey was carried out. Temporary works including camp pre-construction mobilization were done and the rest of the site mobilization was ongoing. CWE also commenced plant and machinery engineering process with Chinese suppliers.



Figure 9: H.E the President of Uganda, Y.K Museveni, Energy Minister Irene Muloni (Right), The Chinese Ambassador to Uganda Zhao Yali (third left) and CWE Vice President Wang Yu (Second Right) launching of Isimba Hydro Power Project in Kayunga on 6th October, 2013.

MEMD initiated the procurement process of a Supervising Consultant for the construction of the power plant during the second quarter of FY 2013/2014. The Evaluation process of the bids was carried out between 2nd and 6th December, 2013.

Officials from Exim Bank of China held a meeting with GoU on 9th, December 2013 as part of appraisal mission of the Project. This was followed by a site tour on 10th December 2013. RAP Implementation for the Project was ongoing. Meetings to discuss and prepare for the Sensitization campaign were held between MEMD, UEGCL, UETCL and district leaders. A sensitization campaign was carried out 19th- 20th of September, 2013 in the affected Districts of Kayunga, Kamuli, Jinja and Buikwe.

MEMD held a meeting on 23rd September, 2013 with key stakeholders to discuss a way forward for the RAP disclosure process and implementation scheduled to begin in early 2014.

c) Ayago Hydro Power Project

A Memorandum of Understanding was signed between GoU and China Gezhouba Group Company Limited (CGGC) to complete the feasibility study of the 600MW Hydro power plant.

China Gezhouba Group Company Limited (CGGC) made a formal request to continue with the Feasibility study. This request was considered by the Ministry and an Amendment was made to the MoU between CGGC and GoU in this regard.

JICA is to officially handover the survey reports to the Ministry to enable completion of the Feasibility study.

2.3.2 Small Hydropower Projects

a) Kabalega Hydropower Project (9MW)

The Plant was commissioned on 25th January, 2013. The plant faced evacuation challenges due to limited power demand in the area which resulted in tripping of the line. Meetings between MEMD, UMEME and UETCL were held on 4th July 2013 to work out a possible solution.



Figure 10: H.E the President of Uganda addressing Guests during the commissioning of the Kabalega Hydropower plant in Buseruka, Hoima

Plans are underway to upgrade the evacuation line from a 33kV line to 132kV line and UETCL is to upgrade the Kabulasoke-Kiboga Substation (33kV to 132kV) to enable evacuation of all the power from the plant to Kiboga substation. UETCL is fast tracking the procurement of the Consultant who is to supervise the construction works.

b) Kikagati Hydropower Project (16MW)

A Joint Technical Committee (JTC) meeting was held at Imperial Beach Hotel, Entebbe from the 18th – 20th December, 2013 to discuss comments submitted by the United Republic of Tanzania on the Bilateral Agreement between the two countries. The United Republic of Tanzania reaffirmed her commitment to equitably share the risks and benefits of the project, as a shared resource. The JTC agreed to refer the matter to the Ministers responsible for guidance.

2.3.3 KfW Supported Projects

a) West Nile Electrification Grid Extensions

The contractor commenced works on 1st November 2013. The official project ground breaking occurred on 19th December 2013. As of 31st December 2013 the construction work was at 28.18% with progress in the various activities as follows:

- i) Design Progress was at 61.03% pending completion of submission and approval of remaining foundation, substation and profile designs
- ii) Procurement progress was at 36.15% pending submission of remaining technical data, engineer's approval, placing orders, manufacturing & factory acceptance test and shipping & delivery.
- iii) Construction progress is at 10.25% with all surveys complete. The pending work includes Pegging out, soil testing, bush clearing, pole erection and dressing, conductor stringing, Switchgear & Transformer installation and finally testing and handing over.

b) Rehabilitation of Maziba Hydropower plant

Feasibility studies for this plant were completed by SKI-Newplan and the construction phase was projected to begin late 2013. The implementation of the project was delayed due to the projected cost at detailed design stage turning out to be higher than earlier anticipated. After detailed designs, the Maziba project cost is estimated at Euro 3.384 million instead of the Euro 2.4 million foreseen at the project inception stage.

Government committed to providing additional funds to facilitate implementation of the project. Prequalification of the EPC contractor is expected in May 2014.

c) Nyagak III Hydropower Project

UEGCL and International Finance Corporation (IFC) held an Investors' meeting on the 18th of June, 2013 in which 8 firms were in attendance. The plant is to be developed as a Public Private Partnership (PPP) and therefore, GoU is looking to partner with a Private firm for the development of this project. Six (6) firms were shortlisted for issuance of Request for Proposals (RFP). However, the short listing process delayed as a result of an administrative review.

Request for Proposals (RFPs) were prepared and provided to the shortlisted firms. Government expects to complete the procurement process of the Private Partner by the end of September, 2014.

d) Muzizi Hydropower Project

UEGCL procured a consultant, Fitchner GmbH in association with Norplan and Newplan Uganda to carry out the Feasibility Study. The Technical Feasibility study for the site was completed in September, 2013.

Government is sourcing funds to develop Muzizi as a public project. KfW and French Development Agency (AFD) have expressed interest in financing the project estimated to cost Euro 90.0 million.

2.3.4 ERT Rural Electrification Baseline survey

Key findings from the survey were shared with MEMD and later a stakeholder's workshop was held on the 25th, June 2013 to share the findings and give feedback input.

A draft copy of the Report detailing the findings from the survey was completed and submitted to MEMD for review and comments.

An Individual Consultant was procured to develop the Predictive Model. The consultant prepared an Inception Report on the Predictive Model and presented it to MEMD on 21st October, 2013 and the Ministry is yet to receive feedback on agreed changes to the model.

2.3.5 Feasibility studies of Mini hydropower sites

Ten (10) small hydropower sites were identified by MEMD as potential sites for development. (see Figure 11 below). One (1) of the sites namely, the Muyembe project, was selected directly for a full feasibility study.

The Ministry signed a contract with Posch and Partners on the 10th, April 2013 to do the prefeasibility studies for the remaining nine (9) sites from which two (2) most promising sites

will be selected to proceed for full feasibility study. In addition Posch and Partners will carry out full feasibility for three (3) sites.

A combined team comprising MEMD staff, local stakeholders and experts from the Consultant's team visited the project areas Muyembe and Cheptui I for field reconnaissance from 27th – 29th April, 2013.

The draft Inception report was submitted to the Ministry in May 2013, reviewed and sent back to the Consultant with comments. The final Inception report with the comments incorporated was submitted on 19th, June 2013.

The Feasibility study for Muyembe-Sirimutyo in Bulambuli district is still ongoing and is being carried by Posch & Partners. A draft report on the hydrological study is available and gauging activities were carried out. The locations for Geological investigations were determined and the studies are still ongoing. Preparation of the RAP by the consultant is also ongoing.

The Ministry submitted the Terms of Reference (ToRs) for carrying out Environmental and Social Impact Assessment for the ten (10) mini hydropower sites for NEMA approval. In parallel for the nine (9) sites, a site visit took place at the Cheptui project area and the hydrological raw data for all sites have been acquired. The Consultant, Posch and Partners, together with the Ministry scheduled site visits to the rest of the eight (8) sites in the South West, West and West Nile from the 26th January -3rd February 2014 to gather preliminary data for the Pre-Feasibilities studies.



Figure 11: Map of Uganda showing the location of the 10 potential Mini hydropower sites for study under KfW

2.3.6 Electricity Sector Development Project (ESDP)

The project is aimed at improving reliability and access to electricity to the South Western region of Uganda. The 5-year project was initiated in 2012 and is jointly implemented by the Ministry and UETCL. The following is the progress of procurement consultancy services under the Ministry component:

a) Street lighting and lighting of market places

The Ministry prepared the ToRs and RFP which were cleared by the World Bank on May 31st, 2013 and considered by the contracts committee on June 11th, 2013. A pre-bid meeting was held on 2nd July 2013 for the shortlisted firms. The submission of bids was done on 18th July, 2013.

Following the meeting with the Masaka district local leaders, the Ministry conducted a fact finding mission to Masaka Municipality markets and streets. The Mission identified the streets and markets to benefit as per the present budget. A report to this effect was prepared.

The procurement of the Supervising Consultant was ongoing and is expected to be concluded during early, 2014.

b) Electrification of Peri-urban areas:

The World Bank reviewed the ToRs and RFP and feedback was received on 15th May, 2013. The comments that were generated by the Bank prompted the Ministry to conduct a consultative meeting with UMEME on 7th June, 2013 at the Ministry to agree on the design specifications of the lines, metering and construction works.

The revised documents were resubmitted to the Bank and a No objection to the ToRs and RFP was finally received on 23rd August 2013. The procurement process is ongoing and is expected to be completed by early 2014.

Sensitization Workshops were also carried out in the second quarter of FY 2013/14 for the Local Chairpersons in the districts of Mpigi and Wakiso to create awareness on the benefits of the project.

c) Power Sector Information Centre (PSIC)

A reviewed EOI and ToRs were cleared by the World Bank on May 31st 2013 and by the Contracts committee on June 5th 2013. World Bank gave a no objection to the ToRs and RFP on 23rd August 2013. The RFPs were issued and a pre bid meeting held on 8th October 2013. The procurement process is expected to be completed by 2014.

d) Review of Sector reforms

Revised ToRs and the Draft EOI advert were submitted to the World Bank for review and issuance of a “No objection”. Once they are cleared, firms will be invited to express interest in the assignment.

e) Training and Capacity building

The revised training plan was re-submitted to the World Bank for review on Friday, May 31st 2013. The training plan was approved on 5th September 2013 and training of Ministry staff was on going. A total of 15 staff had undergone training funded by ESDP summarized in Table 2 below (see full list in Appendix 3).

Table 2: ESDP Training and capacity building for 2013

Section	No. staff trained
Electric Power Division	3
Electricity Sector Development Project	7
Planning Unit	5
Total	15

f) RAP Monitoring

Procurement of the Consultancy firm to undertake the RAP monitoring for the Kawanda-Masaka 220kV transmission line is still ongoing. The evaluation of the EOI was finalized on 15th May 2013.

The shortlist and RFP were cleared by the contracts committee on 31st May 2013. The five (5) shortlisted firms received the RFP. A pre-bid meeting was held awaiting technical and financial proposals from the firms. The procurement process was still on going and is to be completed early 2014.

The Monitoring and Evaluation team undertook four (4) RAP Monitoring exercises and the World Bank team conducted a supervision mission in December, 2013 to assess the progress made to date. The supervision mission involved a field visit to acquaint the World Bank officials with the transmission line corridor and also provide them with an opportunity to interact first hand with the Project Affected Persons (PAPs) and assess the progress made.



Figure 12: One of the houses built for the PAPs on the Kawanda -Masaka Transmission Line funded through ESDP

2.4 Grid Expansion Projects

2.4.1 Transmission Projects

During the reporting period, the Uganda Electricity Transmission Company Limited (UETCL) commissioned 150 km of 220kV lines, 1441.7 Km of 132kV and 35.2 Km of 66kV of transmission lines. A total of 16 substations were also added to the national transmission grid infrastructure. The status of other power transmission projects under development during the year 2013 is given in the Table below.

Table 3: Status of Power Transmission Projects under Development

NAME/AREA OF THE PROJECT	OBJECTIVES	STATUS
Upgrade of Bujagali switchyard to 220kV	Interconnection of Bujagali HPP with the National Grid.	<ul style="list-style-type: none"> • Advance payment received by the Contractor. • Contract Signed with the Supervising Consultant on 17th December, 2013. • Review of Engineering Designs is on-going. • Financing by AfDB and JICA.
Bujagali-Tororo (Uganda)-Lessos (Kenya) 220kV transmission line.	Regional Grid Interconnection for power trade and improvement of security and supply.	<ul style="list-style-type: none"> • RAP implementation on-going. • Supervising consultant procured. • EPC contractor procured. • Route alignment and survey completed. • Works in progress. • Financing by AfDB and JICA.
Mbarara-Mirama (Uganda)-Birembo (Rwanda) 220 kV transmission line (66km) and Mirama substation	Regional Grid Interconnection for power trade and improvement of security and supply.	<ul style="list-style-type: none"> • RAP implementation on-going. • Supervising contractor procured. • EPC contractor procured and works ongoing. • Financing by AfDB and JICA.
Mbarara-Nkenda 132kV transmission line	Improvement on reliability, availability and quality of power to Western region of Uganda-Kasese, Fort Portal.	<ul style="list-style-type: none"> • EPC Contractor procured and works ongoing. • Procurement of supervision consultant completed and supervision ongoing. • RAP implementation at 81%.
Tororo-Opuyo-Lira 132kV transmission line (260km)	Improved reliability, availability of power to the Eastern & Northern regions of Uganda.	<ul style="list-style-type: none"> • Reviewed and approved design drawings (Substation layouts, Tower Structures).

		<ul style="list-style-type: none"> • Route alignment was completed. • EPC contractor procured and work in progress.
Kawanda-Masaka 220kV transmission line (142 km)	The programme is aimed at reinforcing the capacity of the Western transmission line to cater for the increasing demand in the towns of Masaka, Mbarara, Kasese, Fort Portal, Kabale, Bushenyi.	<ul style="list-style-type: none"> • Draft contract for consultancy services approved by World Bank on 26th Oct 2013. • Procurement of EPC contractor on-going.
Nkenda-Fort Portal-Hoima 220kV lines (234km)	Provision of transmission capacity for system improvement in Kibaale, Hoima, Masindi, Kabarole and Kyenjojo Districts as well power evacuation from Kabaale HFO, Kinyara Co-gen, Kabalega HPP and Waki HPP.	<ul style="list-style-type: none"> • Pre-award meeting with the Best Evaluated Bidder for Supervision and Project Management of the EPC works. • Preparation of the transmission line prequalification report. • Preparation of the substation of the prequalification report. • RAP implementation – compensation at 77%.
Masaka-Mutukula-Mwanza 220kV transmission line (85km) Uganda's side	Regional grid interconnection for power trade and improvement of security of supply.	
Kabalega (Buseruka) 9MW mini hydro power plant	Augmenting generation capacity to meet the growing demand.	<ul style="list-style-type: none"> • Plant commissioned in January, 2013.
Isimba interconnection Project	Provision of adequate transmission capacity to evacuate power generated at Isimba HPS.	<ul style="list-style-type: none"> • Procurement of the EPC contractor completed. • RAP implementation ongoing
Opuyo-Moroto 132kV transmission line (160km) and substation	To extend the grid to supply power to Karamoja region.	<ul style="list-style-type: none"> • Feasibility study 95% complete. • ESIA and RAP Study 60% complete.

Mirama-Kabale 132kV transmission line (76km)	Extension of the high voltage grid to the Kabale region to improve quality of supply and to evacuate power from proposed generation power plant.	<ul style="list-style-type: none"> • Bid evaluation for Procurement of the feasibility study consultant carried out. • RFP for Procurement of the ESIA/RAP/RAP Implementation Consultant approved by Contracts Committee.
Hoima-Kafu 220kV transmission line (70km)	Improvement of reliability and availability of the grid as well as supporting power evacuation from generation plans in the project area.	<ul style="list-style-type: none"> • Feasibility Study on-going; 80% completed. • ESIA & RAP Studies on-going; 90% completed.
Lira-Gulu-Nebbi-Arua 132kV (350km)	Improvement of reliability, and quality of power supply.	<ul style="list-style-type: none"> • Procurement of consultants for feasibility study on-going. • Procurement of consultants for ESIA/RAP on-going.
Ayago interconnection 400kV project (40km)	Provision of adequate transmission capacity to evacuate power generated at proposed Ayago HPS.	<ul style="list-style-type: none"> • EPC Contract awarded to China Gezhouba Group Company. • Feasibility study on-going.
Mutundwe-Kabulasoke Restringing 132kV (84.5km)	Improvement of quality, reliability and availability of supply	<ul style="list-style-type: none"> • Works completed.
Nkenda-Mpondwe-Beni 220kV transmission line (70km)	Regional grid interconnection for power trade and improvement of security of supply.	<ul style="list-style-type: none"> • Feasibility study completed • Draft design tender documents prepared and presented
Tororo substation transformer 132/33kV, 32/40MVA	Improvement of availability, reliability, and quality of power supply.	<ul style="list-style-type: none"> • Completed and commissioned
Kinyara-Hoima 132kV (70km)	Provision of transmission capacity to evacuate power from Kinyara Power plant.	<ul style="list-style-type: none"> • Feasibility study ongoing and to be completed in first quarter of 2014.

Kikagati-Mirama 132kV(25km)	Provision of transmission capacity to evacuate power from Kikagati power plant.	<ul style="list-style-type: none"> • Procurement on-going. • Funded by Government of the Kingdom of Norway.
Kampala-Entebbe 132kV transmission line	Provision of transmission capacity to supply reliable and quality power to Entebbe town and environs	<ul style="list-style-type: none"> • Loan agreement signed between GoU and KfW on 24th October, 2013. • Consultant for ESIA/RAP/RAP implementation services was commissioned. Study ongoing • Procurement of supervision consultant ongoing
Electrification of Industrial Parks	Provision of transformation capacity to cater for demand within the industrial areas.	<ul style="list-style-type: none"> • Namanve: Feasibility study, ESIA & RAP Studies completed. • Namanve, Mukono, Iganga and Luzira: Sourcing for financing for construction on-going; 80% completed. • Mukono, Iganga and Luzira: Procurement of the ESIA & RAP Studies & RAP Implementation consultant completed.

2.4.2 Status on Rural Electrification Project as at End of December 2013

The Rural Electrification Agency (REA) implemented a number of grid extension projects across the country. A total of 1,657 km of High voltage lines (11kV and 33kV) and for Low Voltage distribution lines 806 km were done. A total of 24,591 On-grid new connections and 4,942 Off-grid connections new connections were made.

a) Completed Electrification projects

- i) Kilembe Investment Ltd Phase I Projects of Kyaihumba, Karambi, Ibanda – Bugoye and Ibanda – Nyakalingjo.
- ii) Gulu-Adjumani and tee-off to Amuru
- iii) Electricity power networks in Kamulu (Nakulyaku-Bugobi) & Namutumbe (Namutumba – Bugobi)
- iv) Electricity power networks in Hoima (Bujwahya-Bulyango) & Nakasongola (Migyera-Nyakitoma)
- v) Mubende-Kyenjojo
- vi) Rakai-Sembabule

- vii) Kabale-Kisoro
- viii) Apala – Adwari-Kiiru with tee-off to Morulem
- ix) Rackokoko – Awere – Lalogi
- x) Ibanda – Kazo – Kyabirukwa – Nyarukika
- xi) Soroti-Katakawi - Amuria
- xii) Ayer-Kamdini-Bobi-Minakulu
- xiii) Opeta-Achokora/Iceme Otwal
- xiv) Ntenjeru-Bule-Mpenja
- xv) Ruhiira Millennium Village.

b) Construction Works in Progress

- i) Rwabutura – Rwengando – Kiziba, Rugando-Nyabitete, Rwerere-Bugangari-Kabugasge, Kashekuru-Kyeibanga, Rwakasiga-Kyempitsi-Nyamabare & Kayeigoro-Kashozi-Kanekye in Sheema/Rukungiri Districts.
- ii) Kilembe Investment Ltd Phase II Projects of Kamusasa Village, Mukunyu & Kanyampala, Kiburara-Kagondo-Kajwenge, Malina – Kyanya & Nyakiyumbu-Kitswamba-Kyabarungira.
- iii) Additional scope for Muhanga-Kisiizi-Rugyeyo/Kyempene
- iv) Adjumani – Moyo
- v) Gulu Acholibur/Paicho-Patiko-Palaro
- vi) Masindi-Waki-Buliisa
- vii) Nkonge – Kashozi
- viii) Arua-Maracha-Koboko-Yumbe, Nyapea-Zombo-Zeu-Warr-Vurra, Zombo-Nebbi-Nyaravur-Pakwach-Panyamur with tee-off to Parombo.
- ix) Wakiso/Mpigi/Mityana/Busunju (Kikera, Ssekihuka, Kibugga, Buwambo, Nangabo Village Farm, Wamala Parish, Galamba, Rono Farm and Kabankonyo)
- x) Mbale/Manafwa/Tororo/Butaleja/Kapchorwa/Pallisa (Mawafu in Mulanda sub-county, Busiu – Kidok HC, Buwaya, Buluganya, Buyaga-Bunalwere, Kaduwa & Maizimasa sub-counties, Doho, Bugosa, National High Altitude Centre at Teryet, Kabwangasi Parish, Kakutu and Kagumu sub-counties).
- xi) Masindi/Lira (Ogur HC, Apii Pe Village, Kisindi Masindi Farm Inputs Care Centre, Rukondwa Village, Kafu TC, Kafu Farm, Bujwahya & Bulyango TCs)

- xii) Lwengo/Mbarara/Isingiro/Ibando/Kiruhura (Katovu-Mudaala-Kalengero, Bwizibwera-Biharwa – Bukiro, Rwentanga Community Phase I, Mile 17 at Byakatimba, Nyabuhikye, Akacucu, Rushere – Omukasoma – Omukujuju)
- xiii) Bushenyi/Buhweju/Kasese/Kyenjojo (Bukonzo Mixed Farm, Nsiika TC, Katenga – Rubaare – Katooma – Rwagashane, Rukakarwe Appropriate Technology Centre, Nyakatooke Village, Maddox Sec Sch, Omukabati TC, Nyakishosho Village and Buzenga TC)
- xiv) Rukungiri/Kanungu/Ntungamo/Kabale (Kitwe Farm, Nyakibobo – Itojo subcounty, Nyabushabi-Muyumba, Bunyonyi Wildlife Island, Rubaaya – Bigaaga, Kicumbi, Garubunda – Mabanga, Nyaruzinga – Kashenyi – Kafunjo, Mburameizi Barracks and Kiruruma Water Pump, Mpangango, Rukungiri Primary Teachers College and Bwindi Community Hospital).
- xv) Kayunga/Jinja/Iganga/Luuka/Kamuli/Buyende/Tororo/Busia/Manafa (Nsotoka & Butakoola, Wanyange & Nakabango Phase II, Kasozi – Busedde Phase II, Lusawa, Don Prince Academy & Namasoga, Irongo-Nawampiti, Kalyowa – Mpala – Bunika, Kyavumba – Nakibuyi, Luzinga – Bubaale, Nakabaale A Trading Centre, Namukubembe – Buwologoma, Nawangaiza Environs, Bugondha Village in Mbulamuti, Kirrasia, Iraapa – Butaanswa – Bugaya, Mukuju (Mailo Tano), Amagoro HC, Butta subcounty and Butuwa Bukimanai)
- xvi) Bundibugyo/Mubende/Sembabule/Kiruhura/Kisoro/Lyantonde/Nakasongola/Ibando/Rukungiri (Toro-Semliki Wildlife Premises at Karugutu, Kanyamwirima, Bukukwanga, Kasambya Water Pump, Mabindo Water Pump, Kiruhura Water Pump, Buyodoro Wolfram Mines, Rwamanyongo Environs, Kisozi HCIII, Ntutsi-Katebe Farm in Kasagama, Kijumba Village in Ngoma subcounty, Buwamate & Njembe I at Nyakahita in Kigunga and Kisiizi Hospital Community).

c) On-going procurement for Construction works

- i) Under funding from The Arab Bank for Economic Development in Africa (BADEA); Kapchorwa-Bukwa-Suam, Mayuge-Bwondha Landing Site, Kasambira-Bugulumbya-Bukuutu, Mityana-Lusalira, Lake Victoria Free Trade Zone, Apac – Chegere-Alemi, Hoima-Nalweyo & Kitgum – Namukora.
- ii) Funding from OPEC Fund for International Development (OFID); Ntenjeru-Mpenja, Biafra-Nakusubuyi, Ziba-Namaseke-Nansagazi-Kiwale-Buyiuro-Lugonjo-Ntimbe-Bukasa-Kisimbize-Buzzu-Banda-Kalambya-Natyole, Lukonda-Wangege Village, Nansagazi – Ssenyi Landing Sites in Buikwe/Mukono Districts; Aduku-Cawente, Aduku-Nambieso, Lira-Bala, Aloi-Omor, Dogapio-Atura & Bweyale-Atura in Kiryandongo/Nwoya/Lira/Oyam/Kole/Apac/Lira Districts.
- iii) JICA III (Mayuge-Namaingo, Lumino-Namaigo, Namaigo-Bumeru & Lutolo-Lufudu.

- iv) ERT II – Additional Works; Agricultural Enterprises (Dar Agro Processing Farm in Nakaseke, Kigoma Village Farm, East African Seeds Limited in Kayunga and Kasanje Clustered Farms and Dr. Rwaguma’s Farm) and Kagando interconnecting line in Kasese.
- v) Wakiso/Mpigi/Mityana/Mubende (Bulondo HC IV in Tongolo, Nseka Environs along Mende Road , Lugo – Wamirongo in Kyadondo North, Gonero Village & Worls Brain Rays Training Centre, Budde TC, Maya Resort, Ssekiwunga Village, Kikondo – Nsujjwe, Matte – Namiganvu-Nakwaya, Kiwango, Namwezi, Buwate, Kitanswa Village, Wamala Growers, Luswa – Kiwoggo TC and Mpala Mixed Farm.
- vi) Masaka/Sembabule/Rakai/Gomba/Kiruhura (Kiwomya Village, Ssembabule – Rutunku-Lugushulu, Kasambya – Nabikasa, Maddu in Gomba, Mirama Cell and Akatongole-Ekyaapa-Nyakahita-Kyabagyenyi)
- vii) Nakasongola/Luwero/Nakaseke/Hoima (Migyera-Moone-Nabiswera, Dekabusa-Kasiiso-Kilyumulondo, Kikyusa-Wabusana-Kamila, Kalagala – Mugenyi Village, Kyabumba, Bukakera – Kawomya, Kyentale – Kabaale – Kisweka, Kibingo-Buraru-Kakira, Hoima Sugar Factory & Kiswaswa, Kibaire TC & Kabonsesa High Sch)
- viii) Kayunga/Mukono/Jinja/Luuka/Kamuli (Lutengo/Naggalam Model Village, Kyanya TC, Ntawo-Nyenje, Buwundo-Kidusu, Buyala, Kagoma Buwolomera Village, Buwaji/Kyoma. Ikam Farm & Nawandala Farm and Budhatemwa Parish, Kabbale, Butabaale Village, Nakalanga & Lugoloire, Namusita – Kyaligonza Farm)
- ix) Manafwa/Mbale/Tororo/Sironko/Butaleja/Budaka/Bulambuli/Bududa (Kamuli TC, Wanida, Bunamuno & Jewa, Buwabwala, Bumwangu-Bwirusa-Bubwaya-Bumkoya, Pasule C in Nawire Village, Panyangasi TC in Rubongi, Aukot Village, Kajarau Village, Bukumbale, Bumausi & Bugusege, Pett HC III, Kachonga-Buguna-Buhasango-Obama-Kibuku, Kangalaba Village, Kireka TC, Tadameri, Mulokochoma, Iki Iki – Kameruka, Kasuleta TC, Bunaporo – Bulucheke, Zabanyanya TC & Napuru, Shitulwa – Bumulah Villages.
- x) Serere/Soroti/Pallisa/Kapchorwa/Kumi (Kateta Village – Omonyolo – Kamodi Sec Sch, Camp Swahili Village, Nalidi Village, Kawell Cell – Mbuni – Cheptilyal, Sebei Elgon Cooperative – Kapkwirok Ongino Community)
- xi) Mbarara/Sheema.Bushenyi/Ibanda (Ibaare-Kashekure in Rwampara, Katojo in Rwampara, Ndeebo TC, Karera, Nyabwina – Nyakambu, Nyarubaare, Bumyangi – Ruharo, Kyanamira, Kankyende & Mashuri Villages)
- xii) Ntungamo/Rukungiri/Kabale/Kanungu/Kisoro (Rwempiri Village, Nyaburiza Environs, Kahengye – Rwibale, Mirama Hill Environs, Rwakabengo Environs, Kagogo/Kyatoko/Ruruku, Kabingo Parish, Rutenga Community, Ruyonza-Nyabushenyi, Kafunjo, Nyakaina-Kibunda, Nyakishoroza-Mabindi, Bungangari-Bentonite Factory, Maziba HC IV, Muguri Rubaya via Katuna, Kabale Polytechnic School, Buhara-Rwene, Katojo TC near Kambuga Savana Environs, Bugongo & Bugongi Cells, Nyarugunda – Kiringa Cells, Nyamigoye Kate Kirha TC, Kabuyorwa, Kyenshero Cell, Ruburankono in Gasiza Parish,

Mgahinga Tourist & Tangaza Tours, Nyamunuka/Kyaruhunga to Kahunga, Nyakinoni-Kyakarimira-Nyamirama).

- xiii) Bundibugyo/Kasese/Rubirizi (Nyahuka, Mwaro, Kahendero Fishing Village & Ibamba Safari Lodge, Mwogera Sec Sch in Katerera, Kamwenge Vocational Institute – Kabuga and Bisozzi in Kamwenge).
- xiv) Gulu/Kitgum/Pader/Otuke/Lira/Lamwo (Opong Village, Pongdwong TC, Bishop Flynn Sec Sch, Baralegi State Lodge off Adwari- Okwang Line, Arum HC and Lwero Village).
- xv) Kaliro – Kaliro SAIL Sugar Factory in Kaliro District.

d) Community Schemes implemented through Distribution Utility Companies

- i) Kadegele Village in Pallisa
- ii) Lubiri Street Lights (Buganda Tourism Expo)
- iii) Namugongo Shrine Street Lights
- iv) Buheesi – Magasani Zones Karambi subcounty, Kabarole
- v) Kubamitwe Village, LuweroBuloba Resettlement Site, Jinja
- vi) Malindi Resettlement Site, Jinja
- vii) Kikubamitwe Resettlement Site, Jinja
- viii) Kyabirwa Resettlement Site, Jinja
- ix) Kyabirwa Resettlement Site, Jinja
- x) Ivnamba Resettlement Site, Jinja
- xi) Namizi Resettlement Site, Jinja
- xii) Kira Resettlement Site, Jinja
- xiii) Nakwanga Resettlement Site, Jinja
- xiv) Tomasi's Farm in Bwesharire, Kiruhura
- xv) Kiyagi/Kitula Village, Buikwe
- xvi) Hanhe (U) Ltd, Nakaseke
- xvii) Payero Millers Company Ltd, Gulu
- xviii) Namubiru Cell, Nama subcounty, Mukono
- xix) Rwamuganga TC & Environs on Kabwohe – Kitagata Road, Sheem
- xx) Kabalye Police Training Sch, Masindi
- xxi) Amos Diaries Ltd at Kagezi, Lyantonde
- xxii) Cougar Industries Limited, Mukono
- xxiii) Namazige – Kasenge & Hatches, Mukono
- xxiv) Simba Farms at Nyakatura, Ibanda
- xxv) Ruseke Sec Sch, Fort Portal
- xxvi) Framers Centre (U) Ltd in Lira
- xxvii) Kigezi Impute Development, Kanungu
- xxviii) Karonde Village in Nyakinoni, Kanungu
- xxix) Building Majestic Stone Processing Factory in Kalamba at Kiganda, Mubende.

e) On-going Feasibility Studies

- i) Lira including Gulu Service Territory
- ii) Central and Mid-western Service Territory
- iii) Mid-Western Territory including Bundibugyo
- iv) Kanungu and Mbarara Service Territory
- v) West Nile Service Territory
- vi) North East Service Territory
- vii) Feasibility Studies for Five Grid extensions under BADEA Grant Financing
- viii) Kalangala – Bukakata Main Grid Interconnection Project
- ix) Proposed grid-extensions for Islamic Development Bank in Karamoja sub region.

2.4.3 Energy for Rural Transformation (ERT) II Programme

a) Increasing access to modern energy

i) Grid Extension

The project scope is nine (9) grid extensions of medium voltage lines covering about 1000km. By end of December 2013, four lines covering approximately 400km had been completed and commissioned. An outline of the status is in the *Table* below.

Table 4: Status of ERT II Grid Line Extensions, December (2013)

Grid Line Project	Estimated MV length (km)	Status at December, 2013
Ibanda – Kazo – Rushere	143	These were completed and commissioned.
Soroti – Katakwi – Amuria	92	
Ayer – Kamdini – Bobi	100	
Opeta – Achokora	55	
Ntenjeru	70	All works completed, commissioning expected in June 2014.
Ruhiira Millennium Village	92	Over 90% of works complete. Completion and commissioning expected by June 2014.
Gulu – Acholibur	117	
Masindi – Waki – Buliisa	178	
Nkongge – Kashozi	178	

Source: ERT II - REA Quarterly Progress Reports.

A section of the Soroto-Katakwi-Amuria line through Usuk town in Soroti District is in Figure 13 below:



Figure 13: Soroti–Katakwi–Amuria grid line at Usuk , Soroti District.

On-grid household connections

The ERT II target is to connect 120,000 rural households by 2016. The connections sub-component of the ERT II evolved slowly due to multiple challenges such as: high connection costs and under capacity of utility companies. As of December 2013, 846 households had been connected to grid.

ii) Solar Energy Installations

Off-grid connections

The ERT II target is 20,000 solar household connections. During 2013, a total of 8,710 connections were made bringing the cumulative total to 13,277 connections in over 100 districts all over Uganda.

iii) Energy Efficiency

High industrial loads

During 2013, energy efficiency solutions for high industrial loads were installed and energy savings verified at three (3) sites bringing the number of beneficiaries to 14 industries namely: Luuka Plastics Kawempe-Kampala, Uganda Clays at Kamonkooli-Mbale, UgaChick Poultry Breeders, Sugar Corporation of Uganda Ltd, Uganda Tea Corporation Ltd, Tian Tang Group, Lake Bounty in Ntinda Industrial Area-Kampala, Rwenzori Commodities at Buzirasagama-Kabarole, Rwenzori Commodities at Hima-Kasese, Rwenzori Commodities at Kigumba, Rwenzori Commodities at Munoba Estates, Maganjo Grain Millers, Pan Afric Commodities and Real Foods – Tamuka Millers. The cumulative total power savings verified at these sites was about 5.4MVA.

Institutional and homes solar water heaters

A total of 272 solar water heaters were installed during the year 2013 across 53 districts bringing the total installations to 887¹ with an estimated peak-load-saving of 4MW. The main beneficiaries were homes and hotels.

b) Improved Social Services Delivery

- **Health Centres:** During the year 2013, solar energy packages were installed in 177 health centres. The cumulative total stands at 491 health centres located in 24 districts of Kibaale, Mityana, Mubende, Kabale, Luwero, Nakaseke, Kanungu, Rukungiri, Kitgum, Dokolo, Kaberamaido, Apac, Adjumani, Amuru, Nakapiripirit, Moroto, Buliisa, Gulu, Moyo, Soroti, Serere, Amolata, Pader, and Agago. The ERT II target of 676 health centres is expected to be achieved in the year 2014.

Figure 14 below captures installations at Kaladima HC III in Amuru District. The power is used for lighting, microscopy and running a solar-powered refrigerator to store immunization drugs.



Figure 14: Solar installations at Kaladima HC III, Amuru District (Ground-mounted solar panels at the Outpatient Department).

- **Post Primary Education Institutions (PPEIs):** Solar systems were installed and verified at 287 institutions by December 2013. The cumulative total is 485 completed installations, representing about 90% of the targeted 560 PPEIs. A typical installation at a PPEI is illustrated in Figure 15 below.

¹ The target of the ERT II Initiative was originally to install 760 solar water heaters but was revised during the project mid-term review to 887. As of December 2013, this activity had achieved 100% output.



Figure 15: Solar panels mounted on roofs of classroom blocks at Pope Paul S.S, Anaka – Gulu District.

- **Water Supply Points:** The ERT II target of 33 solar water pumping stations was completed in December 2013. The sites are: Lodonga, Kuru, Kubala, Omugo, Alangi, Lagoro, Paloga, Madi-Opei, Palabek-Ogili, Namokora, Kamod, Magoro, Toroma, Anaka, Parabong, Adwari, Okwang, Palenga, Purongo, Erussi, Kati, Midigo, Koboko, Itula, Obongi, Lefori, Kaabong, Karenga, Usuk, Mucwini, Orumo, Alebtong and Alero. Over 100,000 people in the beneficiary locations now have access to safe water. Figure 16 shows the Koboko Water Scheme, 1km from Koboko town.



Figure 16: (left): Solar Array at Koboko Water Station; (right) The scheme's 100,000m³ capacity reservoir tank

2.5 Renewable Energy Promotion

The Ministry conducted activities on improved cook stove dissemination, charcoal production, biogas and biolatrine technology promotion, biofuels development, solar energy and wind energy during the reporting period. These activities were aimed at promoting the development, adoption and sustainable utilization of renewable energy technologies.

2.5.1 Promotion of Renewable Energy and Energy Efficiency Programme (PREEEP)

The Ministry with support from the German Government through GIZ continued to implement various activities under PREEEP ranging from biomass, solar PV and rural electrification with the aim of improved access to modern energy services and the efficient use of energy by households and the private sector. These activities are described below:

i) Decentralisation of energy services

Under the GIZ Instrument Development Advisors, there was continued support to the districts to enhance their capacity (local governments) to plan and execute energy issues. Through a demand driven approach from the districts, the first series of meetings between the MEMD, REA, District Local Governments and GIZ was realized in December 2013. The outcome of these events is the development of Guidelines for mainstreaming energy issues in the district development plan. This is expected to be in place in 2014.

ii) Clean Cooking solutions under Uganda National Alliance on Clean Cooking (UNACC)

During 2013, UNACC was formed under the hospice of the Global Alliance on Clean Cooking (GACC). UNACC serves as a coordinating partner and key stakeholder to facilitate efforts of the various partners in the development of the Ugandan clean cooking sector. UNACC's **Vision** is "A Ugandan society where households and institutions use clean cooking alternatives for sustainable livelihood and for environmental protection". The **Mission** is "To lead the establishment of an enabling environment for equitable universal access to clean cooking solutions through enhancing coordination and synergy among all stakeholders in Uganda".

The Overall goal of UNACC is having 5 million households sustainably adopt clean and efficient clean cooking and fuels by 2020 (out of the 100 million envisaged by the Global Alliance) and attain 100% clean cooking for all licensable public and commercial institutions by 2020.

Membership: About 70 members comprising of government, policy makers, associations, businesses, promoters, researchers and individuals. Other interested institutions, companies or organisations are free to apply to join the Alliance.

The following was carried out under UNACC during 2013:

- An interim Steering Committee was formed comprising of MEMD (Chair), BEETA (Vice chair), GIZ (General secretary), PSFU (Treasurer), JEEP, WWF-Uganda, UGASTOVE, CIRCODU, GVEP, CREEC and SNV. The Alliance name was officially reserved. Preparation of Memorandum and Articles of Association was being completed. Preparations for official registration were at final stages.
- Official registration of UNACC as an affiliate of GACC – a UN-based organization spearheading the development and promotion of Clean Cooking solutions.
- Upon the invitation by the Global Alliance, a budget support request for the UNACC secretariat and for some few activities has been submitted to the Global Alliance.
- Establishment of 7 technical task forces in which more than 52 professionals representing 25 organizations including MEMD are participating.
- Initiation of the discussions on development of stove standards and as well initiated Uganda National Bureau of Standards (UNBS) to establish the technical team for the revision of the existing stove standards to accommodate current developments.
- Mobilisation of UNACC members to participate in the Energy Week 2013 and Biomass Dialogue 2013.

iii) Solar Photovoltaic Market Development

Under the unified brand of **“Access to Solar”**, GIZ/PREEEP continued to support a number of solar dealers to market their products to the public. The solar dealers made sales of 966 Solar Home Systems, 48 SMEs and 53 social institutions, and 9,489 pico PV systems in the year 2013.

iv) Electrification of social institutions (PRDP)

Energy needs assessment was done for 5 districts: Dokolo, Nebbi, Otuke, Yumbe and Zombo districts, covering a total 30 Social Institutions (SIs). All the 5 districts have signed their respective cooperation Memoranda of Understanding (MoU) with GIZ-PREEEP for the solar PV electrification.



Figure 17: Staff quarters at Belemeling Vocational Training Institute in Moyo district.

v) Grid Extension

GIZ-PREEEP approached several communities and sensitised them on the available funds to support rural electrification and grid densification. Communities were required to organize themselves and mobilize households which are willing to connect to the grid. For consideration and prioritization under this support, each transformer (50kVA) must have a minimum of 20 households that are able and capable of paying for the monthly bills as well as service connection.

During 2013, up to 25 households, 45 SMEs and 24 social institutions have been reached in 2013.

Plans are underway for new grid extension projects in Kole (Konapak II, Apii), Soroti (Amen II), Masaka (Kirinda Village), Palisa (Kakusi village), Kiboga (Lwamata), Lira (Barapwo).

Quotations for these new planned grid extension projects have been received and forwarded to REA. It is planned that these projects will be able to reach about 300 households, 4 social institutions and 7 SMEs.

vi) Hydropower

The hydro power scheme installed in Bwindi has been under test operation since April 2012. Capacity development to the community was carried out and 61 customer connections were realised including the hospital. The plant is located in the South Western part of Uganda intended to supply electricity to a nearby trading centre – Buhoma, various households, but most importantly to Bwindi Community Hospital which serves a population of almost 100,000 people within the region. In 2013, a nursing school was recently connected to the grid.

A 40kW hydropower scheme is being installed in Eastern region near Mt. Elgon in Bukwo district. It is served by the river Suam and is expected to serve a small community at Suam centre, immigration offices, and grinding mills. The mini-grid was under construction since 2012. In 2013, new connections were made in 89 households, 132 SMEs and 8 social institutions.

i) Energy Explorerz Campaign

Under the Energy Explorerz campaign, the ministry with support from GIZ is dedicated to increasing awareness and knowledge on energy issues, as well as its contribution to climate change. Since 2012 this campaign has been visiting school communities and organizing events in order to address these issues. The Energy Explorerz campaign is an innovative tool that has continued to prove effective in serving as a communications platform for the energy sector. It uses highly interactive exhibits that demonstrate and simulate different energy technologies to engage the public.

From its inception, it was designed to become independent in sustaining itself through raising its own funds from partners. Since September 2013, an independent, non-profit legal entity in the names of Energy Explorerz International Ltd was incorporated to independently run its affairs. A Memorandum of Understanding detailing its operations was signed between the Ministry of Energy and Mineral Development and GIZ on the one part and Energy Explorerz International Ltd on the other part.

Table 5: Institutions and Events conducted by the Energy Explorerz in 2013

Coverage	People reached
School/Institutions reached	
Kaliro National Teachers College, Kaliro	1,200
Sacred Heart SS, Gulu	1,300
Moroto High School, Moroto	1,400
Rwenzori High School, Kasese	1,500
Okufura Secondary Schools, Arua	500
Events conducted	
Road shows in Lira in support of Energy Week	3,000
Road shows in Gulu in support of Energy Week	7,000
Energy Week at National Theatre	2,000
Teso College Aloet, Soroti	1,200
St Elisabeth Girls School, Serere	1,000
Sebei College, Kapchorwa	1,100
Nabumali High School, Mbale	1,400
Bulucheke Secondary School, Bududa	1,300
Rural Electrification Agency Solar Fair, Mbale	5,000
International Women Organisation Christmas Market, Kampala	1,000
Innovation Convention (Kampala International School)	500
CSR Awards Ceremony, Kampala Serena Hotel	200
Total number of people reached	30,600

ii) Private sector Cooperation

Under the Private sector Cooperation unit in GIZ, a PPP project was initiated in 2012 with Kirchner Solar group. Kirchner solar has developed a business solution that addresses the needs of the telecom industry and combines them with the needs of rural populations in off-grid areas. Solar power is provided to convert mobile towers power supply from their previous Diesel generator power source. Additional capacities will be provided to power communities in proximity to the site. Electricity is sold via a prepaid meter system, which means that customers pay, via mobile money, only as many kilowatt hours as they can afford. Kirchner Solar will act as owner and operator of the solar plant.

A rural electrification pilot project was launched in Kabunyata in Luwero by Hon. Dirk Niebel (German Minister of Economic Cooperation and Development). PREEEP partnered with Airtel Uganda to electrify their off-grid mobile masts using solar PV supplied by Kirchner Solar Group, a German founded firm. As of now, the pilot village is connected to one mobile tower and 50 customers of which 10 developed businesses like welding shops, restaurants, bars, artisanry etc. For the 2014 rollout, it is projected that solar electricity will be able to power 100 masts countrywide of which 40 locations are eligible to feed into a nearby mini-grid serving communities as well as increasing business developments.



Figure 18: Hon. Dirk Niebel (German Minister of Economic Cooperation and Development) and Hon. D'Ujanga Simon (Minister of State for Energy) and other delegates launching of the pilot project in Kabunyata.

iii) Climate Change activities

- a. Advice and capacity building for political stakeholders on climate change mitigation and Clean Development Mechanism (CDM). Activities accomplished included the following:

- Supported the Climate Change Unit (CCU) of the Ministry of Water and Environment to organize the Uganda-South Africa Designated National Authority knowledge exchange workshop. This aimed at sharing regional experiences regarding the duties of DNAs, Clean Development Mechanism (CDM) processes and international challenges in carrying out climate-related activities. It was organized with the aim of enhancing CDM activities in Uganda and promoting shared learning.
- A Memorandum of Understanding was signed with the Parliamentary Forum on Climate Change (PFCC). The cooperation is aimed at contributing towards enhancing the institutional capacity of PFCC to support climate change mitigation activities in the country. This involves capacity building and awareness raising for Members of Parliament (MPs) on climate change mitigation strategies, including international climate regimes, carbon market mechanisms, CDM and clean technology projects that have the potential to benefit from carbon financing.
- Parliamentary Climate Change expo was organized in cooperation with the Parliamentary Forum on Climate Change (PFCC). The expo was attended by high level delegates from the government who included the ministers of Energy and Mineral Development and the State Minister of Water and Environment and the Rt. Honorable Speaker of Parliament. The event involved exhibitions of best practices on renewable energy and energy efficient technologies and show cased projects that have been developed/have the potential to be developed under the Clean Development Mechanism. More than ten (10) companies dealing in clean/renewable energy technologies including the Ministry of Energy and Mineral Development Energy Explorerz campaign showcased their products and activities.



Fig. 19: The speaker of Parliament – Rt. Hon. Rebecca Kadaga and MPs at the Parliament Climate Expo, 2013

- Two Members of Parliament and the coordinator of the PFCC were facilitated to attend a parliamentary forum, co-organized by the Climate Parliament and the United Nations Development Programme. This forum brought legislators from less-industrialized countries together with pioneering practitioners working in the fields of renewable energy mini-grids, solar home systems, and other means of extending the benefits of electrification to broader demographic areas. The forum explored options on how parliaments can help to catalyze mini-grid projects through legislative action. Technical, financial, design and regulatory reforms for the effective operation of mini grids were discussed.
- b. Support in development of standardized baselines as a stepping stone for further Programmes of Activities (PoA):
- A stakeholder consultation meeting was held with the Ministry of Energy and the Climate Change Unit of the Ministry of Water and Environment to discuss proposed topics for standardized baselines. It was agreed that a standardized baseline on Institutional cook stoves could be developed.
 - A consultancy firm, South Pole, was hired to develop the standardized baselines for institutional cook stoves. The development of the standardized baseline will provide crucial support in the implementation of a Programme of Activities (PoA) and the proposed Nationally Appropriate Mitigation Action (NAMA) on improved cook stoves.
- c. Technical support for project identification and development through cooperation with established private sector organizations:
- Two Memoranda of Understanding were signed with the Uganda Investment Authority (UIA) and the Uganda Energy Credit Capitalization company (UECCC) respectively. The cooperation with these institutions aims to increase the involvement of the private sector in the development of CDM projects and to establish UIA and UECCC central contact points for CDM project developers in Uganda – particularly for project ideas that are initially too small or too risky and that involve new technologies.
 - Two CDM technical advisors were hired by UIA and UECCC through a Local Subsidy Contract from November 2013 for a period of two years to support the identification and development of CDM projects in the respective institutions. On job training for the technical advisors has also been done.

- d. Regional expansion of activities to develop national and regional market-based mechanisms:

A capacity building workshop was held to support the Uganda Municipal waste compost programme of Activities (PoA) project. This workshop was implemented in collaboration with the Belgian Technical Cooperation, and the UNFCC secretariat through the CDM Regional Collaboration Centre. Participants included the Uganda National Environment Management Authority (NEMA) PoA level, the CPAs at municipal level, and the Climate Change Unit of the Ministry of Water and Environment. The workshop was also extended to external participants from the region where a total of 11 participants from 6 countries including Malawi, Tanzania, Mozambique, Rwanda, Ethiopia and Kenya participated. The workshop gave participants a broad-based and up to date knowledge of the CDM and rules and regulations and also the opportunity to appreciate the practical application project cycle but with greater focus on the PoA concepts and operational-level project monitoring and compliance with the CER issuance requirements.

2.5.2 Promotion of Improved Household and Institutional stoves

During the year 2013, a total of 28,043 households were reached with improved cook stoves, 39 social institutions with improved institutional stoves and 35 SMEs with improved institutional stoves and baking ovens (see Table below).

Table 6: Dissemination of improved cooking technologies in 2013

Sector	No. Achieved in 2010	No. Achieved in 2011	No. Achieved in 2012	No. Achieved in 2013	Cumulative Total
Households	126,324	44,766	24,608	28,043	223,741
Social Institutions	-	47	26	39	112
SMEs	29	30	30	35	124

In addition, mobilisation and technical trainings for Energy Service Providers (ESPs) for efficient cook stove dissemination were conducted in the Lango and West Nile sub regions.

The trainings took place in 11 districts in the two regions as shown in Table below. This followed the roll-out of the market based approach of efficient cooking stove dissemination being implemented by PREEEP. These ESPs were pre-selected using carefully developed criteria

with major aspects on business orientation, land and space ownership, marketing skills, literacy and ability to personal capacity enhancement for the desired ESPs. The District Local Governments especially the Sub county technical staff played a pivotal role in the selections with guidance from the Sub county political leaders.

In these trainings there was active participation of the District Local Governments through the Office of the District Environment/Natural resources Officer with Supervision from the CAO, LC 5 Chairmen and the RDCs offices.

Table 7: Number of Energy Service Providers trained per region

West Nile sub region		Lango sub region	
Adjumani	29	Amolatar	34
Arua	54	Dokolo	24
Koboko	23	Kaberamaido	34
Maracha	14	Oyam	32
Nebbi	49	Soroti	38
Zombo	30		
Total	199		162

Source: GIZ-PREEEP Annual Report, 2013.

2.5.3 Nationally Appropriate Mitigation Actions (NAMAs)

The Ministry in conjunction with the Climate Change Unit (CCU) was involved in the formulation and development of two NAMAs: one stationary and the second for mobile Greenhouse Gas (GHG) emitters. These NAMAs are meant to address/reduce the effects of GHG emissions. The first NAMA will involve promotion of institutional stoves for educational institutions where MEMD will be the lead agency working with Ministry of Education and local governments to install institutional stoves on a loan basis. The NAMA will address funding barriers and knowledge transfer among stakeholders.

2.5.4 Biomass Dialogue, 2013

The Biomass Dialogue, 2013 was held at Protea Hotel on 27th September, 2013 during the Energy Week 2013 and organized under the theme “*Modern Biomass for National development*” with support from WWF. The event was presided over by the Minister of State for Mineral Development – Hon. Peter Lokeris. The participants were from Government, research, academia, Community Based Organisations (CBOs), NGOs, environmentalists, industrialists and private entrepreneurs all of whom are users or promoters of biomass energy technologies.

The aim was to discuss the latest interventions in the sub-sector in terms of policy and regulation and technology. Presentations were made on BEST Formulation Process; Rural Electrification through Biomass Gasification; Uganda National Alliance on Clean Cooking (UNACC); Alternative fuels usage at Hima Cement; Kakira Sugar Cogeneration project; and Biogas Development.

A panel discussion was also held to allow the participants make comments and ask questions about the various interventions in the biomass subsector. In summary, the following issues were agreed upon as a way forward to enhance the sustainable production and utilisation of biomass energy to foster the development of the subsector:

- i) There is need for comprehensive awareness campaigns to effectively disseminate information on the different biomass energy technologies and also develop a communication strategy.
- ii) The Dialogue should include representatives from Ministry of Health and Ministry of Education and Sports so as to ensure buy-in by those sectors and a multi-sectoral cooperation in implementing biomass energy activities.
- iii) There is need for training of local people in biomass energy aspects.
- iv) Government should provide an enabling environment through policy to facilitate private sector's role in sustainable development.
- v) There is need for demonstrations to be set up for people to learn and appreciate the significance of modern biomass energy technologies in socio-economic transformation.
- vi) There is need to integrate bio-energy issues in promotion activities of health and education sectors.
- vii) Develop a differentiated taxation system where non-green and green charcoal production is taxed differently to discourage inefficient production and promote briquetting.
- viii) There is need to initiate carbon financing mechanisms for bioenergy technologies.

2.5.5 Renewable Energy Exhibition

The Ministry of Energy and Mineral Development in partnership with WWF held a renewable energy exhibition at the Wakiso Town Council Grounds with support from UNDP under the *Strengthening Sustainable Environment, Natural Resource Management, Climate Change Adaptation and Mitigation in Uganda* Project on 19th March, 2013. The exhibition was organised under the theme of *"Renewable Energy for Livelihood Improvement"* and was presided over by Mr. James Baanabe who represented the State Minister for Energy. In addition, Delegates from UNDP, WWF, Local Government Officials and the general public participated in this project.

The aim of the exhibition was to create awareness among communities and promote the adoption of cheaper and modern renewable energy technologies and inventions. The major

outcome of this project is to increase the adoption of RETs which will contribute to minimisation of climate change impacts.

The event attracted 25 private companies and 5 Community Based Organisations (CBOs) dealing in energy saving stoves, interlocking bricks, briquetting, biogas technology and solar PV technology.



Figure 20: The Ag Commissioner Energy Resources department Mr. James Baanabe visiting the stalls of Kavumba Women's Guild and other Exhibitors.



Figure 21: Improved stove in which volcanic ash absorbs heat used for cooking and uses solar energy to power the blower.

The event also celebrated the Earth Hour Campaign championed by WWF to plant the Earth Hour Forest in which the key guests from MEMD, UNDP and Local Government were able to

plant ten (10) mango trees to contribute to environment conservation in line with mitigating climate change (see Figure 22 below).



Figure 22: Guest of Honour (Left) and a UNDP Delegate (Right) planting Earth trees.

The day ended with the handover of briquette making equipment by the Guest of Honour to three (3) CBOs based in Wakiso district to boost their efforts in making briquettes namely: Kitaasa Initiatives, Kyebando Energy and Environment Project (KEEP) and Kavumba Women’s Guild (see fig. 23). The details of the equipment received by the CBOs are summarised in the Table below:

Table 8: Briquette Equipment with Community Based Organisations (CBOs)

#	Organization	Machinery Received
1.	Kitaasa Initiative	<ul style="list-style-type: none"> • A honey comb briquetting machine • A stick briquette machine • A sieving mesh
2.	Kyebando Energy and Environment Project (KEEP)	<ul style="list-style-type: none"> • A motorized hammer mill • A stick briquette machine
3.	Kavumba Women’s Guild	<ul style="list-style-type: none"> • A motorized hammer mill • A honey comb briquetting machine • A carbonizer • A sieving mesh



Figure 23: Handover ceremony for briquette Equipment to CBOs.

2.5.6 Uganda Domestic Biogas Programme (UDBP)

During 2013, the programme completed its final (fifth) year of project operation since commencement in 2009 with financial support from The Netherlands Development Organisation (SNV). Using a multi stakeholder approach including Government, 19 Biogas Construction Enterprises (BCEs), 10 Implementing Partners, Financial Institutions, CBOs and NGOs, etc.; a total of 2085 household biogas units were constructed during 2013 (Figure below) and 28 new biogas masons were trained adding up to 170 active masons who constructed in the year.

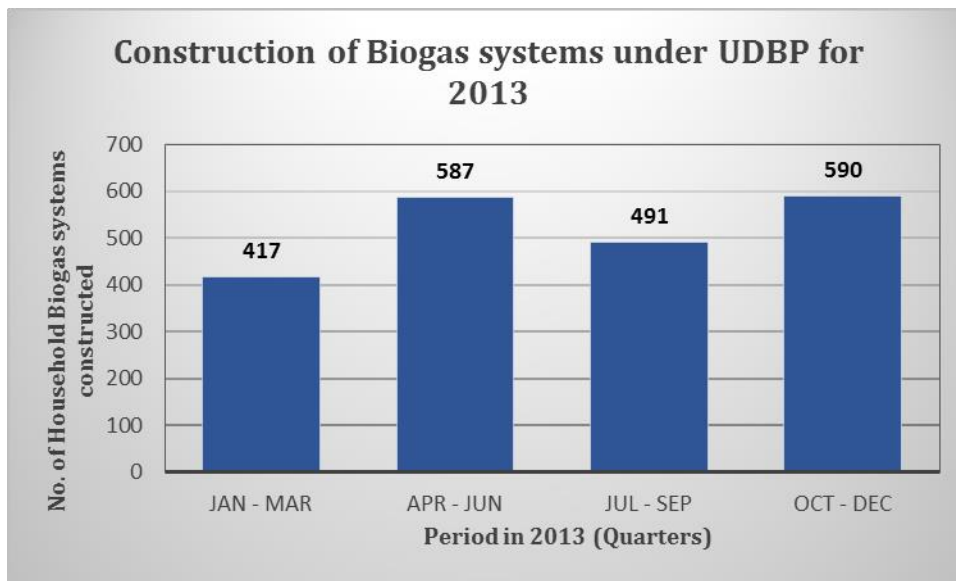


Figure 24: Construction of Biogas systems under UDBP in 2013.

The program disseminated the technology through numerous channels including use of promoters, radio talk shows, direct and targeted marketing, community sensitization meetings, exhibitions and coffee shows.

The Table below illustrates a comparison between the planned number of biogas systems constructed viz-a-viz the planned production levels.

Table 9: Comparison of Planned and Actual Production Trends under UDBP

Year	2009	2010	2011	2012	2013	Total
Planned production in PID	43	1000	2650	3700	4607	12000
Revised Annual Plan	120	1000	1200	2730	2901	7951
Actual Production	43	583	1276	1181	2085	5168

An analysis of the trends of biogas system construction under the UDBP shows a growing trend in the number of biogas units constructed over the project implementation period of 5 years (2009 – 2013). See Figure below.

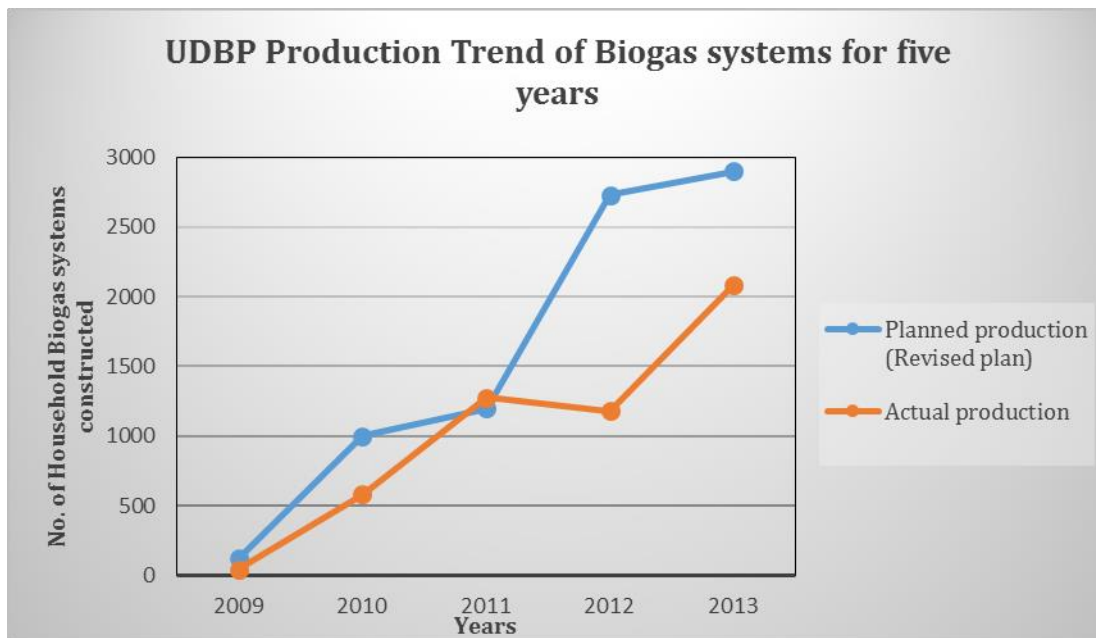


Figure 25: UDBP Production Trend of Biogas systems for five years.

The number of BCEs, IPs and their total contribution to the achievement has been gradually and reliably growing. Bio-slurry use, extension services, Research, and Development are developing well in Uganda and contributed significantly to bio-digester uptake. Subside was one of the promotion tools in the dissemination of the technology and its reduction and later complete removal, affected production.

Key challenges faced in project implementation

Despite the milestones, the program faced a number of challenges which hindered the achievement of the intended targets and these included:

- i) High upfront costs for installing a digester inspite of the subsidy;
- ii) Poor quality masonry work thus affecting promotion and marketing;
- iii) Limited access to affordable credit coupled with discouraging interest rates; and
- iv) Biogas not being among the commonly adapted renewable energy options in Uganda.

2.5.7 Energy and Environment Partnership (EEP)

Following the first round of the call for proposals for projects in the fields of Renewable Energy and Energy Efficiency made in September, 2012, a two-day training in Project Proposal Writing was held. A total of 20 private companies participated in this training which took place from 10th – 11th October, 2013 at Golf Course Hotel, Kampala.

The training was organized with collaboration with the Ministry of East African Affairs and the EEP Secretariat and was aimed at enabling companies acquire skills in developing proposals that meet the quality and standard required by donors.

The second call for proposals for projects in the fields of Renewable Energy and Energy Efficiency was made in November, 2013. The eligible applicants included private companies and NGOs dealing in renewable energy and energy efficiency.

2.5.8 East African Centre for Renewable Energy and Energy Efficiency (EACREEE)

The East African Community (EAC) Council of Ministers for Energy in partnership with sector representatives from the EAC Partner States held discussions and meetings on the establishment of a regional Centre for Renewable Energy and Energy Efficiency known as EACREEE. The Centre will serve as a one-stop centre with regard to Research, Development and innovation in the fields of renewable energy and energy efficiency.

The ToRs to carry out a capacity assessment in the East African Community (EAC) Partner States were developed so as to support the implementation of the Strategy on scaling up access to modern energy in the region.

In a meeting organized by the EAC secretariat, ToRs for the Hosting Country were developed and submitted for approval by the Sectoral Council by end of October, 2013. Discussions regarding approval of the establishment of EACREEE and the Host Country are expected to be concluded in 2014.

2.5.9 Modern Energy from Biomass for Rural Development Project

Using funds under this project, the Ministry conducted the following activities aimed at promoting widespread adoption and use of modern biomass energy technologies among communities and institutions.

2.5.9.1 Refurbishment of Nyabyeya Gasifier System

During the year, refurbishment of the gasifier system was completed. The Contractor M/s Savannah finished the civil and mechanical works. During the test runs on the 65kW unit, carbon monoxide leakage was detected by the installed sensors. Therefore, the operation of the system was put to a halt until a thorough technical evaluation of the system is conducted to curb the carbon monoxide leakages.

2.5.9.2 Construction of Biolatrine demonstration

During 2013, the Ministry commenced the promotion of the biolatrine technology in schools for biogas production. The Ministry held a training workshop for biogas artisans and set up a biolatrine demonstration system. The construction of the biolatrine begun in September, 2013 at Uganda Martyrs S.S in Kayunga; with a training of biogas artisans in design, construction, operation and maintenance of biolatrine systems.

A total of 12 artisans participated in the training from the districts of Buikwe, Busia, Jinja, Kampala, Kayunga, Mbale, Mukono and Soroti (see Appendix 5). The training involved classroom lectures, group discussions and practical work as shown in figure 26 below.



Figure 26: Artisans during classroom lectures

The establishment of the biolatrine demonstration involved excavation and construction of the toilet stances, the mixing chamber, the 30m³ digester, two (2) expansion chambers and the associated piping.



Figure 27: Artisans during Practical construction of the Biogas Digesters

By December, 2013, the construction of the 30m³ and the piping had already been done and the initial feeding of the system had been carried out. However, the cowdung was still insufficient for gas production.



Figure 28: Biolatrline system showing expansion chamber (front view)

2.5.9.3 Biogas promotion in Kampala Capital City

The Ministry developed a concept to promote the biogas technology for animal waste management in collaboration with KCCA.

A draft MoU was developed to establish a formal framework of cooperation between the Ministry and KCCA before project activities can commence and the MoU was submitted to the Solicitor General for review and approval. The MoU was cleared by the Solicitor General and site identification, selection and actual setting up of demonstration sites is expected to be carried out in 2014.

2.5.9.4 Assessment of performance of Biogas and Biolatrline systems

The Ministry undertook a technical assessment for household biogas systems installed under the Uganda Domestic Biogas Program (UDBP) and biolatrline systems installed in Masaka and Mubende districts to determine their performance as well as identify the artisans that constructed the individual systems.

A total of 17 artisans were identified, 5 in Masaka district and 12 artisans in Mubende district.

i) Inspection of Household biogas systems

In Masaka, 10 biogas systems were inspected out of which nine (9) systems were functional providing gas for cooking and lighting whereas one (1) system was not functioning.



Figure 29: Biogas system owned by Mr. Emmanuel Sajjabbi (Left) and a lit biogas stove in Sajjabbi's kitchen (Right) in Kitwe B in Masaka district.

In Mubende district, 14 biogas systems were assessed 6 of which were functioning, 4 not completed and 4 not functioning at all. The main reason why some of the inspected systems were not functional was the cracking of the digester and expansion chamber whereas failure to complete some systems was due to lack of funds by the beneficiary.

ii) Inspection of Biolatrines systems in schools

The Ministry assessed two (2) biolatrines systems installed in Masaka and Mubende districts respectively namely: at Bulu Parents SSS (30m³ capacity and has eight stances) and at St. Zoe Primary School (30m³). The first system had challenges of underfeeding hence a low gas yield whereas the second system had been abandoned due to poor hygienic conditions.

Major challenges faced: Damaged biogas appliances and accessories such as switches, lamp holders and lamps; high upfront costs; limited end user training on operation and maintenance; and negative attitude towards use of biolatrines.

2.5.9.5 Rural electrification using Biomass gasification

During the reporting period, Pamoja Cleantech AB set up a demonstration of small scale community gasification system at Tiribogo parish in Muduuma approximately 2km off Mityana road with the aim of electrifying off-grid communities and providing electricity for productive purposes among SMEs like agro processing, phone charging, battery charging, salon business, etc.

This decentralized gasification system has the capacity of 40kW and uses maize cobs, rice husks and ground nut shells as feedstock (200kg) to supply electricity to 50 homes for 6 hours daily. The actual power utilised is 32kW.



Figure 30: The Biomass gasification pilot plant in Tiribogo village, Tiribogo Muduuma parish – Mpigi district.

In 2013, a memorandum of understanding with the Pamoja Cleantech AB was developed and submitted to the Solicitor General for review and approval. In addition, the Ministry in partnership with Pamoja Cleantech AB carried out a practical training of 18 gasifier technicians which ended in October, 2013. Three (3) technicians from Nyabyeya Forestry College in Masindi were among those trained.



Figure 31: Trained operators of the gasification plant

2.5.9.6 Assessment of Biofuel Potential in Kayunga

The Ministry undertook field survey in Kayunga to assess the potential for biofuels feedstock production focusing on efforts by Bio Green Investments East Africa Limited (BGIEA Ltd) – a Renewable Energy Company which is located 70km from Kampala, off Bbaale road near Hotel Katikomu at the Kayunga sub county Headquarters. The objectives of the field assessment were:

- i) To identify the initiatives carried out by BGIEA Ltd to promote biofuel production in Kayunga district.
- ii) To assess the on-farm performance of sweet sorghum among selected farmers of BGIEA Ltd in Kayunga district.
- iii) To identify the benefits derived and challenges faced in growing sweet sorghum.
- iv) To identify the challenges faced by BGIEA Ltd in implementing and promoting biofuel production activities.

Key Project issues

- i) The company was formed in 2010 and is involved in agriculture (mainly sweet sorghum growing) with the aim of using the sweet sorghum stems as a raw material for ethanol production.
- ii) **Project plans:** BGIEA Ltd had plans to establish a sweet sorghum stem processing plant able to produce 20 million litres of ethanol per year and 10MW of electricity. The plant initially was expected to be operational in 2015, however with the lack of sovereignty guarantee, it is expected to be operational in 2018.
- iii) **Prefeasibility study:** BGIEA Ltd carried out a prefeasibility study between December, 2010 and February 2011 after which it was recommended that the project was implementable.
- iv) **Project location:** The plant will be set up at a site in Bukolooto (2km along Jinja road from Kayunga town) because there is an electricity substation which would make power evacuation cheap.
- v) **Feedstock selection:** The company in liaison with NARO, National Arid Resources Institute (NARI) in Serere and International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) established a seed trial centre in Kayunga comprising of 58 sweet sorghum varieties after which 2 varieties were selected for growing. For the sugars in the stems to mature, they are left in the field for 21 days after harvesting the grains.
- vi) **Feedstock supply requirements:** The plant will require 500 metric tonnes of sweet sorghum stalks per day to sustain the annual ethanol production capacity of 20 million litres which implies a daily ethanol production of 55,556 litres. One (1) ha of sweet sorghum yields 55 metric tonnes of stems.
- vii) **Production target:** The Company targets to have a minimum of 4000 ha to grow sweet sorghum supplying (4000x55) metric tonnes of stems to the processing plant.

On-farm site visits for sweet sorghum farmers

Three (3) farmers were visited to assess the farmers' views on sweet sorghum growing as well as assess the performance of sweet sorghum, the benefits they derive and the challenges they face.



Figure 32: Ministry team and BGIEA Ltd team at Mr. Mohammed Binayomba's farm in Nakaseeta village, Kayunga district.

Challenges faced in sweet sorghum growing

From the on-farm site visits, the following were the key challenges faced by sweet sorghum growers:

- i) Birds fed on the grains as the sorghum plants begun seeding.
- ii) There was limited availability of the bird repellent pesticide.
- iii) The seeds were expensive to purchase for sowing.
- iv) In some cases there were pest attacks at the node of the seedlings weakening the stems.
- v) Lack of sufficient awareness on sweet sorghum growing resulting in fewer farmers engaging in its cultivation.

Recommendations

- i) There is need for more sensitization on growing sweet sorghum and its benefits with regard to biofuels production.
- ii) BGIEA Ltd must continue mobilizing more farmers for sweet sorghum growing to boost the supply for the grains and stalks and to out-compete sugar cane growing.
- iii) There is need for closer collaboration with the Ministry to promote biofuels activities.

2.5.10 Wind and Solar Energy Activities

2.5.10.1 Assessment of wind potential in Karamoja

The Ministry in collaboration with the Department of Meteorology initiated a study on the wind regimes in Karamoja region to evaluate the wind speeds and ascertain the potential for electricity generation using wind turbines. A reconnaissance study was conducted in September, 2013 in Karamoja sub region aimed at selecting suitable sites for the installation of the wind measuring equipment. Two (2) sites were selected at Napak and Kotido district headquarters for the installation of wind masts.



Figure 33: Selected sites at Napak and Kotido District Headquarters respectively.

Draft MoUs between the Ministry and the District Local Governments were developed to establish a formal framework of cooperation and were approved by the Solicitor General in December, 2013. The procurement of the wind measuring equipment was initiated; however, the two consecutive adverts to solicit for bids did not yield anything due to the non-responsive bids received from the bidders.

2.5.10.2 Solar Water Heating Systems at Mbale Regional Referral Hospital

The Ministry visited Mbale main Hospital and found out that there are three (3) large nonfunctional solar water heating systems at the laundry, Masaba wing and at the operation theatre. The solar water heating systems were estimated to have a heating capacity of about 15,000 liters of hot water per day to supply the whole hospital. The Ministry assessed the systems and established their status and possibility of their rehabilitation with an objective to have sufficient supply of hot water to the entire hospital using the solar water heaters.

Table 10: Status of the systems at the Laundry and operating theatre

Systems assessed	System Status
The Laundry	<ul style="list-style-type: none"> • The solar collectors were glazed with dirt • The water tanks had accumulated fungi
The operating theatre	<ul style="list-style-type: none"> • Collectors were glazed with dirt • Two (2) broken panel glasses • Controller was non-functional • Pumps were non-functional • Leakages at the joints of the panels • A Leakage at the hot water delivery pipe • No connection between the cold and hot water tanks

The system at the laundry was restored to normal working condition and is able to produce 1,200 litres of hot water per day. The second system at the operating theatre was studied and the requirements for its repair were established.



Figure 34: Officials from the Ministry while trouble shooting at the Solar system at the Laundry in Mbale Hospital.

2.5.10.3 Renewable Energy and Energy Efficiency Directory (REEED)

During 2013, the Ministry commenced the development of the REEED with the aim of consolidating the profiles and contacts of companies dealing in Renewable Energy and Energy Efficiency products and services. Companies and CBOs were contacted by the Ministry to provide briefs (profiles) about their respective companies, details on what renewable energy products and services they deal in as well as their contact details for inclusion into the Directory.

The Directory will provide a standard reference for the public and other stakeholders in the renewable energy subsector to know the companies dealing in different products and services.

The first Draft of the Directory was developed and circulated to officers for review. By the end of the reporting period, a second Draft was being compiled capturing comments raised by members.

2.6 Energy Efficiency Programmes

The Ministry continued to implement Energy Efficiency programmes with the objective of ensuring efficient utilization of energy resources in all the sectors. The activities that were conducted were in line with creating awareness, training and other energy efficiency related projects in industry, commercial buildings, SMEs and Government institutions. The following sections present the highlights of the activities conducted.

2.6.1 Energy Week 2013

Energy Week 2013 was held from 24th to 28th September 2013. The major activities included: Energy Exhibition, Power Loss Reduction Forum, Energy Management workshop and certificate award ceremony for participants who completed training in energy auditing, Street Pole advertising, Media campaign and management training, Biomass Dialogue 2013 and Energy Quiz for primary schools.

a) Media Briefing

The media briefing on the Energy week was held on Thursday 19th September 2013. It was officiated on behalf of the Permanent Secretary-MEMD by Eng. Paul Mubiru (Director of Energy and Mineral Development).



Figure 35: Eng. Paul Mubiru giving a brief during the press conference held prior to the Energy Week.

The Media houses which were represented at the press conference included: The New Vision, Daily Monitor, Radio Simba, Radio One, K FM, Capital FM, Radio West, UBC Radio, Dembe FM, Star FM, Beat FM, WBS TV, UBC TV, Record TV, NTV and Top TV. In addition, there were Interviews and newspaper supplements were also prepared to inform the general public more on the Energy Week 2013.

b) Energy Exhibition

The 9th Energy Week exhibition was held at the National Theatre parking yard from 24th to 28th September, 2013. It was officially opened by the Minister of State for Energy, Hon. Simon D’Ujanga who informed all present about the significance of Energy Week and planned activities therein.

The Exhibition was aimed at the following:

- i) Provision of a platform for Companies, Institutions and Agencies in the Energy sector to promote their activities, products and services.
- ii) Creation of awareness in the general public on the benefits associated with the use of energy efficient and renewable energy technologies, hence making it easier for them to make informed decisions while purchasing equipment.
- iii) Support the private sector in promoting and marketing energy efficient and renewable energy technologies, such as compact fluorescent lamps (CFLs), electronic ballasts, efficient motors, improved wood and charcoal cooking stoves, electric cookers, solar water heaters, solar powered devices, and other domestic appliances.



Figure 36: Some of the products displayed during the Energy Exhibition.

The major highlights of the exhibition included the following:

- i) 57 companies participated in the exhibition.
- ii) The exhibition created awareness on the importance of energy efficiency and use of renewable energy technologies.

- iii) It was recommended that more exhibitions be held in other parts of the country to create awareness.

c) Power Loss Reduction Forum

The Power Loss Reduction Forum 2013 was held on 25th September 2013 at Sheraton Hotel Kampala. The Forum theme was *'Enhancing Sector Growth through Reduction of Distribution and Transmission Losses'*. This Forum was held as part of the efforts from all government institutions and utilities to ensure losses accrued from the distribution network are reduced with the aim of achieving a financially sound energy sector with affordable tariffs.

The Chief Guest of the Forum was Hon. Tarsis Kabwegyere, Minister of General Duties, from the Office of the Prime Minister. The conveners were Hon. Eng. Simon D'Ujanga, Minister of State for Energy and Mr. James Baanabe, Ag. Commissioner ERD. The participants included the following:

- i) High electricity consumers (industrialists and hotels);
- ii) Members of the Natural Resources Committee of Parliament;
- iii) Resident District Commissioners and CAOs of selected districts;
- iv) Local Council V Chairpersons and Mayors from areas with major electricity load centers;
- v) Development Partners;
- vi) Government Officials from ERA, UMEME, UEDCL, UETCL, MEMD, REA and other institutions in the energy sector etc; and
- vii) Electricity Consumer Association.

Presentations on the subject were made by representatives from ERA, MEMD, UMEME, Police, Judiciary, UETCL and Mr. Hindpal. S. Jabbal, Energy Advisor on Power loss reduction.

Recommendations made

- i) Information on losses reduction should be disseminated through the media.
- ii) There should be sensitization of power consumers on how to manage their energy usage.
- iii) The revision of the Electricity Act, 1999 should provide for deterrent penalties for power thieves.

d) Energy Quiz in Primary schools

The quiz was intended to create awareness among pupils in schools on the current energy issues and technologies. The participating schools included: Bat Valley Primary School,

Makerere University Primary School and St. Martin Primary School – Mulago. The outcomes of the program were:

- i) Information brochures distributed to enable awareness creation on efficient utilization of energy;
- ii) Energy saving technologies were disseminated, including solar lanterns; and
- iii) Pupils trained on their roles in creating awareness on saving energy in their homes e.g. through their involvement and talking to the people in their homes.



Figure 37: MEMD Officers demonstrating during the awareness activities in schools.

f) Energy Efficiency Materials Developed

Materials for dissemination to create awareness in efficient utilization of energy have been developed. The materials included Calendars with energy efficiency messages, improved charcoal stoves brochures, energy efficiency brochures, electricity tribunal brochures and brochures on LPG.

2.6.2 Road Shows and other exhibitions

a) The Road Shows

These programmes for the road shows were focused on dissemination of information on energy efficient technologies and promotion of renewable energy technologies. They were conducted in Kampala, Entebbe, Gulu and Lira. Companies which participated are given below.

Table 11: The Road show participating Companies in the different areas

Area	Date	Participating companies
Lira District	16 th to 18 th September, 2013	-International Life Fund (Okello Kuchi stoves) -UGASTOVE (Lira branch) -Brazafric
Gulu District	19 th to 21 nd September 2013	-UGASTOVE (Gulu branch) -Brazafric
Kampala	5-7 th December2013	-UGASTOVE
Entebbe	20-21 st December2013	-Green BioEnergy -Wana Energy Solutions

The roadshows contributed to an increased dissemination of improved efficient cook stoves, modern biomass fuels such as briquettes, LPG clean cooking gas and instant water heaters.

Table 12: Number of Units of different technologies sold during Road shows

Product	Number sold
Improved biomass cook stoves	>80
Briquettes	>120 kg
Instant water heaters	~50 units
Gas cookers	> 10 units

b) Exhibition in Ibanda

The Ministry was invited to participate in an agricultural show organized by Ibanda District Farmers Association (IBADIFA) to show case the renewable energy and energy efficiency technologies and to create awareness on how the technologies can be used for sustainable household income through knowledge transfer. The show took place from 10th – 18th August, 2013 at Saza Play Grounds, Ibanda Town Council in Ibanda District with a theme of “promoting improved farming technologies and value additions for sustainable household incomes and national food security”. In order to participate, the Ministry invited some of the companies dealing in solar and biomass products to participate in the exhibition.



Figure 38: Some of the energy products exhibited in Ibanda - Solar chargers (Left) and Rocket Lorena stove and baking oven (Right).

2.6.3 Trainings Conducted

a) Training of Energy Auditors and Energy Managers

Findings from the Energy Auditing survey conducted in 2012 among high energy consuming industries indicated the following concerns:

- Lack of experienced experts to conduct high quality audits; and
- Inability of staff to plan and implement energy management programs.

As a result, many industries expressed interest in having their staff trained in energy auditing and management. Therefore, the Ministry with support from GIZ conducted an Energy Auditing and Management Training that started on 20th May, 2013. The key objectives of the proposed training were:

- i) To enhance the capacity of Energy Managers and Consulting Engineers/Firms to undertake high-quality energy audits in industries, institutions and commercial buildings.
- ii) To sensitize staff in charge of energy in industry and high-energy consumption enterprises on measures to conserve energy through adoption of energy management techniques.

The training was designed for Consulting Engineers/firms, Energy Managers in industries and institutions of higher learning and it included:

- i) Theoretical training modules in fundamentals of energy auditing and management (3 days).
- ii) Hands-on training in energy auditing in selected industries (3 days).
- iii) Group energy audit surveys as part of the training (2 weeks).

The training was finalized in June, 2013 with energy audits being conducted in six (6) companies. Presentation of Audit reports for Maganjo Grain Millers, Wavah Water Ltd, Golf Course Hotel, Kawacom Ltd, Bakheresa Grain Millers and Hotel Africana were done in June 2013 and award of certificates to participants was done during the Energy Week in September 2013. The Certificate Award Workshop for participants of the energy auditing and management training took place at Protea Hotel Kampala on Friday 27th September and 48 participants successfully completed the training.



Figure 39: Top left – A facilitator presenting a case on energy management; Top right –A participant explaining results of a group discussion; Bottom right – A facilitator explains a case on heat recovery systems; Bottom left – participants receiving certificates.

b) Short course trainings

Three (3) officers attended short course trainings in energy efficiency as indicated below:

- i) Mr. David Birimumaso and Mr. John Kigozi attended training on Efficient Energy Use and Planning. The training took place at Life Academy, Sweden, Royal Institute of Technology (KTH) and Regional Energy Agency of Värmland with support from Sida from August 27 – September 19, 2013. The overall objective of the programme was to contribute to capacity building and change processes in the participants' organizations in order to achieve sustainable and strategic energy efficiency in the participating countries.
- ii) Mr. Augustine M. Tsongo attended training on Electric Energy Rationalization and Efficiency Improvement: This course was conducted in the Arab Republic of Egypt and it was meant to provide knowledge on:
 - Electric energy rationalization concept,
 - System losses, energy losses and load losses,
 - Demand side management, and
 - Electric energy efficiency improvement techniques.

2.6.4 Minimum Energy Performance Standards (MEPS)

- i) Memorandum of Understanding for the Procurement of a Compact Fluorescent Lamp (CFL) test bench was signed between the Ministry and the United Nations Office for Procurement Services (UNOPS). UNOPS is procuring the equipment on behalf of the Ministry.
- ii) Terms of reference for the baseline survey finalized, and survey projected to start in Quarter 3 of Financial Year 2013/14.
- iii) Importers' guide for electric appliances including freezers, refrigerators, lighting appliances, and electric motors has been developed to assist importers and the business community to comply with energy efficiency standards approved by UNBS. The purpose of the minimum standards is to set the level of efficiency of appliances to be allowed on the Ugandan market as a way of reducing energy waste. The draft importers guide was shared with key stakeholders during a half day meeting at the end of the year for their input. The final importers' guide will be finalised in 2014.

2.6.5 Energy Efficiency and Management for schools and Technical institutes

The Ministry carried out a sensitization workshop on Energy Management for Head Teachers of Schools and Technical Institutions for Eastern Uganda on 10th April, 2013 at Protea Hotel, Mbale. A total of 32 Heads of schools and Technical Institutions participated in the workshop.

The objectives of the workshop were:

- i) Sensitize the schools in Eastern Uganda about energy management in schools and alternative renewable technologies that can be used in schools.
- ii) Provide a platform for feedback from schools that participated in the Power Sector Development Operations (PSDO) and demand side management project where energy efficient equipment was installed in some schools.

Outcomes of the workshop

- i) **Electricity bill reduction at St. Kizito Technical Institute:** Their report showed that the school realized electricity bill reductions from the energy efficiency equipment that was installed in the school. The School also replaced the old stoves with new improved institutional stoves and they noted that the firewood consumption reduced from a full lorry to half a lorry a week.
- ii) **Electricity bill and fire wood utilization drops at Jinja College:** The FTLs were installed in classrooms and energy savers in offices. The bills reduced so much that they thought the

bills were incorrect. They also installed the improved institutional stoves that have reduced the firewood consumption to one lorry of firewood a week.

- iii) **Improved lighting and reduced electricity bills at MM College:** They received FTLs for the administration block which consumed a lot of power but shortly after installation of the FTLs there was overall drop in the power bills, the environment was brightly lit, there was less heat and noise since the previous ones with magnetic chokes had been making a lot of noise.
- iv) **Solar water pump at National Teachers College, Lira:** They installed a solar water pump that greatly reduced the water bills. It was a successful project that the college holds seminars to train youth on how to install solar systems.

2.6.6 Energy Audits

Six energy audits were done in a number of facilities: Recommendations were made to reduce energy consumption which are summarised in table 13.

Table 13: Energy Audits conducted among High Energy Consumers for 2013

S/N	Facility audited	Recommendations	Annual Saving potential
1	Bakheresa Grain Milling	<ul style="list-style-type: none"> • Automatic water traps should be installed. • Spring loaded valves should be used to operate the compressed air pipes for cleaning. • Install AC room regulators/controls • All fluorescents should have electronic ballasts installed. • Switches should be installed on each floor so that lights are switched on only when needed. • Install timer to manage the consumption for all of the External light. 	401,438.3 kWh and 4,533,024 kVA
2	Golf Course Hotel	Installation of LED tube lights to replace of fluorescent tubes	59,020 kWh

S/N	Facility audited	Recommendations	Annual Saving potential
3	Hotel Africana	<ul style="list-style-type: none"> • Change TVs technology: Replace all CRT TVs with LED TVs. • Gradual replacement of the current lighting fixtures with LED bulbs and tubes which greatly provide energy savings for the lighting equipment. 	378,728.5 kWh
4	Kawacom	<ul style="list-style-type: none"> • Electrical System: Reduction of demand by PF Improvement through installation of capacitor bank • Lighting: Replacement of fluorescent tubes and sodium lamps with LED lights; Installation of photo sensors to control security lighting; Use of multiple switches to control sections of lights to optimize lighting; Installation of Translucent roofing sheets in stores and production rooms to minimize use of indoor lights during daytime; Regular cleaning of lighting fixtures to improve visibility 	22,951.2 kWh + 756.036kVA
5	Wavah Water	<ul style="list-style-type: none"> • Replacement of 2×36 W CFL and 1×36 W Tube light with 11 W lights in production area and warehouse with mirror optic reflectors • Replacement of MHL 400 W flood lights with 250 W for security lights • Replacement of canopy lights of 60 W with 1×11 W CFL lights in the main production area with mirror optic reflection • Replacement of 5 feet – 2 x 58 W fluorescent tube light 	49,912 kWh

S/N	Facility audited	Recommendations	Annual Saving potential
		(TFL) with 4 feet – 1 x 36 W fluorescent tube light (with mirror optic reflectors & low loss copper choke) in identified areas <ul style="list-style-type: none"> • Maintenance of cooling tower • Using a fuel saver on the Diesel Generator set 	

2.6.7 Power Loss Reduction

The power losses reduced from 26% to 24.4% in 2013. The trend regarding power loss reduction over the last 8 years is shown in figure 40 below.

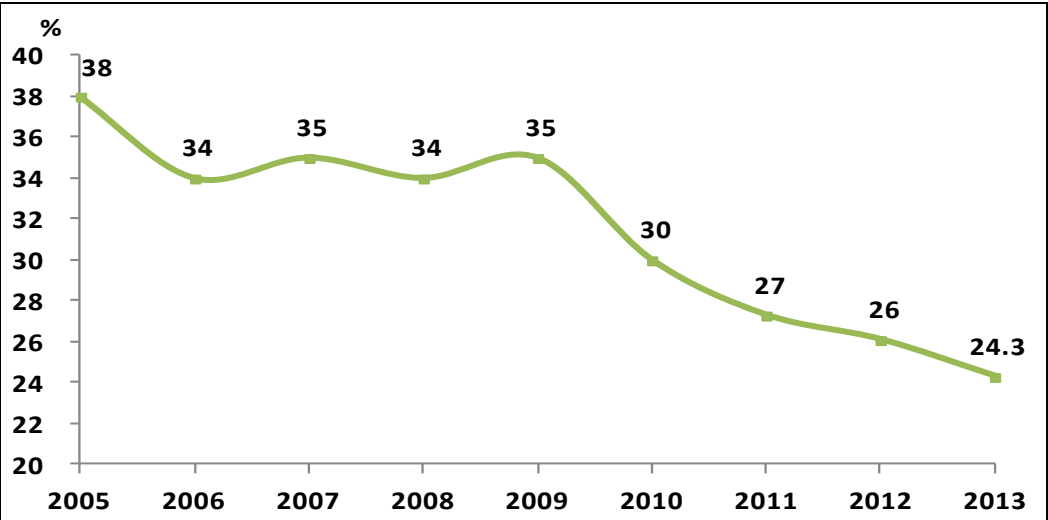


Figure 40: Trend of Power Losses Performance from 2005 to the end of 2013

The Strategies and Interventions to reduce power losses

The strategies implemented and interventions in 2013 that led to the reduction of losses and revenue collection include:

- a) Heavy investment in the network in priority areas where the network was extremely bad.
- b) Restructuring of operations by taking services closer to the customers; therefore ensuring that the management structures at district levels are effective in meeting the stringent KPIs that include loss reduction. This is attainable through closer vigilance on customer activities. Further, the achievement of the KPIs is rewarded in line with level of performance.
- c) Bulk metering of shopping arcades, commercial buildings and customer groups where pilferage is high and consumers are sophisticated. Also this has been done for millers

and welders. The strategy was to have a win-win effect where the conglomerates of consumers enjoy the large consumer tariff whilst the sector benefits by reducing commercial losses.

- d) Focus on high loss feeders for reconductoring and reconfiguration of transformer zones
- e) Network and Energy audits, ultimately indicating high losses and focus areas
- f) Employed and outsourced cash collection initiative
- g) Loss reduction strategy that involves technical and social inclusiveness and is well communicated to staff and stakeholders
- h) Improved connection time, that is, less than five days from payment. This stops the illegal self-connections that would have risen from delayed connection.
- i) Implementation of the prepaid metering system enables arrears recovery and minimizes debt age. Over 52,000 customers were on prepayment metering by end of December 2013.

2.7 Promotion and Development of Nuclear Energy

Overview

In line with Section 53 of the Atomic Energy Act, 2008, the Nuclear Energy Unit conducted activities on promotion and coordination of peaceful applications of atomic energy with two main output areas:

- i) Nuclear Power Development Programme, and
- ii) IAEA –Technical Cooperation Programme.

2.7.1 Nuclear Power Development Programme

a) Nuclear Power Roadmap

During Quarter 3 of the FY2012/2013, the NEU prepared the criteria for siting nuclear power plants in Uganda. Relevant technical reports/publications from the International Atomic Energy Agency (IAEA) and regulatory documents of the United States Nuclear Regulatory Commission were reviewed to prepare the criteria. The criteria are aimed at guiding site survey in order to identify potential site for future assessment and ranking. Based on characteristics and issues to be considered during siting, the criteria addresses health and safety; environmental; land use and socioeconomics; and engineering and cost-related issues with an objective of protecting people and environment in a cost effective manner from the dangers that may result from nuclear power operations.

Within the framework of the Nuclear Power Roadmap Development Strategy 2013/14 – 2015/16, a Site Working Group (SWG) was constituted during the First Technical Meeting held from 13th – 14th May, 2013. The group comprised of nominated members from Government Ministries, Departments and Agencies (MDAs) as shown in Appendix 6. In its special technical meeting held on 19th July 2013 at the Ministry Headquarters, the Site Working Group adopted the Siting Criteria and the work plan for the group activities.

In September 2013, the group embarked on phase-one of preliminary data collection to establish a database for the identification of potential sites for nuclear power development. Data on geology of Uganda, potential geohazards, mineral potentials, urban centers, seismic events, protected areas, water resources, population, meteorology, transport network, electricity transmission and distribution network was collected by the Siting Working Group. As a result, databases including geology, seismology, hydrology, hydrogeology, meteorology, population, protected areas, land use and grid network were established.

b) Public Awareness Campaigns on Nuclear Energy

As part of the Energy Week 2013, the NEU in collaboration with Atomic Energy Council (AEC), GSMD and Ministry of Water & Environment conducted a seminar on the *“Role of nuclear energy in social and economic development”* on 28th September, 2013 at Busitema University. The seminar aimed at creating awareness on the role of nuclear energy and highlighting career opportunities. A total of 182 University students pursuing Mining Engineering, computer Engineering, Textile Engineering and Agro-processing Engineering courses at the University participated in the event.

The topics covered included: peaceful applications of nuclear energy, applications of isotope hydrology in water resources management, application of nuclear energy in electricity generation, mining activities and uranium prospects in Uganda, and nuclear energy regulatory infrastructure.

41 below shows a Nuclear Energy Unit staff member delivering a lecture during the seminar. The main outcomes of the seminar were:

- i) Students appreciated the need for nuclear power as a baseload source of Electricity.
- ii) Students were inspired to participate in the development process of the Nuclear Power Programme.
- iii) The University administration expressed the willingness to be one of the nuclear science and technology institutions in the country.



Figure 41: Students of Busitema University during the seminar on the role of nuclear energy in social and economic development.

c) Human Resources Development

Mr. Twesigye Alex completed an MSc. Nuclear Science and Technology at the University of Ghana in September, 2013 and Ms. Abbo Damalie Noel Ofumbi completed an MSc. Nuclear Engineering at Imperial College London in October, 2013. Both staff reported back on duty and they are part of the team implementing the Nuclear Power Roadmap Development Strategy 2013/14 – 2015/16.

2.7.2 IAEA Technical Cooperation Programme

a) Capacity Building

The Nuclear Energy Unit (NEU) through the National Liaison Officer coordinates the technical cooperation programmes between Uganda and the International Atomic Energy Agency on the peaceful application of atomic energy. Under this programme, Ms. Asaba Ruth and Mr. Menya Richard, officers in the Atomic Energy Council (AEC), were awarded Korean Scholarships to pursue a two years MEng. in Nuclear Engineering at Korea Electric Power Corporation (KEPCO) International Nuclear Graduate School (KINGS), Republic of Korea. The two officers commenced studies in February 2013. In addition, another AEC staff member, Mr. Natharius Nimbashabirwa was awarded an IAEA scholarship to pursue MSc. Nuclear Science and Technology in University of Ghana. Studies commenced in August 2013.

Mr. Ignitius Komakech, a staff member in the Radiotherapy Department, Mulago Hospital Complex was awarded a fellowship to pursue MSc. Radiation Metrology and Dosimetry at the Graduate School of Nuclear and Allied Sciences in Ghana. Ms. Joselyn Annet Atuhairwe an officer in the Department of Entomology, Ministry of Agriculture Animal Industry and Fisheries was also awarded a fellowship to pursue a Master's degree in the United Kingdom. Both fellows started their training in September 2013. A large number of shorter fellowships, expert missions and training courses in the sectors of health, water, Agriculture have been coordinated by the Nuclear Energy Unit. In addition, the staff of the Nuclear Energy Unit attended a number of short trainings and meetings as indicated in Appendix 3.

b) IAEA Technical Cooperation National Programme

Uganda continued to receive technical assistance from the IAEA Technical Cooperation National programme. In the 2012 – 2013 cycle six projects in the areas of human health, water resources management, food and agriculture were coordinated by the NEU. Some of the achievements realized include:

- i) UGA5031: *Expanding the Radiotherapy Service*. In addition, to coordinating placement of radiotherapy staff for training, the Nuclear Energy Unit (NEU) coordinated the procurement of the Cobalt 60 machine for Mulago although the process has not been concluded as it incurred challenges in the procurement of a contractor to build the bunker for the machine.
- ii) UGA7001: *Improving the Management of Groundwater resources Supplying Water to the Sheema District through Gravity Flow Schemes Using Isotope and Conventional Hydrogeological Methods*. Under this project staff from the Directorate of Water Resources Management received an isotope analyzer and five (5) staff received specialised training.

- iii) UGA9006: *Strengthening the National Regulatory Infrastructure and developing a National Nuclear Security System to Control radiation Sources and Occupational Exposure.* Uganda continued to receive technical assistance in terms of training for Radiation Protection Officers. A major achievement realised under this project was the procurement of the Thermoluminescent Dosimetry (TLD) reader and 500 TLD Badges. The equipment was received in July 2013, and with this equipment the capability of Atomic Energy Council (AEC) to carry out dosimetry services increased.

In addition, technical staff from implementing institutions received training under the following projects:

- i) UGA5032: *Improving Animal Production and Productivity through Advanced Animal Disease Control and animal Production Measures;*
- ii) UGA5033: *Demonstrating the Feasibility of Sterile Insect Technique ((SIT) Component as Part of an AW-IPM Approach against Glossina f Fuscipes to Increase Livestock Productivity;* and
- iii) UGA6016: *Strengthening Nuclear Medicine Services in Uganda.*

In July 2013, NEU through national stakeholder consultations, and in line with the Country Programme Framework (CPF) 2009-2013, finalized the project design process for the 2014 – 2015 cycle with the IAEA. In November 2013, after consideration by the Technical Assistance and Cooperation Committee of IAEA, the IAEA Board of Governors approved the seven (7) national projects. The approved projects for the 2014 – 2015 Cycle are listed below:

- i) UGA/2/001: *Supporting Pre-Feasibility Studies for Launching a First Nuclear Power Plant.* The project is implemented by the Ministry of Energy and Mineral Development with an overall objective of assessing the potential role, viability and obligations associated with nuclear energy in the context of energy needs for national socioeconomic development.
- ii) UGA/2/002: *Strengthening the National Capacity for Uranium Exploration and Evaluation.* The project is implemented by the Ministry of Energy and Mineral Development with an overall objective of undertaking detailed assessment of the potential of uranium resources in Uganda as a viable source of nuclear energy and to support national economic and social development.
- iii) UGA/5/034: *Strengthening National Capacity for Testing and Monitoring of Drug Residues in Animal Feeds and Animal Products.* The project is implemented by the Uganda National Bureau of Standards (UNBS) with an overall objective of building the capability for inspection, monitoring and testing of veterinary drug residues in animal and animal products and feeds for food animals in Uganda, and protecting consumers, facilitating trade and enhancing the competitiveness of the national exports, as a means of increasing foreign exchange in the country, hence eradicating poverty.

- iv) UGA/5/035: *Improving Food Safety through Surveillance of Fish Diseases*. The project is implemented by the Ministry of Agriculture, Animal Industry and Fisheries with an overall objective of availing credible information about trace metals and aflatoxins in fish.
- v) UGA/5/036: *Demonstrating the Feasibility of a Sterile Insect Technique Component as part of an Area- Wide Intergrated Pest Management Approach to Increase Livestock Productivity*. The project is implemented by the Ministry of Agriculture, Animal Industry and Fisheries with an overall objective of increasing livestock productivity, raising food security and improving human wellbeing through implementing a phased area-wide integrated pest management (AW-IPM) effort, involving a sterile insect technique (SIT) component for creating a sustainable tsetse and trypanosomosis free zone in Uganda.
- vi) UGA/6/017: *Supporting Prevention and Control of Overweight, Obesity and Non-Communicable Diseases (NCDs) among Children of School Going Age*. The project is implemented by the Department of Food Technology and Nutrition-Makerere University, with an overall objective of contributing to the prevention and management of NCDs in Uganda.
- vii) UGA/9/007: *Improving the Occupational Exposure Programme and National Regulatory Infrastructure to Control Radiation Sources*. The project is implemented by the Atomic Energy Council with an overall objective of improving the occupational exposure control programme and regulatory infrastructure to control radiation sources in Uganda.

c) The Country Programme Framework 2014 – 2018 between Uganda and the IAEA

The CPF 2009 – 2013 which was in line with Poverty Eradication Action Plan (PEAP) came to an end in September 2013. To align the national priorities for technical cooperation with the NDP and Uganda Vision 2040, the NEU embarked on data collection in consultation with national participating institutions in the sectors of Food and Agriculture, Energy, Human Health and Water, and the IAEA to update the CPF.

A review meeting was conducted from 20th – 22nd May 2013 at the Ministry headquarters by CPF Review Committee to finalize the first draft of CPF. By July 2013, a CPF covering the period 2014-2018 was prepared after a consultative meeting with the IAEA. Figure 42 shows some of the members of the CPF Review Committee and IAEA technical team during the Consultative Meeting between Uganda and the IAEA on the CPF in July 2013 Vienna, Austria.

The CPF 2014 – 2018 outlines government priorities with regard to the utilization of nuclear science and technology for socio-economic development and takes account of accomplishments of and progress made under the concluded and present IAEA supported projects. This mutual agreement between Uganda and the IAEA focuses on the following areas:

- i) Feasibility studies for nuclear power projects,
- ii) Uranium exploration and evaluation,
- iii) Cancer management,
- iv) Food and agriculture,

- v) Water resources management, and
- vi) Strengthening the national nuclear and radiation safety infrastructure.

The CPF 2014-2018 was signed on 17th September 2013 during the regular session of the 57th *IAEA General Conference* by the Hon. Engineer Simon D’Ujanga, Minister of State for Energy on behalf of Government of Uganda and Kwaku Aning, Deputy Director General for Technical Cooperation on behalf of IAEA as indicated in Figure 43. On 11th November 2013, Rt. Hon. Prime Minister Amama Mbabazi, launched the CPF during the opening ceremony of the Joint Sector Review.



Figure 42: National Delegates and IAEA Staff at the Consultative Meeting between Uganda and the IAEA on the Country Programme Framework, July 2013 Vienna, Austria.



Figure 43: Signing of the Country Programme Framework between Government of Uganda and IAEA. L-R Hon. Eng. Simon D’Ujanga, Minister of State for Energy and Mr. Kwaku Aning, IAEA Deputy Director General, Department of Technical Cooperation.

d) IAEA General Conference, Vienna, Austria 16-20 September 2013

Uganda was represented by 12 delegates from Ministry of Health, MAAIF, Atomic Energy Council, the Embassy of Uganda in Berlin and Ministry of Energy and Mineral Development (see Figure 44). The Head of Delegation was Hon. Eng. Simon D' Ujanga the Minister of State for Energy. Some of the achievements of the General Conference include:

- i) Signing of the CPF 2014 - 2018 between Uganda and the IAEA.
- ii) Bilateral discussion between Uganda and the IAEA on the past and new projects especially the project on Nuclear power.
- iii) The bilateral discussions between Uganda and Republic of Korea and Uganda and Russian Republic on nuclear power.
- iv) Extension of two projects namely: the tsetse project and the Animal diseases project.
- v) Presentation of credentials of the new Ambassador where the Ugandan delegation got a chance to have a short discussion with the Director General of the IAEA. This discussion highlighted Uganda's interest in developing nuclear power and pledged to cooperate with the Agency.
- vi) The presentation of the national statement by head of delegation during the General Conference.



Figure 44: Uganda Delegation to 57th General Conference and IAEA Staff. L-R, Mr. Kwaku Aning, DDG TC IAEA, Hon. Simon D'Ujanga MSE, Dir, Africa DIV IAEA, Emmanuel Wamala- NEU

e) Regional Meeting on Nuclear Power Development in Africa

The Ministry hosted the Recap meeting for RAF/0/033 Project Achievement and Forward on IAEA Assistance on Nuclear Power Development in Africa Region, 2nd – 5th December, 2013 in Entebbe. Twenty Five (25) participants from eleven (11) African Countries took part in this

activity. Hon. Eng. Simon D’Ujanga, Minister of State for Energy officiated at the opening ceremony of the four day event. Figure 45 below shows the participants after the opening ceremony.



Figure 45: Participants for the Regional Meeting on Nuclear Power Development in Africa.

The meeting therefore, recommended that African Countries that are at initial stages of nuclear development should establish bilateral relations with advanced countries, such as South Africa, to share the experience attained. The meeting further proposed that Uganda should coordinate the establishment of the “*African Network for Emerging Nuclear Power Programmes*”. The network is expected to increase African regional cooperation on nuclear power development. Draft Terms of Reference (ToRs) were developed by the Ugandan Team and sent to IAEA for Review.

Uganda Energy Balance for 2013

Item Unit: ktoe	Hard coal	Light petroleum products	Heavy petroleum products	Other petroleum products	LPG	Electricity	Primary biomass energy	Derived biomass energy	Total energy
Production of primary energy	-	-	-	-	-	246.0	14,181,705.0	-	14,181,951.0
Imports	106.0	550,236.0	557,366.0	10,375.0	7,551.0	4.0	-	-	1,125,638.0
Exports	-	-	-	-	-	-9.0	-	-	-9.0
Total energy requirements	106.0	550,236.0	557,366.0	10,375.0	7,551.0	241.0	14,181,705.0	-	15,307,580.0
Energy converted	-	-	-	-	-	11.0	-3258240.00	855,661.0	-2402568.00
Electric power plants	-	-	-	-	-	11.0	-	-	11.0
Other conversion industries	-	-	-	-	-	-	-3258240.00	855,661.0	-2402579.00
Losses in transport and distribution	-	-27512.00	-27869.00	-	-377.00	-74.00	-	-	-55832.00
Consumption for non-energy uses	-	-5240.00	-	-	-	-	-1133301.00	-	-1138541.00
Final consumption	106.0	517,484.0	529,498.0	10,375.0	7,174.0	178.0	9,790,164.0	855,661.0	11,710,640.0
By industry and construction	106.0	-	144,108.0	4,275.0	1,435.0	116.0	2,217,178.0	-	2,367,218.0
Chemical industry	-	-	-	37.0	-	-	-	-	37.0
Other industry and construction	106.0	-	144,108.0	4,237.0	1,435.0	116.0	2,217,178.0	-	2,367,180.0
By transport	-	470,320.0	335,981.0	6,100.0	-	-	-	-	812,401.0
Road	-	373,238.0	335,981.0	6,100.0	-	-	-	-	715,319.0
Air	-	97,082.0	-	-	-	-	-	-	97,082.0
By households and other consum.	-	47,164.0	49,409.0	-	5,739.0	62.0	7,572,986.0	855,661.0	8,531,021.0
Households	-	47,164.0	-	-	5,739.0	40.0	6,799,805.0	820,378.0	7,673,126.0
Agriculture	-	-	49,409.0	-	-	-	-	-	49,409.0
Other consumers	-	-	-	-	-	22.0	773,182.0	35,283.0	808,487.0

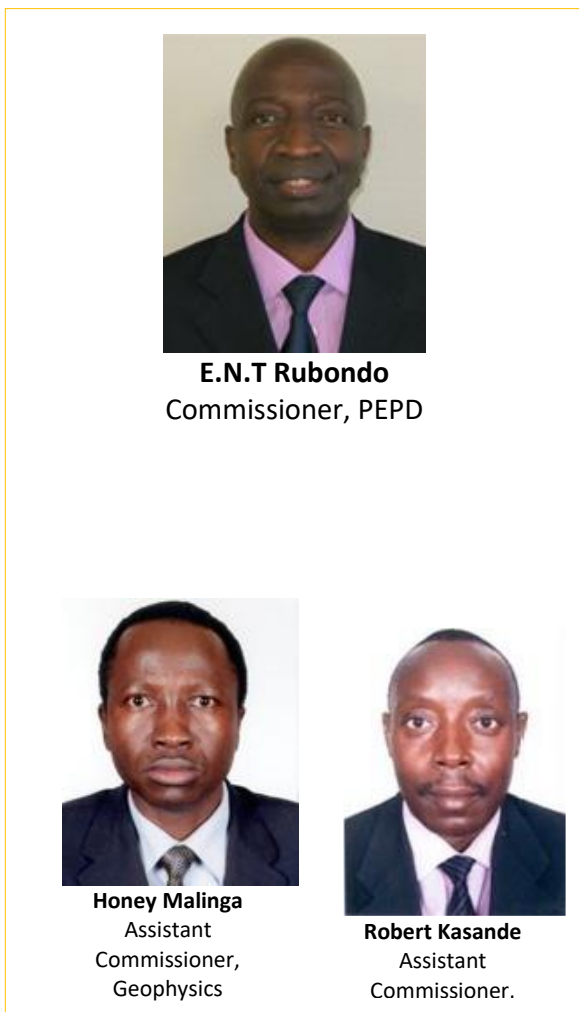
Supply Pattern	
Biomass	92.645%
Fossils	7.353%
Electricity	0.002%
Total	100.000%

Demand	Energy	Electricity
Residential	65.5%	22%
Industrial	20.2%	65%
Transport	6.9%	0%
Agriculture	0.4%	0%
Others	6.9%	12%

3.0 PETROLEUM EXPLORATION AND PRODUCTION

The Petroleum Exploration and Production Department (PEPD) is responsible for promoting and regulating the upstream (exploration, development and production) petroleum sub-sector in the country. PEPD is also handling the development of the country's petroleum midstream sub-sector which involves planning for the development of the refinery and pipelines in the country.

This section presents the activities undertaken by PEPD as well as the financial performance of the department with regard to recurrent, development and donor funded budgets during the period January to December 2013. These activities include:



E.N.T Rubondo
Commissioner, PEPD



Honey Malinga
Assistant
Commissioner,
Geophysics



Robert Kasande
Assistant
Commissioner.

- a. Promotion of the country's petroleum potential;
- b. Monitoring and regulating oil companies licensed to undertake petroleum exploration, development and production in the country;
- c. Regulatory, Institutional and Capacity Development for the petroleum sub-sector;
- d. Planning for Commercialisation of the discovered resources; and
- e. Participating in Regional Initiatives

Fig 46: Management of PEPD

3.1 PROMOTION OF THE COUNTRY'S PETROLEUM POTENTIAL

3.1.1 INQUIRIES ON INVESTMENT OPPORTUNITIES IN THE SECTOR

The international oil industry continued to show significant interest in participating in the country's oil and gas sector. During the reporting period, expressions of interest to participate in different aspects of Uganda's oil and gas sector were received from the following companies:

- Hill International from UK
- Seaweld Engineering Ltd from Ghana
- Zeal Environmental Technologies Ltd from Ghana
- Clarke Energy from UK
- South Africa Oil and Gas Alliance
- SWIRE OILFIELD SERVICES from UK
- China National Heavy Machinery Corporation (CHMC) from China
- Aberdeen & Grampian Chamber of Commerce from UK
- SMS from UK
- KCA DEUTAG Drilling Ltd from Scotland
- ARGON ISOTANK LTD from UK
- DTI from South Africa
- Standard Bank from UK
- BAM Solutions from France,
- CGG from UK
- Rhino Resources Ltd from Tanzania
- CNS Consultants Ltd from UK
- UK Trade and Investment from UK
- Delonex Energy from India
- Furgo Survey Division from Netherlands
- Mamorithi Pty Limited from South Africa
- Entrust from UK
- Alphabet Project Consultants Ltd from Uganda
- Marubeni Tochu Steel and JFE Steel Europe from Japan
- Global Petro Tech from UAE
- GS Engineering & Construction from Korea
- SAFINAT Group of Companies from Russia
- Clyde Union Pumps from UK
- Volo Investments Holding Ltd from British Virgin Islands
- Link Energy from Nigeria
- Jack's holdings from Albania
- SOCO INTERNATIONAL Plc Africa Region from United Kingdom
- United States Department of State
- SAS CONGO SA from Democratic Republic of Congo
- SEREFACO Consultants Limited from Uganda
- Clontarf Energy plc from United Kingdom
- Leba Petroleum Inc from Canada
- WesternGeco Limited from United Kingdom
- African Company of the Transformation of the Natural Resource from Uganda
- Virginia Global Energy Consultants from United Kingdom
- New Age (Africa Global Energy) Ltd from United Kingdom
- Petro Equipment Logistics Ltd from Nigeria
- Ameramex International from United States of America
- CNS Consultants from United Kingdom

- Samsung Engineering Company Limited from Korea
- China Petroleum Pipeline Bureau from China
- CASE International Consultants Ltd from Uganda
- ILF Consulting Engineers from Austria
- ALLTECH & TRADE, LL from South Africa
- Sheng Li Oilfield Petroleum & Chemical Construction Corporation (a subsidiary of the SINOPEC) from China
- Leba Petroleum Inc from Canada
- Petrako Ltd from Turkey
- SoEnergy International Ltd from USA
- Swala Energy Ltd from Australia
- Coffey Mining South Africa (Pty) Ltd from South Africa
- ATEK DIJITAL VE ELEKTRONIK SISTEMLER A.S. & BM HOLDING from Turkey
- Nation Building from UK
- Xinjiang Petroleum Survey and Design Institute Co. Ltd from China
- SINOPEC GEOPHYSICAL COOPERATION from China
- Weihai International Economic & Technical Cooperative Co Ltd from China
- AAP International from Uganda
- China Petroleum Engineering & Construction Corporation (CPECC) from China
- China Petroleum Pipeline Bureau International from China
- Weihai International Economic & Technical Cooperative Co Ltd from China

The department presented the status of the oil and gas sub sector and investment opportunities in Upstream and Midstream petroleum sub-sectors, provided promotional materials to the interested companies and updated them of the progress Uganda is making in developing the oil and gas sector.

3.1.2 The 1st Uganda, Mining, Energy and Oil & Gas Conference

The Ministry of Energy and Mineral Development in a partnership with AME Trade Limited organized the first Uganda, Mining, Energy and Oil & Gas Conference (UMEC) 2013, which was held from 28th to 30th May 2013 at the Kampala Serena Conference Center. Mr. Robert Kasande (Assistant Commissioner) and Mr. Robert Tugume, Principal Geophysicist in PEPD made presentations on the “Development of an Oil Refinery in Uganda” and “Managing Uganda’s Oil and Gas Resource Potential” respectively during the Conference. The Conference also featured an exhibition where the department exhibited Uganda’s Petroleum Potential and investment opportunities. The department’s exhibition booth attracted representatives from over 40 Exploration and Production (E & P) companies, Seismic service companies, Government agencies and media houses.

3.1.3 The 4th Eastern Africa Oil, Gas & Energy Conference

The department participated in the 4th Eastern Africa Oil, Gas and Energy Conference which was organised by Global Pacific Partners and held from 19th to 20th June 2013 in Nairobi, Kenya. Mr. Fred Kabanda (Principal Geologist) made a presentation on Development of Uganda’s Petroleum Resource— A Regional Perspective during the conference. The conference was organised under the theme “Eastern Africa resurgence reshapes the oil landscape”.

3.1.4 Delegation to Korea and Japan

The department participated in a promotional visit to the Republic of South Korea and the People's Republic of Japan during May 2013. The delegation to the two countries which was led by the Mr. Kabagambe-Kaliisa (Permanent Secretary, MEMD) made various presentations on Developments and Opportunities in Uganda's Emerging Oil and Gas Sector to business and Government leaders of the two countries respectively.

3.1.5 The Africa Upstream Conference

The Africa Upstream Conference which was organized by Global Pacific and Partners as part of the 20th Africa Oil Week, was held between 25th October and 29th November 2013 at Cape Town International Convention Centre, Cape Town, South Africa.

The conference attracted over 1500 participants, including speakers and mainly from upstream petroleum companies both state owned and independent ones, among others. Government agencies and academia from around the world also participated in the conference.

At the invitation of Tullow Oil, three staff members namely, Robert Tugume –Principal Geophysicist, Philips Obita –Senior Geophysicist and Clovice Irumba – Organic Geochemist, were supported to participate in the conference. Mr. Ernest Rubondo (Commissioner, PEPD) attended the conference and made a presentation on the status of Uganda's Oil and Gas sector.

3.1.6 Visit to the Russian Federation

The Ministry of Energy and Mineral Development undertook a visit to the Russian Federation between 2nd – 6th November 2013. The delegation was led by Honourable Irene N. Muloni (MP), Minister of Energy and Mineral Development and it included Mr. F.A. Kabagambe-Kaliisa, Permanent Secretary and Mr. Honey Malinga, Assistant Commissioner in the same ministry. Others were Mrs. Ketrach Katunguka, Commissioner in the Ministry of Justice and Constitutional Affairs and Mr. Charles Byaruhanga, Technical Advisor in the Ministry of Finance, Planning and Economic Development.

The objective of the visit was to among others develop a framework for co-operation between the two countries in areas of Energy and Minerals with more emphasis on Refinery Development in Uganda; and carry out due diligence on some of the companies that had earlier on picked interest in investing in Uganda's energy sector. The delegation visited part of Tatarstan Republic where they visited one of the Russian refining, gas and petrochemical processing complex in the Republic of Tatarstan. The visit was concluded with the signing of two Memoranda of Understanding between the Ministry of Energy and Mineral Development, Uganda and Rostec Corporation.



Figure 47: H.E R.N Minnikhanov, the President of the Republic of Tatarstan and Chairman of OAO TATNEFT's Board of Directors (4th from the Left side) and opposite him is the Minister at a meeting at TATNEFT Complex in Nizhnekamsk.

3.1.7 Visit to the United Kingdom

Following the enactment of the upstream and midstream laws during 2013, British companies have continued to express interest in participating in Uganda's oil and gas sub sector. At the invitation of the British High Commission in Uganda, the Minister of Energy and Mineral Development, Eng. Irene Muloni accompanied by Mr. Dozith Abeinomugisha, Principal Geologist visited the United Kingdom from 17th to 21st November 2013 to engage with British Companies who wish to invest in the sector. During the visit, the team met with potential investors including British Companies already engaged in Uganda's petroleum sector and also visited education institutions in Aberdeen, Scotland.

3.1.8 Data Packaging and Sale

The department together with the First Parliamentary Council (FPC) in the Ministry of Justice and Constitutional Affairs reviewed the 2nd Draft regulation for data licensing/sale. The working group commenced working on the final draft to be forwarded to the Minister of Energy and Mineral Development for assent. The regulations will provide a legal basis for sale of petroleum data in the country. Sale of promotional data is therefore on halt pending the formulation of this regulation.

3.1.9 Multi-client seismic survey

During the reporting period, the department reviewed the 3rd draft of the Model Contract submitted by Dutch Geoconsultancy (Dutch Geo) regarding terms and conditions for speculative surveys. The department is working with M/S SimonsenVogtWiig to conclude this model contract which is expected to be issued alongside the tender document for the Speculative Seismic surveys during the year 2014.

During the reporting period, the department received a second Draft Framework of the 'Data Acquisition, Processing and Marketing contract' from the consultancy firm. The department is reviewing the draft before it is submitted to the Solicitor General's office for clearance. The Speculative seismic surveys are to be undertaken ahead of the licensing rounds with the purpose of better understanding of the petroleum potential of the un-licensed blocks within the Albertine Graben. The survey has the benefit of tying up existing known hydrocarbon resources, reducing exploration costs and better facilitating the attraction of investors to explore and develop oil and gas fields in the areas that are not yet licensed.

3.1.10 Kingfisher Production License

On 16th September 2013, Government of Uganda lifted the conditions on the Production License for the Kingfisher (Kajubirizi) Discovery that was issued during February 2012. This marked the entry into the development phase of the petroleum value chain and an important milestone in the progress of Uganda's Oil and Gas Sector. The Kingfisher Production License is the first petroleum production license to be issued in the country.

3.1.11 Monitoring and Evaluation of the National Oil and Gas Policy

Following consultations with various stakeholders, a draft Monitoring and Evaluation Framework (Strategy and Plan) of the National Oil and Gas Policy was developed and a validation workshop was held on 15th August, 2013. Comments were received from the various stakeholders during and after the workshop that enriched the strategy. The consultant, Centre for Performance Management & Evaluative Research (CPMER) submitted the final Monitoring and Evaluation Strategy and Plan in September 2013.

3.1.12 Offshore Europe Conference and Exhibition

The department participated in the Offshore Europe Conference and Exhibition from 3RD to 6TH September 2013 in Aberdeen, UK. The conference was organized by the Society of Petroleum Engineers (SPE) and attracted over 80,000 participants and 1,500 exhibitors showcasing latest technological equipment and solutions. Messrs Frank Mugisha (Principal Geophysicist), Nurudin Njabire (Geologist) made presentations on the status of the oil and gas sub sector in Uganda and the related investment opportunities to Scottish companies and global industry during the conference. The team also held meetings with companies that required detailed information on the sub sector, especially on the requirements to invest in the sub sector.

3.1.13 Private Sector Foundation Uganda (PSFU) International Trade Facilitation Expo

Private Sector Foundation Uganda organised an International Trade Facilitation Expo that was held at Uganda Manufacturing Association's (UMA) Exhibition hall from 23rd to 25th July 2013. Mr. Fred Kabagambe-Kaliisa, Permanent Secretary-MEMD made a presentation on the developments in the oil and gas sub sector in Uganda and investment opportunities therein. The conference also featured an exhibition where the Department exhibited Uganda's petroleum potential and available investment opportunities in the oil and gas sector.

3.2 RESOURCE ASSESSMENT

The department continued to assess the country's oil and gas potential and compilation of the petroleum resources discovered in the country to date. The following activities were carried out during the year as part of the ongoing assessment and compilation.

3.2.1 Reserves Estimation, Risk and Uncertainties

Resource assessment and reporting is a continual process that is regularly updated.

In this regard, the assessment of resource estimates for the Jobi-Rii, Nzizi, Kingfisher, Kasamene, Wahrindi, Jobi-East, Ngiri, Gunya, Waraga, Mpyo, Ngara and Nsoga was completed. The outcome and results of some of the assessments as presented to the department on 25th February 2013 is summarized in Figure 48 below.

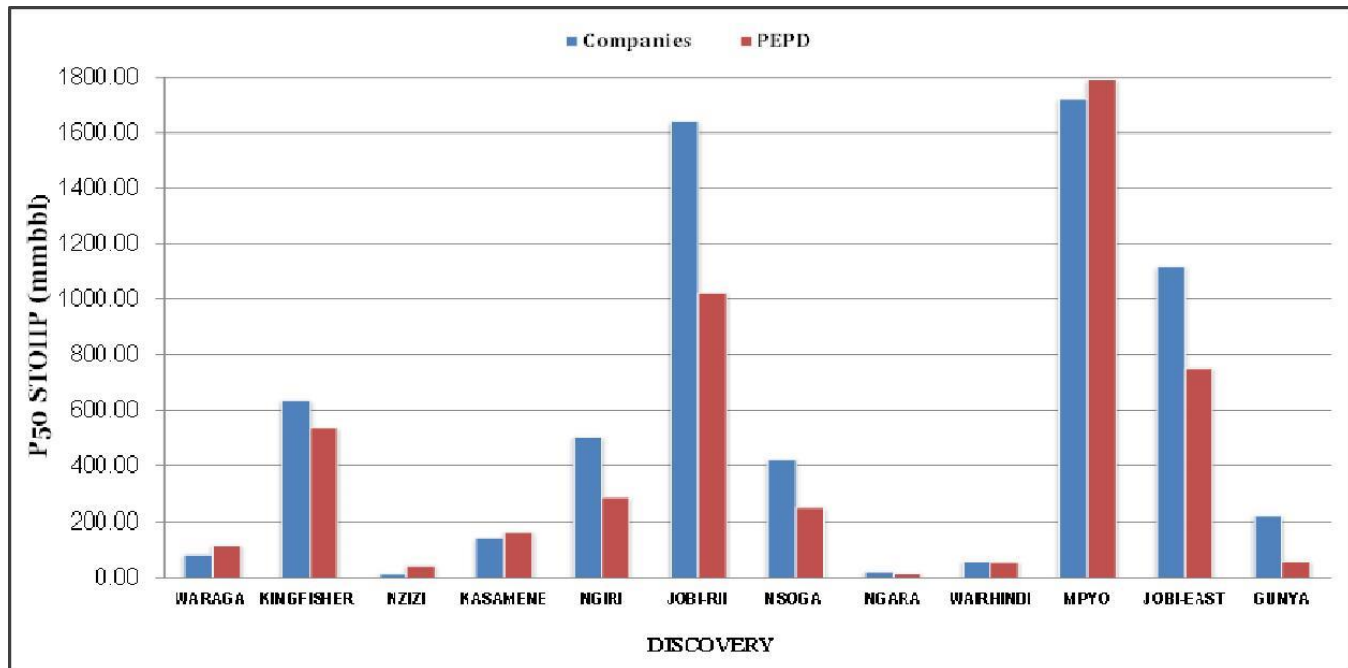


Figure 48: A Bar Chart showing a comparison of PEPD Vs Company estimates of reserves

Training on reserves estimation, risk and uncertainties was conducted by Institute France de Petrole (IFP) from 6th to 10th May 2013. The training covered aspects of reservoir characterization, reserves definition and classification, risk and uncertainty analysis and Enhanced Oil Recovery (EOR). It was attended by the department's staff who carry out resource estimation. This training was particularly useful in the classification exercise and defining of uncertainty in the resources estimates and will also be useful in evaluating the Petroleum Resource Reports submitted by the oil companies when applying for production licenses.

The development of Guidelines for Reporting of Petroleum Resources by Oil Companies was concluded during February 2013 and these were issued to the companies in December 2013 for implementation. These Guidelines are intended to provide guidance to the licensees on the requirements of the Petroleum Act and Regulations on resource reporting.

3.2.2 Development of a Stratigraphic Framework for the Albertine Graben

During the year, the Stratigraphic Commission progressed with its analysis and interpretation of data to develop a coherent stratigraphic framework for the Albertine Graben. Upon completion of final documents on the Semliki and Kaiso-Tonya areas, the commission embarked on the Butiaba-Wanseko document together with the areas of the Rhino camp and Lakes Edward & George basins.

The Commission reviewed the Northern Lake Albert stratigraphy and incorporated it in the stratigraphy of the entire Graben to form the first complete draft. The acquired well data especially from the drilled Mpyo and Gunya appraisal wells in EA 1 was also incorporated in the stratigraphic framework before it is completed.

The final reports were to be completed by the end of the reporting year and thereafter publications on the Stratigraphy of the entire Albertine Graben made in 2014.

3.2.3 Basin Analysis

The department is undertaking a comprehensive basin analysis of the Albertine Graben. The scope of the study is to determine tectonic history, depositional and thermal history, petroleum systems characterization and modeling, comparative basin analysis and assessment of undiscovered resources at play and prospect levels. Activities undertaken during the year included identification of available data including data gaps and procurement of Petroleum Systems modeling Software and related training.

3.2.4 Evaluation of Potential for Unconventional Hydrocarbon Resources

The department analyzed and interpreted seismic, geochemistry and well data with a view to evaluate the potential for unconventional resources in the Albertine Graben most especially in regard to shale gas and basement reservoirs. During the year, a technical paper on the potential for unconventional resources in Uganda was prepared and submitted and accepted by the American Association for Petroleum Geologists Conference that was held in Colombia. The department is also currently preparing a plan to evaluate the undiscovered petroleum resources in the country including both the conventional and unconventional resources.

During the year, the department reviewed and prepared technical papers on the potential of unconventional hydrocarbon resources in the Albertine Graben. This work was presented by Messrs Frank Mugisha (Principal Geophysicist) and Tonny Sserubiri during the Society of Exploration Geophysicists (SEG) workshop on use of Geophysics in unconventional resources which was held in Pittsburgh, USA from 2nd to 6th June 2013. Participation in this workshop enhanced the department's appreciation of the new techniques of evaluating the potential of unconventional resources that include shale gas, tight sands and possibly basement reservoirs through benchmarking with the work being undertaken in other parts of the world.

Messrs Frank Mugisha (Principal Geophysicist), Nurudin Njabire (Geologist) and Herbert Mugizi (Petroleum Engineer) participated in the Unconventional Resources Technology Conference which took place between 12th and 14th August 2013, in Denver, Colorado, USA. The Conference was a science driven event organized by the Society of Petroleum Engineers (SPE), American Association of Petroleum Geologists (AAPG) and Society of Exploration Geophysicists (SEG). The technical program covered 20 themes with 340 technical presentations, including oral and e-Papers, 6 interactive panels taking an in-depth look at technology transformation to government regulations, among other topics. The conference provided in-depth knowledge and experience on the exploration and technological requirements for the exploration and exploitation of unconventional resources in Uganda.

Potential for unconventional resources in Uganda is indicative in some drilled wells in the Kaiso Tonya area that have indicated oil shows within the fractured basement thus demonstrating that hydrocarbons could have migrated through and /or possibly accumulated within the basement. The Ngassa wells

showed high Total Organic Content (TOC) in the non-sandy (shaly) vertical section thus indicating hydrocarbon charge within the section. Further analyses which are required to understand and confirm the potential for unconventional resources in Uganda include mapping of, among others, structural closures within fractured basement, and aerial extent of high TOCs, fracture size & orientation within shaly section of the drilled wells.

3.3 STATUS OF LICENSING

The Petroleum (Exploration, Development and Production) Act, 2013 provides for licensing of acreage for petroleum exploration in Uganda through open, transparent and competitive bidding. In order to optimize development and facilitate sustainable development of the existing and undiscovered resources in the country, phased licensing of acreage is planned. During the period under review, the department undertook activities in preparation for the planned licensing round. These activities include: speculative geophysical surveys and evaluation of geophysical, geological and geochemical data.

The Albertine Graben is sub-divided into various Exploration Areas. Currently four areas are under licence to three operators; Tullow Uganda Operations Pty, Total E&P Uganda and China National Offshore Oil Corporation (CNOOC) Uganda. Total E&P is the operator of **Exploration Areas 1 & 1A**; and is carrying out an appraisal programme over the seven discoveries made in the two license areas. Tullow Oil is the operator of **Exploration Area 2**; and is carrying out appraisal programmes over seven of the discoveries made in this area. The appraisal work undertaken includes drilling of appraisal wells and undertaking Extended Well Testing to evaluate reservoir performance before development planning can be undertaken. Three discoveries in EA 2 are at the stage of development planning. Government is in discussions with the company over proposed development plans. **Kingfisher Discovery Area** is operated by CNOOC. Government is in discussions with the company over a revised Field Development Plan for the Kingfisher field to support the conditional Production license which was granted by Government in February 2012.

The department continued with preparations for the first licensing round through open competitive bidding as provided for in the Petroleum (Exploration, Development and Production) Act, 2013. In this regard, Government is planning to undertake a licensing of areas that have good coverage of geophysical and geological data. The target areas for the first licensing round include areas which have previously been licensed to oil companies and have been relinquished to Government and they include: the Kanywantaba, Ngagi, Turaco, Ngassa, Tatai and Karuka prospect areas.

3.4 MONITORING AND REGULATING LICENSED OIL COMPANIES

3.4.1 Exploration Area 1 (EA 1) AND 1A (EA 1A)

Total E&P Uganda B.V is the operator of these two license areas. The department monitored the following activities undertaken by Total E&P Uganda B.V during the period under review:

a) Drilling of Ondyek-1 (02N31E/112-1)

Ondyek-1 well was one of the five exploration wells drilled in Exploration Area 1A (EA-1A). The well is

located in Panyimur Subcounty, Nebbi district and was drilled using the Caroil rig. The objectives of drilling the well were to; study the complete stratigraphic sequence and to prove the prospectivity in the deepest part of EA-1A along the western bounding fault; evaluate the reservoir and seal extension / properties in the area; test the prospectivity of amplitudes identified on the seismic data acquired in the area; and evaluate the presence of source rock potential and maturity in the vicinity of the Northern Lake Albert and in the Nile Sub-Basin. Ondyek-1 well was spud on 03rd January, 2013 and reached a total depth of 1462mMBRT on 31st January 2013. The well did not encounter hydrocarbons and was plugged and abandoned on 4th February 2013.

b) Drilling and Testing of Ngiri-5/5A (02N31E/114-5/5A)

Ngiri-5/5A, an appraisal well together with its sidetrack, was drilled in the Central Panel of the Ngiri field which is located in Kigwera sub country in Buliisa District. The well was drilled by OGEC Krakow using the IRI 750 drilling rig. The objectives for drilling Ngiri-5/5A were among others; to drill and appraise the Ngiri South Panel (particularly the South western part); and to confirm the base case assumption that the H30 interval is disconnected from other intervals below. Ngiri-5 was spud on 14th February 2013 and reached a Total Depth (TD) of 760m MDBRT on 26th February 2013.

The well was side tracked into Ngiri-5A starting at a depth of 665m in order to acquire core samples between 703m and 729.5m in the reservoir section of the well. The side track was completed on 10th March 2013 after reaching the total depth of 953m MDBRT. This well intercepted an interval of approximately 180 meters of oil accumulations as confirmed by the pressure data in the H30, upper H27, H25 and H15 reservoir horizons.

Ngiri-5A was tested during March 2013 immediately after drilling. The objectives of the well testing were mainly to assess skin, near-wellbore permeability and short term productivity index in the H30 zone of the well and to evaluate the existence of no-flow boundaries.

The well was perforated at 703-709mBRT and a cumulative crude oil volume of 528.8 barrels was recovered after flowing for 32hrs and is stored at Ngiri-2 well site.

c) Testing of Jobi-2A (02N31E/91-2A)

Jobi-2, the first appraisal well on the Jobi-Rii field, located in Murchison Falls National Park, Nwoya District, was drilled vertically to a total depth of 590mBRT during June 2011 and was side tracked to Jobi-2A to a depth of 672mBRT basement. Jobi-2A was tested using the OGEC RR600 rig beginning on 16th February 2013 and was completed on 24th March 2013 followed by plugging and abandoning the well. The objective of this well test was to investigate the two major oil bearing zones i.e. H27U and H30. The H27U was perforated between 470-474mMD whereas the H30 was perforated between 442-445.5mMD. The well flowed at an average rate of 40bopd with a PCP pump set at 40rpm for both tests. A total of 98 barrels of crude oil was collected from both tests and stored in one bitutainer at Jobi-2/2A well site.

d) Testing of Jobi-3 (02N31E/102-2)

Jobi-3 well is located in Murchison Falls National Park, Nwoya District and was drilled during June 2012.

Well testing operations were undertaken during January and February 2013 using the OGEC Krakow RR600 rig. Three production tests for the H15U, H25 and H27U sands, acquisition of vertical interference data between the H15U and the H25 zones and injection tests in the H27U sands were carried out during the testing. The tests were successful and provided valuable data towards the understanding of the Jobi field and more importantly the injection of polymers into the H27Upper sands. The well flowed an average of 120 barrels of oil per day over the three zones and the total volume of oil flowed during the tests on this well was 822 barrels. This crude oil is currently stored in four bitutainers at the Jobi-3 well site.

e) Drilling of 02N31E/114-6 (Ngiri-6)

The Ngiri-6 appraisal well, located in Kigwera Subcounty, Buliisa district, was drilled using the EXALO (formerly Ogec Krakow) K900 drilling rig. The well was spud on 03rd May, 2013 and reached a total Depth (TD) of 1253m MDBRT (897m TVD) on 20th May, 2013.

The well intercepted oil accumulations in the H30, H27 and H25 sands over a gross interval of 195m (813m-956m) as confirmed by pressure and wireline data. The net hydrocarbon bearing interval in this well is 51m thick, giving a net to gross of about 26%. The rig was released from this well site on 6th June, 2013.

f) Drilling of 02N31E/114-7 (Ngiri-7)

Ngiri-7, an appraisal well, was drilled in the central panel of the Ngiri oil field. This well which is also located in Kigwera Subcounty, Buliisa District was drilled by Exalo using the IRI 750 drilling rig. The objectives of drilling Ngiri-7 were among others, to appraise the Ngiri Central panel by assessing its reservoir characteristics, the oil/water contact and possible disconnection between H30 and H27 together with evaluation of the fluid content and pressure regimes of the field's reservoir H30 to H15. The well was spud on 21st May 2013 and it reached a TD of 918.3mMDBRT on 2nd June 2013. This well intercepted oil accumulations over a net interval of 71.32 meters and pressure data confirmed presence of hydrocarbons. The well was plugged and abandoned on 8th June 2013.

g) Drilling of 02N31E/103-5 (Mpyo-2)

Mpyo-2 is a vertical appraisal well located in Purongo Subcounty, Nwoya District in Murchison Falls National Park. The well was drilled by Exalo using the RR600 rig with the objectives of: appraising the Northern panel of the Mpyo discovery, evaluating quality and continuity of all reservoir qualities; and assessing the possible connection or disconnection between the hydrocarbon accumulations in the different panels of the Mpyo Discovery.

The well was spud on 11th June, 2013 and it reached a total depth of 309mMBRT on 19th June 2013.

The well encountered four water bearing zones with no oil or gas shows.

h) Testing of Jobi-East 2A (02N31E/91-3A)

Jobi-East-2/2A is located in Murchison Falls National Park, Nwoya District and was drilled during September 2011. Well testing operations were undertaken on the Jobi-East 2A sidetrack well during March and April 2013 using the Exalo RR600 rig. The well was opened for main flow on 27th March 2013 and flowed a total volume of 178 barrels of test crude for all the three tested zones with an average flow rate of 40bbbls per day. The rig was released after flow testing on 19th April 2013.

i) Testing of Lyec-1 (02N31E/79-1)

Lyec-1, a vertical exploration well in Murchison Falls National Park, Nwoya District, was drilled during December 2012 to evaluate the possible extension of the Jobi East discovery into Exploration Area 1A. The well intercepted hydrocarbons in the H30, H27 and H25 reservoir intervals. Well testing was subsequently undertaken on this well with the objective of determining fluid mobility, collecting fluid samples for analysis and determining the existence of near well bore reservoir heterogeneities and limits.

The well was tested using the ZPEB 26 work over drilling unit.

Testing operations commenced on 1st May 2013 and were concluded on 7th June 2013. The well flowed viscous crude oil from the H25U zone. The H27 zone of this field failed to flow to surface and subsequently testing of the H30 zone was also abandoned. Interpretation of the data collected from the test is still on going.

j) Drilling of Well 02N31E/103-6/6A (Mpyo 4/4A)

Mpyo-4/4A, a vertical appraisal well located in Purongo Sub County, Nwoya District was drilled to, among others, appraise the Mpyo North panel up-dip of the Mpyo discovery and to evaluate quality and continuity of all the reservoir intervals. The well was drilled using the EXALO RR600 rig.

Mpyo-4 well was spud on 26th June 2013 and reached a Total Depth (TD) of 428mMBRT (Measured Below Rotary Table) on 2nd July 2013. Mpyo 4 was then side tracked into Mpyo-4A starting at a depth of 148m in order to acquire core samples in the reservoir section of the well. The side track was completed on 13th July 2013 after reaching a TD of 428m MDBRT. The well encountered oil with gross pay of 162m and net pay of 62m as depicted from the petrophysical analysis. The well was suspended for future re-entry to undertake injection testing.

k) Drilling of Well 02N31E/114-8 (Gunya-2)

Gunya-2 appraisal well is located in Avogera village, Ngwedo sub-county, Buliisa district. It was drilled as a vertical well to appraise the down-dip and oil-water contact of the Gunya South panel discovered by Gunya-1 well. The well was drilled using the EXALO IRI-750 rig.

The well, which was spud on 5th July, 2013 and reached a TD of 825m MDBRT on 17th July, 2013, intercepted oil accumulations in the H30 (well developed sands) over a gross interval of 28.6m and a net interval of about 13.3m. Gunya-2 was plugged and abandoned.

l) Drilling of Well 02N31E/114-9/9A (GUNYA-3/3A)

Gunya-3 is a vertical appraisal well located in Kigwera Sub County, Buliisa District. The well was drilled using the EXALO K900 rig to appraise the Gunya Central panel to the North of Gunya-1 discovery and to assess the possible connection or disconnection between the hydrocarbon columns in the different Gunya panels, among other objectives.

The pilot hole (Gunya-3) was spud on 23rd July, 2013 and drilled to a TD of 734mMBRT. The well was sidetracked to Gunya-3A on 10th August, 2013 at 438mMBRT and reached a TD of 721mMBRT on 22nd August, 2013. A total of 10 cores were taken in the H30, H27 and H25 horizons.

The well encountered oil from 508m to 634mMBRT with gross pay of 126m and net pay of 21.5m depicted from the petrophysical analysis. Gunya-3 was plugged and abandoned and the sidetrack (Gunya-3A) was suspended on 2nd September, 2013 for an injection test.

m) Drilling of Well 02N31E/91-5/5A (Jobi East-7/7A)

Jobi East-7/7A appraisal well is located in the Northern part of the Lake Albert basin within Murchison Falls National Park in Purongo Sub-County, Nwoya District. Jobi East 7 was drilled as a vertical appraisal well using the EXALO RR600 and later sidetracked by well Jobi East 7A in order to allow for selective coring of the seal and reservoir intervals.

Jobi East-7 was spud on 29th July, 2013 and reached TD of 440mMD/RT on 5th August 2013. Drilling of the sidetrack commenced on 7th August 2013 and reached a TD of 444mMBRT on 17th August 2013. The well encountered oil within the H27 and H25 reservoir zones with a gross pay of 38.9 and net pay of 15.6m as interpreted from the petrophysical analysis. Jobi East 7/7A was also plugged and abandoned.

n) Drilling of Well 02N31E/103-7/A (Mpyo-5/5A)

Mpyo-5/5A is an appraisal well, which was drilled in the South panel of the Mpyo field. The well, which is located in Murchison Falls National Park, Pakanyi Subcounty, Masindi District was drilled using the EXALO IRI 750 rig. The objectives of drilling Mpyo-5/5A were among others, to appraise the up-dip extension of Mpyo South panel to the North-East of Mpyo-3 Discovery, to appraise the H30 proven reservoirs in the Mpyo-3 panel and to evaluate the presence of hydrocarbons in the H27 and H25 reservoir up-dip of Mpyo-3. The well was spud on 31st July 2013 and reached a TD of 392mMDBRT on 6th August 2013. The well was side tracked into Mpyo-5A starting at a depth of 180m in order to acquire core samples in the reservoir section of the well. The side track was completed on 15th August 2013 after reaching a TD of 392m MDBRT. This well intercepted oil accumulations over a net interval of 35.8m and pressure data confirmed presence of hydrocarbons.

o) Drilling and Testing of Well 02N31E/91-6/6A (Jobi-East 3/3A)

The Jobi East-3/3A appraisal well is located in the Northern part of the Lake Albert basin within Murchison Falls National Park in Purongo Sub-County, Nwoya District. Jobi East-3 was drilled as a vertical appraisal well using the EXALO RR600 and later sidetracked by well Jobi East-3A in order to allow for selective coring of the seal and reservoir intervals.

Jobi East-3 (Pilot Hole) was spud on 2nd September, 2013 and reached TD of 254mMD/RT on 6th September 2013. The pilot hole was subsequently plugged and abandoned. Drilling of the sidetrack commenced on 8th September 2013 and reached a TD of 254m MD/RT on 13th September 2013. The well encountered Oil within the H30, H27 and H25 reservoir zones with gross pay of 66m and net pay of 21.5m as interpreted from the petrophysical analysis.

Jobi East-3A was subsequently handed over for testing on 19th September 2013. One production and injection test were performed over the H25 reservoir. The well was opened up for the main flow period on 25th September 2013 lasting for 4.5 hours due to declining reservoir pressure and the well was thereafter shut-in on 29th September 2013 for 100 hours build up.

The cumulative liquid produced during this test was 10.2bbbls with 7.6bbbls of oil and the rest being produced was water. An injection test was also performed on the H25 reservoir interval at 0.4 bpm (barrels per minute) for a total of 21 hours with a cumulative volume of 53.7 barrels pumped into the formation. The well was then subsequently plugged and abandoned.

p) Drilling and Testing of Well 02N31E/91-4/4A(Jobi East - 6/6A)

The Jobi East-6/6A appraisal well is located within Murchison Falls National Park in Purongo Sub-County, Nwoya District. The well was drilled with the objective of appraising the up-dip extension of Jobi East-1 panel to the North of Jobi East discovery and assessing the possible gas column in H27 (the middle

reservoir zone of this area), among others. The well, which was drilled using the CAROIL-2 rig, was later sidetracked to Jobi East-6A in order to allow for coring and production testing.

Jobi East-6 was spud on 14th July 2013 and reached TD of 427mMBRT on 23rd July 2013. Drilling of the sidetrack commenced on 25th July 2013 and reached a TD of 434m MD/RT on 4th August, 2013. The well encountered Oil and gas within the H30, oil within the H27, H25 and H15U reservoir zones with gross pay of 104m and net pay of 32.9mm as interpreted from the petrophysical analysis. A total of 12 cores were retrieved from 253m – 354m. The well was suspended for the well testing operations. Well testing operations were undertaken on the Jobi East-6A sidetrack well using the Caroil-2 rig.

Production and Injection tests were undertaken on the H25 and H27 reservoirs. The well was opened for main flow on 18th August 2013 and flowed a total of 164.01 barrels of oil from both zones with an average flow rate of 4.3 barrels per day. The rig was released on 18th September, 2013 and the well was plugged and abandoned.

q) Drilling of Well 02N31E/114-10/10A (Gunya-4/4A)

Gunya 4/4A, an appraisal well was drilled in the North Panel of the Gunya field and is located in Ngwedo sub county, in Buliisa district. The well was drilled using the EXALO IRI 750 drilling rig. The objectives for drilling Gunya-4/4A were among others, to appraise the Gunya North panel to the North-West of Gunya-1 discovery well, and to acquire geo-mechanical stress data and confirm current fracture gradients hypothesis.

The well was spud on 30th August, 2013 and it reached a Total Depth (TD) of 866mMDRT on 10th September, 2013. The well was side tracked into Gunay-4A starting at a depth of 546mMDRT in order to acquire core samples in the reservoir section of the well. The side track was completed on 25th September, 2013 after reaching the total depth of 866m MDBRT. This well intercepted oil accumulations over a net interval of 29.5metres and pressure data confirmed presence of hydrocarbons. The well was plugged and abandoned.

r) Drilling of Well 02N31E/115-2 (Mpyo-6)

Mpyo-6, a vertical appraisal well is located in Mubako village, Kigwera, Sub County in Buliisa District.

Mpyo-6 was drilled by EXALO using the K900 rig to appraise the down-dip extension of Mpyo South Panel to the South-West of Mpyo-1 discovery and assess the cap rock integrity for deeper reservoirs (geomechanics), among others.

Mpyo-6 was spud on 20th September, 2013 and reached a TD of 628m MBRT on 01st October, 2013.

The well encountered oil from 415m to 465.5m MDRT with gross pay of 29m and net pay of 17.9m depicted from the petrophysical analysis. The well was suspended for a productivity and injection test.

s) Drilling and testing of 02N31E/102-4(JOBI-6)

Jobi-6 is the first horizontal well to be drilled in Uganda and is located in Murchison Falls National Park in Nwoya District.

Jobi 6 was drilled as an appraisal well by TOTAL within the Central Panel to drill a sub-horizontal drain of 1000m targeting H25 and H15 reservoir intervals using the rig Caroil-2. The well was spudded on 10th

October 2013. The Horizontal leg mainly intercepted H25 and H15 reservoirs on 8th November 2013. The well was thereafter tested using the same rig. One production was performed with the H15 reservoirs. The well was opened up for the clean up on 7th December 2013 and had average flow rate of 1160BOPD. The well had a cumulative production of 1704 barrels of liquid with 1505bbls of oil and the rest being produced was water/sediments/brine/diesel. After the production test, the well was plugged and abandoned on 23rd December 2013.

t) Drilling of Jobi East-4

Jobi-East-4, a vertical appraisal well located in Murchison Falls National park, Nwoya District was drilled with the objective of appraising the presence of hydrocarbon in the Jobi-East-4 panel up-dip of Jobi East-3. The well, which was drilled using the Exalo RR 600 rig, was spud on 12th October 2013 and reached a TD of 235mMDBRT on 17th October, 2013. The well intercepted hydrocarbon at 135m (H30) and 146m (H27) respectively and was plugged and abandoned on 20th October, 2013.

u) Drilling of 02N31E115-3 (Mpyo-7)

Mpyo-7 is within the Murchison Falls National Park in Nwoya District and was drilled as a vertical appraisal using the Exalo IRI 750 rig. The objective of drilling Mpyo-7 was to appraise the up-dip South-East lateral extension of Mpyo-South Panel to the South-East of Mpyo-3 well. The well was spud on 14th October, 2013 and reached TD of 530mMD/RT on 20th October, 2013.

The well encountered hydrocarbons in the H35 reservoir of a net pay 10.5m and a reservoir interval of 60.5m (237m – 297.5m). The H33, H30, H27 and H25 reservoir zones were all water bearing as interpreted from the wireline petrophysical analysis and pressure data. The well was plugged and abandoned and the rig was released on 26th October, 2013.

v) Testing of 02N31E/115-2 (Mpyo-6)

Mpyo-6 was drilled by Exalo K-900 rig as a vertical well to appraise the down-dip extension of Mpyo South Panel South West of Mpyo-1 discovery during September 2013 and is located in Kigwera Sub County, Buliisa District. The well test operations commenced on 24th November 2013 using the ZPEB Rig 26 and involved one production test and one Injection test in the H27 reservoir. The objective of the tests were to characterize the productive potential, recover surface and bottom hole fluid samples for PVT and flow assurance studies, and evaluate the connected volume to the well.

The well flowed at an average rate of 190 BOPD and cumulatively produced 315 barrels. The operations ended on 25th December 2013 after final plug and abandonment. The H27 reservoir zone flowed at a rate of 190 BOPD.

w) Testing of Jobi-East 3A (02N31E/)

The Jobi-East-3A well was tested between 19th September 2013 and 3rd October 2013 using the OGEC

RR600 rig. The test involved one production and injectivity tests were performed on the H25 reservoir zone. The well was flowed a total of 10.2 barrels with 7.6bbls of oil and the rest being water and brine. The well test was able to achieve the intended objective and was subsequently plugged and abandoned on 3rd October 2013.

x) Testing of Jobi-East 2A (02N31E/91-3A)

Jobi-East-2/2A is located in Murchison Falls National Park, Nwoya District and was drilled during September 2011. Well testing operations were undertaken on the Jobi-East 2A sidetrack well during March and April 2013 using the Exalo RR600 rig. The well was opened for main flow on 27th March 2013 and flowed a total volume of 178 barrels of test crude for all the three tested zones with an average flow rate of 40bbls per day. The rig was released after flow testing on 19th April 2013.

y) Testing of Gunya-3A (02N31E/114-9A)

Gunya-3 was drilled using OGEC K900 (EXALO 103) rig during July 2013 and was sidetracked to Gunya-3A. The well testing operations were undertaken during October and November 2013 using the ZPEB R26 work over unit.

The operations included carrying out 3 production tests, 3 Mini-Frac, injection tests (using both hot water and polymer) and fall-off tests on each of the H25, H27 and H30 zones of Gunya-3A.

The well was completed with sand control screens, heat tracing and a Progressive Cavity Pump (PCP). It produced a total of 1161 barrels of crude oil assisted by a PCP. The overall objectives of the testing programme were met. The well was plugged and abandoned on 23rd November 2013.

z) Three Dimensional (3D) Seismic Survey

As part of the appraisal process, Total E&P Uganda (Total) commenced the acquisition of 405.8 km² of 3D seismic data over the Jobi, Rii, Mpyo, Gunya, Jobi-East and Lyeo discoveries in the Murchison Falls National Park in Nwoya and Buliisa Districts. The acquisition of this 3D seismic data is part of the appraisal program to further evaluate both the lateral and horizontal extent of the discoveries. Oriental Geophysical Uganda Co. Ltd a subsidiary of Bureau Geophysical Company (BGP) of China was contracted to undertake the survey on behalf of Total. The Survey was expected to last 12 months to be undertaken in phases to minimize the environmental foot print in the park. Mobilization of the equipment commenced on 14th February 2013 and training of Ugandans and surveying was carried out. In the design of this project, considerations were made to limit the environmental foot print. The energy source to be used was a combination of both vibrators which do not require line clearance and dynamite where vibrators cannot access. In addition, recording of this data is done using cable-less technology which requires limited movements within the National Park. The Z-Land cable-less technology used for this survey is the first of its kind in Uganda and onshore Africa. This technology ensures minimal environmental foot print in the Murchison Falls National Park and Game Reserve during the survey. The equipment and operations were also designed to limit the visibility in the park as seen on the vibrator which is used as a source of energy recorded.

These discoveries were made based on the two dimensional (2D) seismic data earlier acquired and wells drilled in that area. The 3D acquisition area was demarcated into four zippers. Acquisition of the 3D seismic data commenced during May 2013 starting with Zipper 1 which covers 26% of the total area. Data acquisition and recording over Zipper 1 was concluded on 1st August, 2013 and activity in Zipper 2 commenced on 14th June, 2013. Zipper 2 covers 42.7% of the planned 405 sq. km.

During the survey, Oriental Geophysical Company Uganda Limited (BGP), the company which was contracted by Total E&P to acquire the seismic data, encountered two separate unexploded explosive devices in the survey area. Total E&P therefore declared a force majeure on 21st September, 2013 and suspended activity to allow for assessment of the potential risks. The Ministry of Defence was informed and undertook a sweep of the area before the force majeure could be lifted for operations to resume.

The seismic survey conducted over the Jobi, Rii, Mpyo, Gunya, Jobi East and Lyec discoveries in EA1/EA1A by Oriental Geophysical Uganda Co. Limited on behalf of Total E&P Uganda continued. The pace of activities was, however, slowed down by the Force Majeure that was declared on 27th September 2013 following the presence of unexploded grenades in Zipper 2 (Jobi East and Lyec area). The operations were then moved to zipper 3 (Gunya and Ngiri area), however, these were also slowed down by standby on 12th October 2013 due to disagreement on compensation rates. All these issues were resolved amicably and subsequently the activities continued.

Progress of 3 Dimensional seismic survey in EA1 and EA 1A

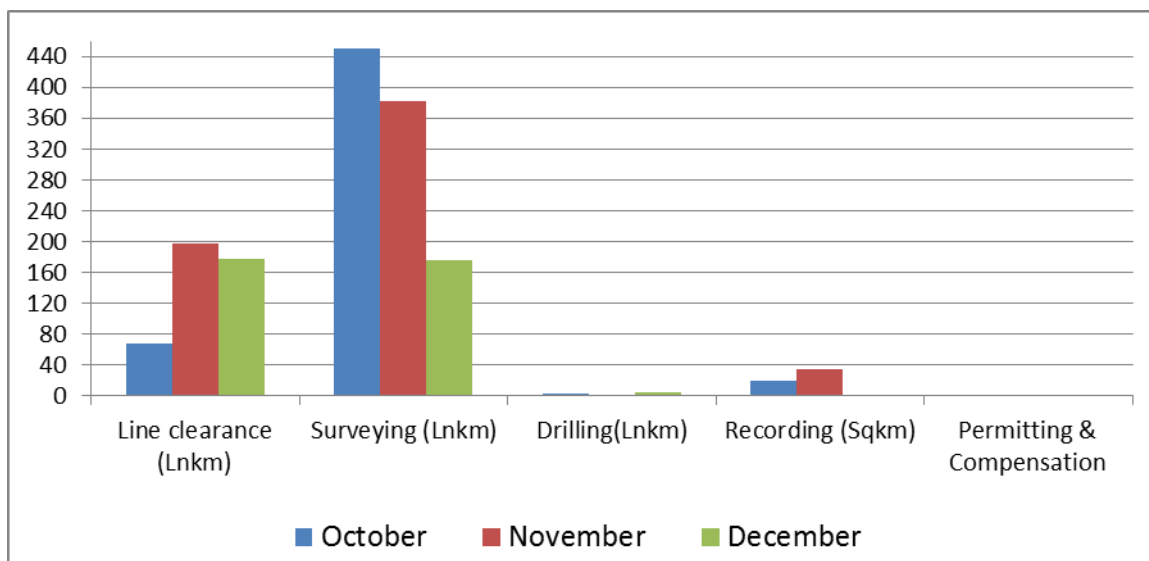


Figure 49: Progress of 3 Dimensional seismic survey in EA1 and EA 1A

3.4.2 Exploration Area 2 (EA 2)

The license over this area is operated by Tullow Uganda Operations Pty Ltd (TUOP) and the activities carried out over this licence area during this period included:

a) Development and Production Planning

Tullow Operations Uganda Limited Pty (TUOP) organised a three day workshop to discuss the Field Development Plans (FDPs) for the discoveries in EA 2 North (Buliisa District). The workshop which was held at Tullow Oil’s office in London, UK from 24th – 26th April 2013, was attended by five members of staff from the department.

Subsequently, TUOPL submitted two applications for production licenses for six discoveries in Buliisa, namely, Kigogole, Nsoga, Ngara and Ngege (KNNN) together with Kasamene and Wahrindi (KW) during June 2013. The applications were submitted together with the Field Development Plans and Petroleum Reservoir Reports for each of the fields.

Following the submission of the applications for production licenses for the six discoveries in Buliisa by Tullow Operations Uganda Limited Pty, the department held a series of workshops to review the submissions. The department subsequently finalized the review of the Field Development Plans (FDPs) and Petroleum Reservoir Reports (PRRs) for two of the six discoveries in Buliisa, namely, Kigogole, Nsoga, Ngara and Ngege (KNNN) together with Kasamene and Wahrindi (KW). Comments on the Field Development Plans (FDPs) and Petroleum Reservoir Reports (PRRs) were submitted to TUOPL, the operator.

Government expressed interest (state participation) to participate in KNNN and KW after economic assessment with a 15% participating interest.



Figure 50: Left: Hoima woman MP Hon. Tophace Kahwa, Hoima RDC Jeanne Kaliba & Chairperson UWOPA Hon. Rosemary Nyakikongoro listen attentively to issues raised by PAPs. Right: Mr. Robert Kasande Project Manager – Refinery consulting the Minister of state for Energy Hon. Simon D’Ujanga.

b) Appraisal of Waraga Discovery

An Advisory Committee Meeting (ACM) that was held during June 2013 approved the work programme and budget for drilling of the Waraga-3 appraisal well. The objective of drilling a 3rd well on the Waraga discovery is to appraise the discovery of the new oil bearing zone that was found in Waraga-2 well but had not been encountered in Waraga-1. Waraga-3 was expected to be drilled in the 4th quarter of 2013. In preparation for this, the company planned to undertake some repairs to upgrade the Wambabya Bridge in consultation with Uganda National Roads Authority (UNRA) to be able to move the drilling rig. In addition, an Environment Impact Assessment study for the above work programme was also submitted to NEMA for review and approval.

c) Testing of Ngege-4A (02N31E/127-8A)

Ngege 4 was drilled during April 2012 and was sidetracked to Ngege 4A and is the third appraisal well drilled on the Ngege discovery. The well, which is located in Buliisa Sub County, Buliisa District was tested

during February 2013 using the OGEC A-50 work over unit. The objectives of the well test were to: establish productivity; collect samples; and acquire dynamic reservoir performance data to calibrate models, determine flow barriers/discontinuities, determine near well-bore properties (e.g. permeability and skin) and address the uncertainties in the total oil in place in the Ngege discovery.

The well was completed with sand control screens, heat tracing and a Progressive Cavity Pump (PCP) and perforated from 323.7 to 342.4mBRT. It produced a total of 59 barrels of fluids in a flow period of 57 hours (a rate of 24 BPD), assisted by a PCP at 100rpm. Crude oil API gravity was 23 Degrees at 60°F. The test crude was transferred for storage at Kasamene-1 crude storage site. Interpretation of the data collected is still on going, but overall objectives of the testing programme were met. The well was successfully suspended for use in the development phase.

3.4.3 Kingfisher Discovery Area

The license over this area is operated by China National Offshore Oil Corporation (CNOOC).

Government granted a conditional production licence over the Kingfisher field during February 2012.

In line with the conditional license, CNOOC subsequently submitted an updated FDP and PRR for the field.

Discussions on the FDP and PRR for Kingfisher were held and final documents were due to be submitted by the licensee prior to lifting the condition of the production license.

During the review period, CNOOC completed a survey for the access road from Ikamiro village, over the escarpment to Buhuka Parish, Kyangwali Subcounty where the the Kingfisher Development Area (KFDA) is located. This was in preparation for development activities in this area.

The company disclosed the general approach to the compensation to the Government Authorities including Hoima District Local Government office, sub county headquarters, and villages affected.

Also during the review period, Government held several discussions through technical meetings with CNOOC specifically to reach an agreement on gas utilization and production plateau in the submitted Field Development Plan. By the end of the year, an agreement had been reached on the production plateau while discussions on gas utilization were still ongoing.

The license over this area is operated by China National Offshore Oil Corporation (CNOOC) Uganda Limited. Government granted a conditional production licence over the Kingfisher field in February 2012.

During November 2012, CNOOC Uganda Limited submitted a revised Field Development Plan (FDP) and Petroleum Reservoir Report (PRR) to Government which were extensively reviewed and subsequently approved. The conditions on the grant of this Production License were then lifted on 16th September 2013 thereby marking the entry of Uganda into the development phase of the Petroleum Value Chain.

The in-place oil in the Kingfisher field is estimated to be 635 million barrels, of which 196 million barrels are estimated to be recoverable. The field will be developed to produce between 30,000 – 40,000 barrels of oil per day (bopd). The production rate will be firmed up by further studies which will be undertaken during the development of this field. This planned production is expected to be achieved by drilling forty (40) development wells which will include 27 producers and 13 injectors.

The production of oil from the Kingfisher field will also lead to production of associated gas. Some of this gas will be used to generate electricity for operating the facilities in the field. CNOOC Uganda Limited will undertake studies to determine the optimum solution for the utilisation of the gas that will not be used to generate power for the operations in the field (excess associated gas) and the options to be studied include:

- ◆ Transportation of the excess gas to Kabaale refinery area for power generation;
- ◆ Setting up of facilities to produce liquefied petroleum gas (LPG); and,
- ◆ Onsite generation and export of power from the Kingfisher field.

During this period, a 2D seismic testing survey was also conducted in the Kingfisher Field Development Area (KFDA) by Oriental Geophysical Uganda Co. Limited on behalf of CNOOC Uganda, in order to assess the acquisition parameters to aid in planning the geometry for the future 3D survey planned. The survey commenced on 16th December, 2013 and covered a distance of 9.351km which was mostly across the lake. The survey operations carried out included; pre-assessment/permitting, line preparation, surveying, drilling and recording.

3.4.4 Kanywataba Prospect Area

The license over this area was operated by China National Offshore Oil Corporation (Uganda) and expired and reverted to Government in August 2012 following the drilling of the Kanywataba-1 well which did not encounter hydrocarbons.

Following the inspection of restored sites in the Kanywataba prospect area by a monitoring team from UWA and PEPD in November 2012, it was agreed that the sites should be given an observation period until March 2013, to determine if they have responded to natural re-growth of vegetation.

On March 13th, 2013, a team from CNOOC, NEMA, UWA and PEPD visited the restored sites in the Kanywataba prospect which lies within the Toro-Semiliki game reserve in Kanara Sub-county, Ntoroko District. Findings were that the vegetation at the well site has responded to natural re-growth and the access road to the Kanywataba-1 well site was not restored as requested by UWA.

3.4.5 Health Safety Environment (HSE) Monitoring

a. During the period under review, the department continued to review Environmental Impact Assessments (EIA) together with other environmental reports and plans, evaluations, assessments and proposals submitted by oil companies.

b. The department also monitored the operations of Meteocean Services International (MSI) on Lake Albert from 11th -18th April 2013. MSI was contracted by TUOP to undertake an assessment of current tide, wave and meteorological measurement on Lake Albert, Uganda. The objective is to obtain reliable metocean (meteorological and oceanographic) data so as to facilitate safe marine operations on and near Lake Albert. This data is important for climatological and statistical analysis of metocean conditions (Lake surface heights, wind, wave current, tidal conditions etc.) so as to facilitate the design of the equipment to be used in offshore operations.

c. The department together with NEMA, MTWA and Rukungiri District Local Government undertook an environment inspection visit on 18th and 19th June 2013 to EA-4B to assess the progress of environmental restoration by Dominion Petroleum Uganda Limited (DUL) in this area. The sites visited by the team included Mpundu-1 waste consolidation site, Bwambala Murram extraction site as well as the restored Ngaji-1 well site and Rwanshama camp.

3.4.6 Guidelines for monitoring field operations

Guidelines for Monitoring Field Operations were developed by the department in order to facilitate the efficient monitoring of field operations that are conducted by oil companies. These guidelines are also meant to give direction to monitors on the different areas of field operations that require focus and how to report while in the field. In addition, the guidelines will streamline the efforts on enforcing compliance of oil companies while conducting their operations.

The guidelines were finalized in February 2013 and have been adopted by the department for use by the field monitors and implementation of the guidelines has commenced.

3.4.7 Guidelines for preparation of Field Development Plans (FDP) and Petroleum Reservoir Reports (PRR)

The department also developed Guidelines for Preparation and Submission of FDPs and PRRs. The purpose of the Guidelines is to provide advice to the licensees on how a FDP and PRR should be prepared in a manner and format which address Government's requirements. The Guidelines also help to explain the administrative processes involved during the processing of the FDP/PRR and contribute to efficient cooperation between the licensees and the regulatory Government authorities. The Guidelines were finalized with and are awaiting final approval by MEMD before they are operationalized and subsequently circulated to the oil companies for implementation.

3.4.8 Guidelines for reporting petroleum resources

The department completed the development of Guidelines for Reporting of Petroleum Resources by Oil Companies during February 2013. These Guidelines are intended to provide guidance to the licensees on the requirements of the Petroleum Act and Regulations on resource reporting. The Guidelines will align the reporting requirements for oil and gas resources in the country with global industry standards as well as promoting consistency in the quality of reporting of resources. The Guidelines are currently awaiting final approval before they can be issued to the companies for implementation.

3.4.9 Guidelines for data submission by operating oil companies

The department held a workshop from 10th -11th January 2013 to prepare guidelines for submission of E&P Data to Government by the oil companies and other data acquisition companies. Once adopted, the guidelines will complement existing legislation and will assist operators in complying with regulatory requirements pertaining to the form and manner in which well and seismic data should be submitted to Government. The first draft of the Guidelines has been prepared and is under review by the Department.

Once completed and adopted, the Guidelines will be published for use by the operating oil companies.

3.5 PLANS FOR COMMERCIALISING THE DISCOVERED OIL AND GAS RESOURCES

3.5.1 Refinery Development

a) Land Acquisition for Refinery Development

The process of acquiring land for the oil refinery development in Kabaale Parish, Buseruka Subcounty, Hoima District progressed during the period under review.

The department together with the Consultant, Strategic Friends International Limited presented the findings of the Resettlement Action Plan (RAP) study on 17th January 2013 to key stakeholders from Government Institutions. The total population of affected persons and households is 7,118 and 1,221 respectively with the implementation period estimated to be eight (8) months.

The Public Procurement and Disposal of Assets Authority (PPDA) and the Solicitor General cleared the engagement of a consultant (Strategic Friends International) to implement the recommendations of the Resettlement Action Plan (RAP) study in June 2013.

The RAP implementation involving compensation and/ or resettlement is an extensive process which includes a number of activities before actual payment for the land is made. These activities include disclosure of compensation values, verification of the project affected persons (PAPs), livelihood improvement training and identification of resettlement areas and construction of resettlement houses, among others. The implementation phase was projected to take at least eight months.

Implementation of the Resettlement Action Plan (RAP) for the 29 square kilometers of land that will host the Refinery and its attendant infrastructure commenced during July 2013 with disclosure of compensation amounts for the land, crops and other property including a disturbance allowance of 30% to the Project Affected Persons (PAPs).

The compensation amounts were approved by the Chief Government Valuer (CGV) and the rates for crops, trees, and non-permanent property used were Hoima district rates for 2011/2012 as approved by the CGV at the time when the RAP study was concluded in June 2012. Following disclosure, the PAPs were required to sign agreements certifying the assessments and register any disputes. The registered disputes are being addressed through the grievance handling mechanism highlighted in the RAP study. The PAPs signed disclosure agreements. Following the disclosure exercise, the Project Affected Persons (PAPs) underwent financial management training before the payment process commenced.

Implementation of the Resettlement Action Plan (RAP) for persons affected by land acquisition for the refinery development was launched in July 2013 and commenced with disclosure of compensation entitlements to the project affected persons (PAPs). This was followed by training in livelihood restoration interventions which encompassed training in basic financial management, improved agriculture and small and medium business enterprises management which was concluded in November 2013. By the end of the year, 2427 of the 2473 PAPs signed the compensation agreements, of which 70 opted for relocation.

An advert for expression of interest to provide land within Buseruka Sub County for the resettlement of

PAPs was issued in the New Vision newspaper of 29th October 2013 and four responses were received. An evaluation was made and two of the four bids were disqualified since their land was not found in Buseruka Sub County. The payment process of compensation packages was launched on the 16th December 2013 by the Ministers of State for Energy, Eng. Simon D’Ujanga and that of Bunyoro Affairs, Hon. Ernest Kiiza. By the end of December, the first batch of 244 PAPs had received their compensation packages.

Challenges to RAP Implementation

- There was increased activity from Civil Society Organisations (CSOs) that were inciting the residents of the refinery land to reject the RAP implementation process. This in some cases also resulted in low turn up in some areas. In addition, grievances within families regarding rightful ownership of property, especially targeting women, at times caused delays in signing agreements. However, there are different committees in place which serve to resolve such issues, thus allowing the process to go on despite the delays.
- The budget requirements for compensation and relocation is greater than the budget provisions made for the financial year (FY) 2013/2014. Thus there is need for additional funds in order to conclude the process to avoid anxiety among the PAPs who are yet to receive their compensation.
- Grievances within families regarding rightful ownership of property between spouses which have at times caused delays in signing agreements. However, these have been handled and continue to be handled in accordance with the grievance handling mechanism enshrined in the RAP implementation framework. There still remain a number of households that have not yet signed the compensation agreements but this is also being handled.

b) Transaction Advisory Services for the Refinery Development

Following the bid evaluation process, Taylor-DeJongh from USA together with their four sub-consultants, namely, Eversheds LLP, a London based law firm, Jacobs Consultancy Inc, a petroleum and chemicals consultant in Houston USA, and the two Ugandan firms ACMIRS Partners and Katende Ssempebwa & Company, emerged as the best bidder. The contract for their services was signed on 31st January 2013 after approval by the Solicitor General. The Consultant commenced work with a kick - off meeting on 12th February 2013. One of the issues on the critical path for this assignment was the issuing of a Request for Qualification (RFQ) for the lead investor.

Taylor – DeJongh, the Transaction Advisor (TA) for the Refinery Development, submitted a draft Request for Qualification (RFQ) for the lead investor for the refinery. The RFQ was reviewed and the changes submitted to the Consultant for incorporation.

Discussions were held between the Ministry and PPDA on the most efficient procurement process to be undertaken in identifying the lead investor in order to facilitate the timely and efficient development of the refinery. During the period under review, the Ministry received a waiver from PPDA for the procurement of a lead investor using procedures based on the Public Private Partnership (PPP) policy and

Bill, paving way for the commencement of the procurement process for a lead investor to partner with Government in the development of the refinery. The TA prepared a Request for Qualification for the lead investor/ developer, which was reviewed by the department to be issued during October 2013.

The department worked with the Transaction Advisor (TA), Taylor DeJongh (TDJ) to develop a fully flexible financial model for the refinery. In addition TDJ submitted draft commercial and corporate project structures and a pricing and sales strategy for crude oil and refined products. These were reviewed by the department and the comments generated were discussed with the consultant and incorporated into a final document.

TDJ also carried out equity and debt sounding with a number of potential financiers and investors, respectively.

The process of identifying the lead investor for refinery development progressed with the issuance of adverts for the Request for Qualification (RFQ) for a Lead Investor/Operator for the development, implementation and operation of a 60,000 barrels per day (BPD) oil refinery and related downstream infrastructure during the week of the 8th October 2013. The adverts were published in local, regional and international press. Seventy five (75) firms/individuals responded to the RFQ advert out of which sixty five (65) were granted access to the RFQ document following pre-screening. By the submission deadline of 8th November 2013, eight (8) Statements of Qualifications (SOQs) were received from different firms and/or consortia. The SOQs were evaluated by a team comprising of GOU representatives and the transaction advisor from 11th – 15th November 2013. Six firms (below) were shortlisted to proceed to the next stage of submission of the proposals. These are: Consortium led by China Petroleum Pipeline Bureau - China; Marubeni Corporation – Japan; Consortium led by Petrofac – UAE; Consortium led by RT Global resources – Russia; Consortium led by SK Energy – Korea; Consortium led by Vitol SA (Swiss) with Samsung Engineering (Korea). The Request for Proposal (RFP) is being finalized and is expected to be issued in 2014.

c) Environmental Baseline Survey

The Ministry contracted a local consultancy firm, Green Impact Development Services (GIDS) Consults Limited, to conduct the Environmental baseline study for the refinery development. The study commenced in December 2012 with a kick off meeting and an inception report presentation meeting was held on 8th January 2013. The Consultant accompanied by an officer from the department, undertook a study visit to Kenya Petroleum Refineries Limited (KPRL) in Mombasa from 4th - 5th February 2013 to get familiar with the refinery operations and evaluate any environmental issues with regards to the refinery. The Consultant presented an interim report for the survey on 26th March 2013.

Green Impact Development Services (GIDS) Consults Limited concluded the Environmental Baseline Study for the refinery development area and submitted a final report on 22nd August 2013 for approval by the Ministry. The Environmental baseline survey will provide a basis for the detailed Environment and Social Impact Study that will be undertaken by the lead investor/ developer.

Green Impact Development Services (GIDS) presented the final report of the Environmental baseline survey for the oil refinery land at a workshop held on the 5th December 2013. The objective of the study was to assess environmental issues that can be integrated in the early planning stages of the project and also serve as a basis against which future impacts can be measured or monitored. The study will be followed by a detailed Environmental Social Impact Assessment (ESIA) to be conducted by the lead

investor once identified.

d) Foundation Strength and Technical Studies for Aerodrome in Kabaale

Planning for the development of an Aerodrome for the refinery development through discussions with Civil Aviation Authority, Uganda National Road Authority and Ministry of Works and Transport commenced during the year. A working group was constituted to draft the Terms of Reference (TORs) for the development of the aerodrome that includes detailed feasibility studies and design.

The Terms of Reference (TORs) for the development of a master plan and detailed engineering for the aerodrome in Kabaale have been developed in liaison with Civil Aviation Authority (CAA) and Ministry of Works and Transport (MoWT). A Memorandum of Understanding (MOU) between MEMD and MoWT to facilitate the development of this project was drafted and submitted to the Office of the Solicitor General for clearance.

A meeting was held on 2nd December 2013 between the Ministry of Energy and Mineral Development (MEMD) and Ministry of Works and Transport (MoWT) to operationalize the Memorandum of Understanding (MoU) between the two ministries which will act as an instrument to progress work. It was agreed that MoWT provides Civil Aviation Authority (CAA) with the necessary instruments to take forward the procurement of the Consultant and the subsequent management and supervision of the study. A letter to this effect assigning CAA the roles of MoWT under the MoU was sent on 18th December 2013. This process is expected to take 3 months in order to have a Consultant on board.

e) Promotion of Refinery and Pipeline Development

Several promotional meetings were held with investment companies interested in the refinery and pipeline development during the period under review. These include; VITOL (UK), E.A.C Development Corporation (Israel), CITADEL (Egypt), and TECHINT (Italy). Japan Oil Engineering Company purchased the feasibility study report for refining bringing the total number of companies that have purchased the report to five.

3.5.2 Crude oil transportation to the refinery

Following the completion of the study to evaluate the transportation of crude oil from the oil fields to the refinery, a Cabinet paper seeking for approval of the key recommendations arising from the study was prepared. Some of the key recommendations in the Cabinet paper include, ownership structure for the pipelines, financing options, etc. The paper was submitted for consideration.

3.5.3 Pipelines and storage development

3.5.3.1 National Strategic Plan for Petroleum Pipelines and Storage Facilities

During 2012, the Ministry of Energy and Mineral Development completed two studies; one on storage and transportation of crude oil from the oil fields to the refinery and another on the storage and distribution of refined petroleum products from the refinery to the market. The studies made

recommendations upon which the Ministry is developing a National Strategic Plan for Petroleum Pipelines and Storage Facilities. An advert for Consultancy Services to Develop a National Strategic Plan for the Development of Petroleum Pipelines and Storage Facilities in Uganda run in local and international media during November 2013. The scope of the assignment includes; Review of relevant studies and policies, evaluation of pipelines and storage requirements for both crude and refined products, development of specific strategies for establishing pipelines and storage facilities and recommending implementation and financing plans for such pipelines and storage infrastructure.

3.5.3.2 Eldoret-Kampala-Kigali Refined Products Pipeline

In addition, plans to develop the extension of the pipeline to transport refined petroleum products from Eldoret to Kampala to Kigali are being taken forward by the three states of Rwanda, Uganda and Kenya. The Eldoret-Kampala segment was to be developed under a 20 year Build Own Operate and Transfer (BOOT) arrangement. Negotiations with the bidder have been completed and the pipeline will now be developed by the three Governments as EPC Government funded project.

A feasibility study is to be carried out for the Kampala-Kigali Segment, and it will be jointly financed by the three countries each contributing 33.3%. However Rwanda will take the procurement lead with a potential consultant selected through an open international bidding process.

3.5.3.3 Pipeline Routing Studies

Terms of Reference for the detailed studies on the pipeline routing and resettlement action plan for crude oil transmission from the oil field Central Processing Facilities (CPFs) to the refinery and export hub are being finalized.

Terms of Reference for the procurement of a consultant to carry out a detailed pipeline routing study for the petroleum products pipeline from the refinery, Hoima to Kampala (Buloba) are being finalized.

Crude oil export pipeline development plans are awaiting the signing of the commercialization plan for the Basin Wide development of the Albertine Graben.

3.5.4 Crude export oil pipeline

Government agreed to the policy of developing a crude oil export pipeline alongside the development of a refinery. In this regard, a study was undertaken by a private developer, Toyota Tsusho Corporation (TTC), to develop a 1300km crude oil export pipeline from Hoima via Moroto to Lokichar in Northern Kenya, linking with another possible pipeline from Juba, South Sudan. Such a project will involve the setting up of storage facilities at Lokichar and construction of a larger diameter pipeline from Lokichar to Lamu Port. The study findings were presented to Government in a workshop on 21st May 2013.

3.5.5 Short-term commercialisation plans

The department continued planning for short-term utilisation of the discovered resources. The plans included:

3.5.5.1 Sale of Crude Oil from Extended Well Testing Operations

Crude oil produced during well testing operations currently amounting to 40,000 barrels is stored on the different sites in EA2 and EA1. Government plans to sell this crude to industry on a competitive basis through an Expression of Interest (EOI) and a Request for Quotations (RFQ).

During the period under review, an Expression of Interest (EOI) and the specifications for potential buyers were finalized. The Ministry put in place an evaluation and survey committee led by the department and held two meetings to establish the benchmark price for the crude in Uganda before the EOI could be published. The final report is expected to be produced following their review. The survey committee is expected to conclude its work in 2014.

The department also attended promotional meetings with companies that are interested in using crude oil and excess associated gas for power generation such as SoEnergy Limited, Jacobsen and Albatros. Discussions with Jacobsen Limited over expansion and conversion of the Namanve power plant continued.

3.5.5.2 Conversion of existing Thermal Power Plants to utilize crude oil

The department held consultative meetings with the relevant stakeholders in the power sector to draw a roadmap for the the use of crude oil for power generation in the country. The meetings recommended undertaking:

- i) a cost benefit analysis of converting the existing power plants at Namanve and Tororo or building new plants and,
- ii) an assessment of the country's electricity demand versus generation plan over the coming years.

A generation plan was produced by the Energy Resources Department which indicates an inevitable need for thermal power within the next 2-3 years before the Karuma Power Project is completed.

3.6 REGULATORY, INSTITUTIONAL AND CAPACITY DEVELOPMENT

3.6.1 Drafting of new petroleum legislation

Following the passing of the Petroleum (Exploration, Development and Production) Bill 2012 by Parliament on 7th December 2012, the Bill was assented to by H.E the President on 21st March 2013 and The Petroleum (Exploration, Development and Production) Act 2013 has since been gazetted by the Uganda Printing and Publishing Corporation on 5th April 2013.

The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Bill, 2012 was presented to Parliament on 14th February 2012. The bill was discussed, debated and finally passed into law on 21st February 2013 and was assented to by H.E the President on 26th June 2013. The department together with the Ministry of Justice and Constitutional Affairs commenced preparation of the upstream and midstream regulations in line with the newly passed petroleum laws. Two workshops were held between 17th and 20th June, and 26th and 28th June 2013 to commence preparation of the upstream and

midstream regulations, respectively. The regulations will provide a legal basis for sale of petroleum data in the country. Sale of promotional data is therefore on halt pending the formulation of this regulation.

Two consultative workshops on the development of regulations and the licensing framework for midstream operations were also held during July 2013. In addition, the working group on the development of standards and codes for midstream petroleum operations held two Consultative meetings in July 2013. The working group also reviewed the proposed technical Committees responsible for the development of standards in Uganda to ensure that they are well constituted; relevant stakeholders identified and scope for each committee developed.

A Technical Working Group comprising of officers from MEMD and MoJCA developed a zero draft of the Upstream regulations and these were reviewed during a workshop held on 26th and 27th September 2013. A Capacity building visit to Norway was undertaken during November 2013 to discuss the draft upstream regulations. The Working Group held meetings with SimonsenVogtWiig and the Norwegian Petroleum Safety Authority (NPSA) to review the regulations.

The department continued to carry out the roles of the institutions provided for in the new legislation through four transitional units (Infrastructure, Policy, Regulatory and Commercial). This is in accordance with Section 191 of the PEDP Act 2013 which provides for continuation of office of the Commissioner. This transitional arrangement is expected to continue until the new institutions are established.

3.6.2 Crane database

The department, in cooperation with the Norwegian Petroleum Directorate has been developing a petroleum reference database, the “Crane database” since February, 2010. To date, a series of workshops have been held in the Department to improve the Data Model and functionality of the Crane database. By the end of the year, the following were completed:

- ◆ Crane database modelling.
- ◆ Crane-GIS (Geo-database) integration.
- ◆ Design and integration of the Registry database.
- ◆ Design and integration of the Departmental Meetings (ViMaS) Database with the Registry Data model.
- ◆ Core Store Database was built and incorporated into the Crane Database.

The Crane Database can now be used for access to some digital data and reports within PEPD.

3.6.3 ICT Policy and strategy

A workshop was held with Odin, the ICT Consultant, from 19th September, 2013 to 2nd October 2013 to review the implementation of the department’s ICT Policy and Strategy that will guide the operations of ICT in the oil and gas sub sector.

3.6.4 Infrastructure development

a) Second (2nd) Phase of the construction for the National Petroleum Data Repository, Laboratories and Offices for the Directorate of Petroleum.

Construction work for the second phase of the National Petroleum Data Repository, Laboratories and Offices for the Directorate of Petroleum was carried out during the year.

This phase includes construction of the structural frame and roofing the building. Demolition of the old buildings at the site and relocation of department staff that previously occupied the same were successfully completed. The Supervising Consultant reviewed the designs and gave necessary instructions that enabled work on the foundations to commence. Works on the substructure have been completed and the contractor, Pearl Engineering Limited, commenced working on the superstructure above ground.

The Contractor has covered the following: Completion of landscaping, driveway and parking at the new offices; Concreting for the Ring Beam of Block A; Concreting of Third Floor for Block B; Ground floor columns for Block C (auditorium section) as shown in *Figure 51* below. The supervising consultant, Design Group and Associates continues to review the works and report to the Ministry.



Figure 51: Construction work for the second phase of the National Petroleum Data Repository, Laboratories and offices for the Directorate of Petroleum

The following staff of the department undertook training during the year:

- i. Clovice Irumba, a geochemist, completed an LLM in Petroleum Law and Policy at University of

Dundee, UK.

- ii. Jane Byaruhanga, an environment officer, completed an MSc in Environmental Management (Natural Resource Management) at the University of Queensland, Australia.
- iii. Naboth Mugyerwa, a geophysicist, completed an MSc in Pipeline Engineering at the University of Cranfield, UK.
- iv. Alex Nyombi, a geophysicist, completed an LLM in Petroleum Law and Policy at the University of Dundee, UK.
- v. Anthony Ayaa, a geophysicist, completed an MSc in Petroleum Geophysics at Imperial College, London, UK.
- vi. Denis Ariko, a geologist, completed an Msc in Petroleum Geoscience at Heriot Watt University, UK.
- vii. Lilian Nagawa, a process engineer, completed an MSc in Petroleum Refinery Systems Engineering at the University of Surrey, UK.
- viii. Emilly Nakamya, an economist, completed an MSc in Petroleum, Energy Economics and Finance at the University of Aberdeen, UK.
- ix. John Bayiringisa, an HSE officer, completed an MSc in Oil and Gas at Robert Gordon University, UK.
- x. Susan Byona, a geophysical technician, completed an MSc in Exploration Geophysics at University of Leeds, UK.
- xi. Christine Ainabyona, a Laboratory Technician, continued to pursue an Msc in Environment and Natural Resources Management at Makerere University, Kampala.
- xii. Arthur Ngabirano, a geophysical technician, completed a BSc in Telecommunication Engineering at Kyambogo University.
- xiii. Michael Weteeka, a Geophysical Technician, continued to pursue a BSc in Mechanical and Manufacturing Engineering at Kyambogo University.
- xiv. Yahaya Muzani, a Geophysical Technician, continued to pursue a BSc in Electrical Engineering at Makerere University
- xv. Moses Ekunu, a personal secretary completed a Postgraduate Diploma in Public Administration and Management at Uganda Management Institute (UMI).
- xvi. Robinah Namulwany, an office typist, continued to pursue a Bachelor of Office and Information Management at Makerere University Business School.
- xvii. Joan Nakkazi, an office attendant, completed a Certificate in Laboratory Science Technology at Kyambogo University.
- xviii. Kasasa William, a Geological Assistant, continued to pursue a Diploma in Information Technology at Makerere University.
- xix. Joshua Lukaye, a Senior Geochemist, a. continued to pursue an MSc in Environmental and

Petroleum Geochemistry at University of Newcastle Upon Tyne in UK.

- xx. Andrew Ochan, an Ag. Senior Geologist, a. continued to pursue an MSc in Petroleum Economics and Management at the IFP Institute in France.
- xxi. Daniel Muwooya, a Cost Engineer, continued to pursue an MSc in Energy Studies – Energy Finance at the University of Dundee in UK
- xxii. Dickens Asimwe Kaata, a Legal officer, continued to pursue an LLM in Petroleum Law and Policy (on line) at University of Dundee in UK.
- xxiii. Phionah Naturinda, a Mechanical Engineer, continued to pursue an MSc in Onshore and Offshore Technology with Pipeline Engineering at Cranfield University in UK.
- xxiv. Andrew Ssenabulya, a Senior Geological Assistant, continued to pursue an MSc in Oil and Gas Engineering at Robert Gordon University in UK.
- xxv. David Mulinde, a Senior Geophysical Technician, continued to pursue an MSc in database systems at Westminster University in UK.
- xxvi. Wathum Peter, a Geological Assistant, continued to pursue a Bachelors Degree in Mechanical engineering and Manufacturing at Kyambogo University.
- xxvii. Stellah Nalule, a Records Assistant, continued to pursue a Bachelor Degree in Records and Information Management at Nkumba University.
- xxviii. Moureen Nakawesi, an Office Attendant, continued to pursue a Bachelors Degree in Library and Information Science at Makerere University.
- xxix. Rose Namatovu, an Office Attendant, continued to pursue a Bachelors Degree in Business Administration at Nkumba University.
- xxx. John Kayinda, an Office Attendant, continued to pursue a Certificate course in Laboratory Technology at Kyambogo University.
- xxxi. Messrs. David Basiima (Petroleum Engineer), Robert Wandera (Petroleum Engineer) and Ms. Phionah Naturinda (Mechanical Engineer) from the department participated in the fourth International Conference on Evolving Multiphase Boosting Technology (EMBT) in Hannover, Germany that took place from 19th - 22nd March 2013.

xxxii. Ms. Catherine Amusugut, Geologist, participated in the 24th Colloquium of African Geology (CAG24) Conference that was held in Addis Ababa, Ethiopia from 8th to 14th January, 2013. The conference was organized by the Ethiopian Geoscience and Mineral Engineering Association (EGMEA). Ms. Amusugut delivered a paper on the United Nations Framework Classification (UNFC) for petroleum and minerals. The classification system presented will be used together with the Petroleum Resources Management System (PRMS) system for the country's resource estimation and reporting.

b. Capacity Building for Government Personnel under Oil Companies

The Ministry of Energy and Mineral Development continued to coordinate the training of Government Personnel by oil companies. Training proposals were received from MoFPED, Ministry of Justice and Constitutional Affairs, MLHUD, Auditor General's office and Uganda Revenue Authority among others and were evaluated during the year and recommendations made.

A total of USD 1,681,227 (One million six hundred eighty one thousand two hundred twenty seven United States Dollars) was budgeted for by the three oil companies and approved by the respective Advisory Committee Meetings for training of government personnel as required by the Production Sharing Agreements.

These funds were fully utilized for both long term and short term training specifically benefiting officers from within the Ministry of Energy and Mineral Development and other MDAs that have a direct support to the Oil and Gas Sector. The other MDAs include MoFPED, Ministry of Justice and Constitutional Affairs, Uganda Revenue Authority, Office of the Auditor General, Accountant General's Office, Parliament of Uganda, Office of the President, MLHUD and Bank of Uganda.

3.6.6 National Content Policy and Plan

Bridge Consult SA was contracted to support the department in the development of a National Content Policy and Plan. Following a kick-off meeting and a presentation of the inception report to stakeholders during November 2012, a consultative workshop on development of the policy framework was held on 2nd and 3rd May 2013. The workshop was attended by over 45 stakeholders from Government Ministries, Departments & Agencies, Academic Institutions, Oil Companies and Trade Associations, among others. The workshop generated comments on the draft policy framework. The department continued to receive comments on the draft policy during the year.

The National Content Policy and Plan is expected to be concluded at the beginning of 2014.

3.6.7 Study Visit to Mangala Oil Fields in India

A team from the Department comprising of Ernest N. T. Rubondo-Commissioner, Fred Kabanda-Principal Geologist, Dozith Abeinomugisha-Principal Geologist, Proscovia Nabbanja-Senior Geologist, David Basiima-Petroleum Engineer, Catherine Amusugut-Geologist, and Robert Wandera-Petroleum Engineer undertook a study visit to the Rajasthan fields in India, which bear similarities with the Albertine Graben discoveries from the 26th to 30th August 2013. The Rajasthan block is made up of a number of fields within a fluviallacustrine depositional setting of Tertiary age. The crude contained in the Rajasthan basin is of about 25-30°API, sweet, waxy and is relatively viscous in some of the fields. In addition, the development concept involved water flood from the start of production and the fields have been developed using shared facilities. For these reasons the Rajasthan fields were chosen as analogues to guide development planning of the Albertine Graben.

3.7 COMMUNICATING FOR THE OIL AND GAS SECTOR

The department undertook the following activities as a continuation of the implementation of the communication strategy for the oil and gas sector in Uganda:

3.7.1 Media relations

3.7.1.1 Print Media

- a. A Newspaper Insert highlighting the achievements made during the past five years since the National Oil and Gas Policy was approved was translated into four National Languages and 160,000 copies were printed. The insert ran as per the schedule below:

Table 14: Schedule for Newspaper Inserts on Implementation of the National Oil and Gas Policy for Uganda

	News paper	Copies	Date
1	New Vision (English)	30,000	7/03/2013
2	Bukedde (Luganda)	30,000	12/03/2013
3	Rupiny (Luo)	10,000	20/03/2013
4	Etop (Ateso)	15,000	21/03/2013
5	Orumuri (Runyankore/ Rukiga)	17,000	11/03/2013
6	Red Pepper (English)	20,000	19/03/2013
7	Monitor (English)	25,000	13/03/2013
8	Observer (English)	13,000	15/03/2013

- b. Oil in Uganda held an interview with Mr. Bukenya Matovu (Senior Assistant Secretary, MEMD) on the Institutional Framework and Infrastructure development for the oil and gas sector which was published on 22nd January 2013.
- c. The department participated in a newspaper supplement for the 6th EAPCE 2013 that run in the East African newspaper during January 2013.
- d. Daily Monitor held an interview with Mr. Fred Kabanda, Principal Geologist on Recoverable Costs on 19th March 2013.
- e. Four opinion pieces were prepared and published in the media responding to various issues including plans for formation of the National Oil Company and State Participation in existing licenses, Status of Uganda's gas reserves and plans for its utilisation, Status of the Kingfisher production licence and the Location of Uganda's petroleum fields vis-à-vis the refinery location.
- f. In addition, five interviews were organised and held to discuss Recoverable Costs, the Ministry's priorities for 2013/14, female scientists' experience in the sector, Government's commercialisation plans and the Status of Dominion Petroleum.

- g. An advertorial on Norwegian support to the Oil and Gas sector was published in the Nordic Country's day supplement in the *New Vision* newspaper on 22nd May 2013.
- h. A feature article for *Oil in Uganda* "Uganda's Oil Refinery – An Opportunity for transformation" was prepared and published in the August 2013 issue.
- i. A response was prepared on Kingfisher Discovery and Production Timelines for *Daily Monitor* that was published on 12th September 2013.
- j. An article for *Uganda Media Centre Independence Magazine* "Uganda's Oil and Gas Sector to Boost the Country's Socio-Economic Transformation" – was prepared and published in October 2013.
- k. Prepared responses on plans for licensing, pricing and sale of petroleum, production timelines, FDPs & recoverability, waste management, drilling technologies for the *New Vision* and various articles published during September and October 2013.
- l. A response on Uganda/DRC Relations in Oil Exploration for *Daily Monitor* was prepared.
- m. Six responses on various issues including Production timelines, Signature Bonuses and Data Packages, Naming of Oil wells and Pricing of Petroleum Products for various media were prepared and published.
- n. A press statement was prepared on the Request for Qualification for a Lead Investor/ Operator of Uganda's refinery and Shortlist of Bidders to receive the RFP for Lead Investor/Operator in the Country's First Oil Refinery – circulated and run in local and international media during October and December 2013 respectively.

3.7.1.2 Field Visits for Media teams to Operation Areas

The Ministry of Energy and Mineral Development cleared Africa Centre for Media Excellence (ACME) for a field visit to petroleum operations in Buliisa district for radio journalists undergoing training on oil and gas sector reporting. The team comprised of eight radio editors and reporters from different radio stations in districts across the Albertine Graben. The team visited operations in Exploration Area 2 (North) in Buliisa district on 28th February 2013 following a training session that was held at ACME offices in Kampala during October 2012. The visit was facilitated by Mr. David Basiima, Petroleum Engineer and Ms. Gloria Sebikari, Communications Officer.

The department facilitated a field visit for 43 print and broadcast reporters from Bunyoro region to operations in EA 2 North (Buliisa) on 11th April 2013. The objective of the visit was to contribute to improving the reporters' understanding and appreciation of current developments in the oil and gas sector in the country. The team visited operations in Exploration Area 2 including waste storage areas, drilling sites, extended well testing sites and Social Enterprise projects, among others.

Total E&P Uganda organised a field visit to operations in EA 1 and 1A for journalists from seven media houses on 25th June, 2013. The journalists were drawn from the East African, Daily Monitor, the Observer,

Capital Radio in Kampala; Mega FM and Rupiny Radio in Gulu; and Rainbow FM in Nebbi. The team visited the on-going 3 Dimensional Seismic Survey operations, well testing at Gunya-1 well site and the Bugungu waste consolidation site. Ms. Gloria Sebikari, Communications Officer together with the field Monitors; Messers David Mulinde (Senior Geophysical Technician), Amos Lule (Geological Assistant) and Herbert Mugizi (Petroleum Engineer), participated in the visit.

3.7.1.3 Engagements with the Media

a. A breakfast meeting for Editors and a Workshop for Journalists were held on 16th April and 19th April 2013 respectively and attended by 65 editors and 85 journalists from across the country. The objective of the engagements was to update the editors and journalists on the recent developments, specifically on key insights into recently passed legislation and the status of the refinery development project. The editors were addressed by Mr. F.A. Kabagambe-Kaliisa, Permanent Secretary, Ministry of Energy and Mineral Development.

b. A training session for 8 radio journalists from districts in the Albertine Graben organised by the African Centre for Media Excellence (ACME) was held on 22nd April, 2013 in Kampala, Mr. Bernard Ongodia and Ms. Gloria Sebikari from PEPD facilitated the training. The participants benefited from a presentation on an overview of the oil and gas sector in Uganda.

c. The department organised a press conference on the lifting of conditions on the Kingfisher Production License that was held on 25th September, 2013. The media was addressed by Hon. Peter Lokeris, Minister of State for Mineral Development and Mr. Jin Weigen, Vice President CNOOC Uganda Limited. The press conference was covered by the local and international media.

d. The department facilitated a field visit for eight journalists under the Africa Center for Media Excellence (ACME) training programme on 18th September 2013. The team visited the ongoing 3 Dimensional (3D) Seismic Survey operations, well testing at Jobi-East 6/6A and ongoing restoration of Jobi-East 4 wellsite. Ms. Gloria Sebikari, Communications Officer together with the field Monitors; Messers Felix Ociti (Geologist) and Kenneth Karusya (Geophysical Technician), participated in the visit.

e. Facilitated the following training workshops for media organised by the Africa Center for Media Excellence:

- 22 Editors for Albertine Districts held on 29th October 2013 at ACME Offices in Bunga
- 19 Bloggers, Online Journalists and Media Producers held on 21st November 2013 at ACME offices in Kampala.
- 10 Albertine talk show hosts, held on the Thursday, 28th November 2012 at PEPD Offices in Entebbe
- 20 Mainstream journalists from Uganda and Tanzania held on 4th December 2013 at ACME offices in Bunga

f. The presentation by the department to the above groups gave a general overview of the sector, status of implementation of the NOGP, National Content initiatives and way forward focusing on the role of different stakeholders including the media.

g. In addition, the department participated in a media and civil society dialogue on developing local content in the oil and gas sector. The dialogue, which was held on 13th December 2013 was facilitated by the Civil Society Coalition on Oil (CSCO), Association of Oil and Gas Service Providers (AOGSP), and PEPD.

h. The department also facilitated a field visit for 22 journalists undergoing training at ACME to oil and gas operations in the Albertine Graben. The team visited operations in Exploration Area 1.

These engagements have contributed to improved understanding of the sector by the media.

3.7.2 Radio programmes

The department organised and held radio talk shows on Radio Simba on 12th February and 26th March 2013 and on Super FM on 25th March 2013. The topic of discussion during these programmes was on achievements made in five years of implementation of the National Oil and Gas Policy for Uganda.

Radio talk shows were held jointly with Tullow Oil on 8th and 9th August, 2013 on Emambya FM, Spice FM and BBS Radio in Kibaale, Hoima and Masindi towns and on 26th and 27th September, 2013 on KKCR Radio, Liberty FM and Radio Kitara in Kagadi, Hoima and Masindi towns in the Albertine Graben. Topics discussed included, current status of operations/development; and the plans going forward, national participation in the oil and gas sector, plus the benefits and opportunities in the sector. District Local Government representatives from Hoima and Buliisa participated in these programmes.

Radio Programmes were also held between 26th September and 10th October 2013 in Eastern Region; on Open-gate FM, Voice of Teso, UBC-Busoga and Etop Radio; Western Region on Radio Kihihhi, Kisoro FM, Vision Radio and Buddu FM; Northern Region on Radio North, Unity FM, Radio Pacis and Radio Paidha. Discussions focused on current developments in the sector, with emphasis on what is being done in preparation for production and the opportunities presented by the sector.

The department organised bi-monthly radio programmes on five radio stations during October 2013. The programmes are being held on Radio Simba and UBC Radio in Kampala; Spice Fm in Hoima, Radio Kitara in Masindi and Mega FM in Gulu as follows:

Table 15: Bi-monthly radio programmes held

	Topic	Participants	Dates Held
1.	How oil is formed, the petroleum Value Chain and Background to the oil and gas Sector in Uganda.	MEMD	October 2013
2.	Policy, regulatory and Institutional Framework for the Sector.	MEMD, MoJCA	November 2013

3.	Enhancing National Participation and Communication in the petroleum sector	MEMD, UNCCI	November/December 2013
4	Environment Management in the Oil and Gas Sector	MEMD, NEMA,	December 2013

3.7.2.1 Quarterly Radio talk shows in Central Region

Radio Programmes for the Central Region were held during October and November 2013 on Bukedde FM, CBS FM, UBC Radio (Busoga), Radio Sapientia, Super FM and UBC Radio (Butebo). The discussion focused on current developments in the sector, emphasizing what is being done in preparation for production and the opportunities in the next phase.

3.7.3 Engagements with stakeholder groups

3.7.3.1 Dialogue with Civil Society on Environment and Biodiversity

The department participated in a dialogue with Civil Society on environment and biodiversity organised by the licensed oil companies held on 11th September 2013 in Kampala. The objective of the meetings was to update CSOs on the developments in the sector and the initiatives in place to ensure protection of the environment during oil and gas operations. Sessions were facilitated by licensed oil companies, PEPD, NEMA, UWA and Civil Society Coalition on Oil. The dialogue was attended by 35 representatives from Government, Oil Companies and CSOs. Eng. Caroline Korutaro (Petroleum Engineer) and Ms. Gloria Sebikari (Senior Communications officer) represented the department at the dialogue.

3.7.3.2 Sensitisation workshop for Religious Leaders

The Ministry organised a sensitisation workshop for religious leaders under the Inter-Religious Council which was held on 9th April 2013, at Protea Hotel Kampala. The objective of the dialogue was to contribute to improvement in their understanding of and better appreciation of current developments in the oil and gas sector. The dialogue was opened by Mr. Ronald Ssegawa, Under Secretary/MEMD and was facilitated by PEPD and the Inter Religious Council of Uganda (IRCU). The dialogue was attended by 90 religious leaders of the six faiths (Anglican, Catholic, Orthodox, SDA, Islam and Pentecostal) under IRCU.

3.7.3.3 Field Visits for Stakeholder Groups to EAs 1 and 2

The department together with licensed companies facilitated various visits for stakeholders to operations in the Albertine Graben during the year. The objective of these visits was to expose the different stakeholders to the oil and gas operations in the field with a view to improve their understanding of these activities. Some of the visits were held as per the schedule below:

Table 16: Stakeholder visits to oil and gas operations in the Albertine Graben

No	Group	PEPD/MEMD REPRESENTATIVES	Area Visited and Date
1.	Water Governance Institute	Nurudin Njabire	EA 1 and EA 2, 16 th Oct
2.	Buliisa District Leaders	Angella Nalweyiso & Felix Ocitti	EA 1, 17 th October
3.	PetroSeychelles	Dozith Abeinomugisha Tonny Serubiri	EA 2 and EA 1, 12 th – 14 th Nov
4.	Ambassadors and Reps of International Orgs.		EA 1, 18 th November
5.	HRH Omukama of Bunyoro	Felix Ocitti	EA 1, 26 th November

6	Office of the Auditor General	Felix Ociti	EA 1, EA 2 – 28 th Nov to 6 th Dec
7.	UWA and ICCN (DRC)	Felix Ocitti	EA 1, 2 nd to 4 th December
8.	Uganda Revenue Authority	Nurudin Njabire	EA 2, 10 th to 12 th Dec 2013
9.	Quest Energy	Tonny Sserubiri & Amos Lule	EA 2 and EA 1, 14 th – 15 th December
10	Joint Acholi Sub-Region Leader’s Forum	Bernard Ongodia Betty Namubiru	EA 1, 28 th November

3.7.3.4 Sensitization workshops on the Refinery Development

The department organised a sensitisation workshop for members of Hoima District Land Board and Buseruka Area Land Committee together with other key stakeholders in the district on 21st March 2013, at Kijungu Hotel, Hoima. The objective of the dialogue was to share with them the progress of refinery development, key findings of the Resettlement Action Plan (RAP) study and respond to their concerns regarding issues related to land acquisition process for the refinery. The workshop which was opened by Mr. Robert Kasande (Assistant Commissioner/ Refinery Project Manager), was attended by both political and technical leaders in the District.

A workshop to present the RAP report and its findings from the Socio-economic and Cadastral surveys, Valuation exercise and the RAP implementation framework to representatives from Government Stakeholder Institutions was held on 17th January, 2013 at Protea Hotel Entebbe.

The workshop was attended by representatives from the following institutions; National Environment Management Authority, Uganda National Roads Authority (UNRA), MLHUD, Civil Aviation Authority (CAA), Ministry of Health, Ministry of Education and Sports, Ministry of Works and Transport, Petroleum Supplies Department (PSD), Uganda Electricity Transmission Company Limited, Electricity Regulatory Authority and Ministry of Water and Environment.

A high level community sensitization meeting was held on 14th May 2013 at Nyahaira primary school, in Nyahaira village, Kabaale parish. The objectives of the community meeting were to update the communities on progress of the Resettlement Action Plan (RAP) process and to receive feedback from and address any concerns by the Project Affected Persons (PAPs) and stakeholders on the refinery development project. The meeting was attended by Hon. Peter Lokeris - State Minister for Minerals, Eng. Simon D'Ujanga, State Minister for Energy and Hon. Ernest Kiiza, Minister in charge of Bunyoro Affairs, Area Members of Parliament, Officers from the security forces and officials from the Ministry of Energy and Mineral Development. The meeting was also attended by local leaders from Hoima District and Buseruka sub county and Project Affected Persons (PAPs).

Two community meetings were held on 26th June, 2013 at Kyapuloni and Nyamasoga Trading Centers to introduce the RAP implementing consultant to the communities in the refinery area. The meetings were attended by District and Sub County leaders, the consultant, Ministry officials, local leaders and the affected persons. A radio talk show was held on June 25th 2013 to mobilize the communities for the meeting. Messers Robert Kasande, Assistant Commissioner and Bashir Hangi, Communications Officer represented the department in these engagements.

3.7.3.5 Stakeholder Engagements in EA 2, EA 1 and Kingfisher Discovery Area

The department organised and participated in various engagements with leaders and communities in the operation areas as below:

- a. The department participated in stakeholder engagements for District and Sub County leaders in Buliisa, Nwoya, Nebbi and Masindi districts on 5th, 7th, 8th and 21st February 2013 respectively organised by Total E&P. The objective of the meetings was to update leaders on the ongoing activities, both implemented and planned as well as listen to issues from the stakeholders and provide explanations. The meetings were attended by local leaders in the districts, area MPs and representatives of service companies employed by Total E & P. PEPD was represented by Bashir Hangi and Catherine Bekunda (Communications Officers) and Etano Godfrey (Field Monitor).
- b. Four meetings were held with District and Subcounty leaders in Hoima and Buliisa Districts to profile land related concerns. The meetings were jointly organised by PEPD and the Ministry of Lands, Housing and Urban Development between 20th and 22nd June, 2013. Mr. Francis Elungat (Lands Officer), Mr. Andrew Ssenabulya (Senior Geological Assistant) and Ms. Gloria Sebikari participated in the meetings.
- c. Two quarterly meetings with Tourism Stakeholders in Murchison Falls national Park (MFNP) organised by Total E&P were held on 21st May 2013 at Sambiya Lodge and another engagement held on 28th May 2013 in Kampala. Mr. Bernard Ongodia and Ms. Gloria Sebikari represented the department during these meetings.
- d. Five stakeholder meetings organised by CNOOC Uganda Ltd in Hoima district were held between 26th to 29th June 2013. The meetings were organised for political and technical officers of Hoima District, Bunyoro Kitara Kingdom officials, Bunyoro CSOs on oil and gas, Kyangwali sub county political and technical officials and Buhuka parish leaders. The objective of the meetings was to update district leaders, technocrats and community members on the developments of the Kingfisher discovery area. The department was represented by Ms. Catherine Bekunda, Communications Officer and Mr. Tonny Sserubiri, Palynologist in these meetings.

The Department facilitated stakeholder engagements in Buliisa and Hoima District organised by Tullow oil to discuss issues of National Participation and Environment Management. These were held as follows:

Table 17: Stakeholder Engagements in EA 2

Date (s)	Stakeholder Category	Venue	PEPD Representative
25 st November	Civil Society Organizations in Bunyoro Sub-region	Hoima	Cathy Bekunda/ Christine Ainabyona
26 th November	Bunyoro Inter-religious groups	Hoima	Cathy Bekunda/ Christine Ainabyona
27 th November	Bunyoro Kitara Kingdom	Hoima	Cathy Bekunda/ Christine Ainabyona
28 th November	Bunyoro Business Community	Hoima	Cathy Bekunda/ Christine Ainabyona
29 th November	Media Practitioners	Hoima	Cathy Bekunda/ Christine Ainabyona
2 nd December	Bunyoro Youth Groups	Hoima	Gloria Sebikari/ Rachel Mugabi
3 rd December	Women Groups	Hoima	Gloria Sebikari/ Rachel Mugabi

5 th December	Buliisa Local Government	Buliisa	Gloria Sebikari/ Rachel Mugabi
9 th December	Hoima Municipal Council	Hoima	Bashir Hangi
11 th December	Hoima Local Government	Hoima	Bashir Hangi

The department participated in Oil and gas training of Hoima District stakeholders organised by CNOOC on oil and gas value chain and processes and the social economic challenges and opportunities together with updates on ongoing operations. PEPD was represented by Messers Arthur Ngabirano, Geophysical Technician and Herbert Mugizi, Petroleum Engineer during the trainings which were held as follows:

Table 18: Oil and Gas training of Hoima District stakeholders

Date(s)	Stakeholder Category
09 th and 10 th December 2013	Bunyoro Kitara Diocese
11 th and 12 th December 2013	CSOs, Religious leaders and the media
13 th December 2013	Kyangwali Sub County headquarters
16 th December 2013	Buhuka Parish Stakeholders
17 th and 18 th December 2013	Hoima District political and technical staff.

3.7.3.6 Cross border dialogue between Congo and Uganda

International Alert a local Non-Governmental Organisation and Rural Initiative for Community Empowerment – West Nile (RICE-WN) organised two cross-border dialogues, under the theme “Promoting Information sharing and collaborative efforts in exploration and exploitation of oil reserves in the Albertine Rift”. The engagements were held between 17th and 18th April 2013 in Arua District and 12th to 14th June 2013 in Hoima District. The objectives of the dialogues were to share information on the progress of oil exploration activities in the Albertine Graben and assess the capacity of existing cross-border initiatives to address potential conflicts related to oil. The dialogue attracted over 60 delegates from both Uganda and the Democratic Republic of Congo. Participants were drawn from civil society organisations, religious and cultural institutions, local and central government. The department was represented by Mr. Honey Malinga (Assistant Commissioner), Mr. Bernard Ongodia (Senior Geophysicist) and Ms. Catherine Bekunda, Communications Officer in these meetings.

3.7.3.7 Engagements for Tourism Stakeholders

Meetings with Tourism Stakeholders in MFNP were held on 6th August, 2013 at Paraa Safari Lodge and 16th August 2013 in Kampala. The purpose of these engagements was to give an update on current operations within MFNP together with the latest developments in the sector and give a status on agreed actions from the last meeting with tourism stakeholders held during May 2013. Participants included tour operators and lodge owners in MFNP, NEMA, UWA and PEPD. Messrs Bernard Ongodia (Senior Geophysicist), Nurudin Njabire (Geologist) and Ms. Gloria Sebikari participated in the meetings.

Total E&P organised engagements with Tourism stakeholders to give an update on current operations within MFNP together with the latest developments in the sector. The engagements were facilitated by a team from Total, PEPD, NEMA and UWA and were held as follows:

Table 19: Engagements for Tourism Stakeholders

Date	Group	Venue	PEPD Representative
19 th Nov 2013	Tour guides	Paraa-Field	Herbert Mugizi
20 th Nov 2013	Tourism stakeholders	Bwana Tembo	Herbert Mugizi
22 nd Nov 2013	Tour guides	Hotel Africana	Catherine Bekunda and Christine Ainabyona
29 th Nov 2013	Tourism stakeholders	Protea-Kla	Gloria Sebikari and Herbert Mugizi

3.7.3.8 Facilitating Engagements organized by stakeholder groups

The following workshops/ Seminars/meetings/ debates/ dialogues were facilitated by the department:

- a. East African Oil and Gas Regional Forum organised by the Economic Policy Research Centre (EPRC) and held between 22nd to 23rd January 2013 in Kampala. Messrs. Ernest Rubondo, Commissioner, and Robert Kasande, Assistant Commissioner together with Ms. Gloria Sebikari, Communications Officer participated in the forum.
- b. Launch of a report entitled “Oil in Uganda-International Lessons for Success” organised by Open Society Initiative for Eastern Africa and held on 5th February, 2013 in Kampala, attended by Messrs. Honey Malinga (Assistant Commissioner), Dickens Asiimwe, Legal Officer and Ms. Catherine Bekunda, Communications Officer.
- c. Retreat and Annual General Meeting for Civil Society Coalition on Oil held on 6th February, 2013 in Entebbe. Mr. Honey Malinga and Ms. Catherine Bekunda facilitated the AGM.
- d. Investment Opportunities and Energy Infrastructure Summit organised by Uganda Investment Authority held on 21st February, 2013 in Kampala. Mr. Robert Kasande represented the department.
- e. Launch of CNOOC Sponsored Basic Skills Training at Nile Vocational Institute Hoima on 14th March 2013 in Hoima District. Mr. Bukenya Matovu, Senior Assistant Secretary/MEMD, Ms. Betty Namubiru, National Content Officer and Ms. Gloria Sebikari attended the launch.
- f. Launch of the report on Governance and Livelihoods in Uganda’s oil-rich Albertine Graben organised by International Alert and held on 26th March 2013 in Kampala attended by Mr. Ernest Rubondo, Mr. Isaac Kabuye (Legal Officer) and Ms. Catherine Bekunda.
- g. Training workshop for the Uganda Catholic Secretariat’s Justice and Peace Commission held on 2nd April, 2013 in Kisubi. The department was represented by Messrs. Clovice Irumba (Geochemist), Bernard Ongodia (Senior Geophysicist) and Ms. Gloria Sebikari, Communications Officer.
- h. Breakfast meeting on Local Content organised by Association of Oil and Gas Service Providers held on 10th April 2013 in Kampala. Mr. Bernard Ongodia, Ms. Betty Namubiru (National Content Officer) and Ms. Gloria Sebikari participated in the meeting.
- i. Institute of Chartered Public Accountants Oil and Gas seminar held on 12th April 2013 in Kampala. Mr. Bernard Ongodia and Ms. Catherine Bekunda, Communications Officer facilitated the engagement.

j. Training on Oil and Gas Industry Essentials organised by Quest energy held on 4th May 2013 in Kampala. The department was represented by Mr. Bernard Ongodia and Ms. Gloria Sebikari.

k. COMESA Oil, Gas and Mining Summit organised by Uganda Chamber of Mines and Petroleum held on 9th and 10th May 2013 in Kampala. Mr. Honey Malinga (Assistant Commissioner), Ms. Betty Namubiru, and Ms. Gloria Sebikari participated in the Summit.

l. Workshops on National Participation in the Oil and Gas Sector organised by UNCCI held on 30th May 2013 in Masindi and 28th June 2013 in Jinja. Mr. Bernard Ongodia, Ms. Betty Namubiru and Ms. Gloria Sebikari facilitated the workshops.

Table 20: Engagements with CSOs and stakeholder groups

	CSO	Theme	Participants	Date/ Venue
1	Civil Society Coalition on Oil	Strengthening Governance and Citizen Participation in Uganda's Petroleum Industry.	Clovice Irumba, Gloria Sebikari, Francis Elungat	21 st – 22 nd Oct, Entebbe
2	International Alert	Gender Dimensions of the Oil & Gas Sector	Gloria Sebikari, Ronald Goboola	15 th – 16 th Oct, Entebbe
3	Maendeleo Ya Jamii	Opportunities for multi stakeholder Engagement	Catherine Bekunda, Bernard Ongodia	10th-11th Oct, Arua
4	Maendeleo Ya Jamii	Opportunities for Multi stakeholder Engagement	Catherine Bekunda, David Basiima	17 th – 18 th Oct, Hoima
5	Maendeleo Ya Jamii	Opportunities for Multi stakeholder Engagement	Catherine Bekunda, Bernard Ongodia	22 nd October, Kampala
6	AFIEGO	Governance Of Oil In Uganda And The Great Lakes Region	Hon. Peter Lokeris, Dozith Abeinomugisha, Steven Enach	25 th October, Kampala
7	Bunyoro Albertine Petroleum Network on Environment Conservation (BAPENECO).	Environment Protection and Compensation	Catherine Bekunda	12 th December, Hoima
8	Association of Oil and Gas Service Providers, and Hoima District Farmers Association	Business Training	Catherine Bekunda, Bernard Ongodia	11th December, Hoima.
9	Global Rights Alert	RAP Processes	Bashir Hangi	6 th December, Hoima
10	Kitara Heritage Development Association	Bunyoro Leaders Dialogue	Clovice Irumba, Francis Elungat	11 th October, Hoima

11	Joint Acholi Sub-region Leaders Forum	Uganda's Oil: Where Does The Acholi Sub-region Fit?	Bernard Ongodia, Betty Namubiru	27 th November, Gulu
12	Economic Policy Research Centre [EPRC].	Accelerating Growth & Maintaining Intergenerational Equity Using Oil Resources	Ernest Rubondo, Gloria Sebikari, Emily Nakamya	10 th December, Kampala

3.7.3.9 Community Engagements on the Refinery Development

The department held the following engagements related to the implementation of the RAP for the refinery development:

- Organized a meeting with members of the proposed oil refinery residents association at Nyahaira Primary School in Hoima on October 16th 2013 to explain and agree on the grievance handling procedures.
- Participated in National dialogue for the implementation of the Resettlement Action Plan (RAP) for persons affected by refinery development organised by Global Rights Alert held in Kampala on October 4th 2013.
- Organised a meeting with all project affected persons (PAPs) who had refused to sign compensation documents on November 2nd 2013 to listen to their concerns and agree on a way forward.
- Organised a meeting with PAPs and CSO representatives from Navigators for Development Association (NAVODA), Advocates for Natural Resources, Civil Society Coalition on Oil and Gas (CSCO), Civic Response on Environment and Development (CREED) and Transparency International on November 12th 2013 to get views/concerns of the PAPs, explanations about the RAP process and what government is doing to address those concerns.

3.7.4 Popular version of National Oil and Gas Policy

The department organised and held four regional workshops from 16th October to 2nd November 2013 in collaboration with the Justice and Peace Commission of the Uganda Catholic Secretariat in Hoima, Soroti, Gulu and Kampala to review the translations of the popular version of the National Oil and Gas Policy into eleven languages namely: Luganda, Runyoro-Rutooro, Runyankore-Rukiga, Luo, Lugbara, Swahili, Ateso, Alur, Ngakarimojong, Lumasaba and Lugungu. The process of translation was concluded and the procurement for printing services was re-initiated.

3.7.5 Publication of Information, education and communication materials

During the period under review, the department commenced the production of IEC materials to contribute to the dissemination of information. The materials under preparation include:

- a. Popular version of the NOGP; Translations are undergoing review.
- b. Booklet on Frequently Asked Questions (FAQs); Material is undergoing review.
- c. Bi-annual Oil and Gas Sector Magazine; Procurement concluded and Material is undergoing review

3.7.6 Coordination among pillar institutions

3.7.6.1 Capacity Building Workshop and Field Visit for Communications Officers from Government Institutions

The department organized a workshop at the department and field visit to operations in the Albertine Graben for Communication Officials from Government Ministries, Departments and Agencies (MDAs) on the Technical Working Group (TWG) for Information and National Guidance from 19th to 22nd August 2013. 30 Communications Officials for the different MDAs participated in both activities whose objective was to expose Government Communication Officers to the operations of the Oil and Gas industry, and enhance their understanding of the petroleum sector, and thus contribute to the dissemination of factual information to the public. Mr. Bernard Ongodia (Senior Geophysicist), Ms. Gloria Sebikari (Senior Communications Officer) and Mr. Bashir Hangi, Communications Officer from the department led the team for the visit. Representatives from the districts of Hoima and Buliisa, Tullow and Total E&P also participated in the visit.

3.7.7 Website: www.petroleum.go.ug

The department continued with regular updates of the website. Additional information posted on the website during this period includes:

A. Additional Publications

- Status of Implementation of the National Oil and Gas Policy, February 2013,
- The Petroleum (Exploration, Development and Production) Act 2013,
- Strategic Environment Assessment for Oil and gas Activities in the Albertine Graben,
- Final draft report, May 2013
- Statement on Kingfisher Production License

B. Maps

- Status of Licensing in the Albertine Graben, May 2013
- Discoveries in the Albertine Graben, May 2013
- Status of Licensing in the Albertine Graben, September 2013
- Refinery Infrastructure and Proposed Development in the Albertine Graben, September 2013
- Drilled Wells in the Albertine Graben, August 2013

- Map showing Refinery Infrastructure and Proposed Development in the Albertine Graben of Uganda

C. Various News Items

- Government plans to develop a 60,000 barrels of oil per day refinery
- President assents to the Petroleum (Exploration, Development and Production) Act 2013
- Five years of implementation of the National Oil and Gas Policy, February 2013
- 6th East African Petroleum Conference & Exhibition 2013 (EAPCE'13) to be held in Arusha, Tanzania – 6th to 8th February, 2013.
- Tanzania successfully hosts the 6th EAPCE 2013
- Achievements in Uganda's Oil and Gas Sector during 2012
- President re-affirms Uganda's plan to build a 60,000 barrels per day refinery
- Government engages Religious Leaders on the Oil and Gas Sector in Uganda
- Government publishes draft Strategic Environmental Assessment for Oil and Gas Activities in the Albertine Graben
- Government plans to develop 60,000 barrels of oil per day refinery
- Ministry of Energy congratulates Norwegian Government on their National Day
- "Government Lifts the Conditions on the Production License over the Kingfisher Field."
- "Uganda drills the 104th oil well."
- "Uganda's Oil Refinery – An Opportunity for transformation."
- "President assents to the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013."
- "Government sensitizes refinery land residents."
- Government of Uganda Seeks Investors for the Country's First Oil Refinery
- Request for Qualification (RFQ); Investor/Operator for the Development of an Oil Refinery in Uganda

D. Press Review

- Murchison: Oil and Wildlife find balance
- Oil opens new chapter for Hoima residents
- Women Climb the Technical Ladder

- Govt briefs editors on Uganda’s oil sector, says refinery non-negotiable

Jobs and Tenders

- Consultancy Services to Develop a National Strategic Plan for the Development of Petroleum transportation and Storage Facilities in Uganda
- Job Opportunities at PEPD for Economists (2), Legal Officer (1), National Content Development and Capacity Building Officers (2), Legal Officer (1), Cost Engineer (1), Petroleum Engineer (1) and a Procurement Officer

New Web Page on Uganda Refinery Project

- Progress of Development
- Request for Qualification

The department has drafted Terms of Reference for the redesign of the website and the procurement of a service provider will be undertaken during Q1 2014.

3.8 REGIONAL COOPERATION

The following activities were undertaken throughout the year:

3.8.1 Sixth (6TH) East African Petroleum Conference and Exhibition (EAPCE’13)

As part of the activities under the East African Community (EAC), the department participated in the organization of the 6th East African Petroleum Conference and Exhibition 2013 (EAPCE’13), which was hosted by the Government of the United Republic of Tanzania on behalf of the Partner States of the East African Community between 6th and 8th February 2013 at the Arusha International Conference Centre. The Conference, which was held under the theme “EAST AFRICAN REGION - The Emerging Destination For Investment and Future Supply of Oil and Gas for Sustainable Development", attracted a total of 1066 participants. These included dignitaries from international oil companies, oil industry service companies, government institutions, Partner States of the EAC, the EAC Secretariat, academic institutions, researchers, investors and media from all over the world.

The 6th EAPCE’13 was officially opened by the Prime Minister of the United Republic of Tanzania, The Right Honourable Mizengo Kayanza Peter Pinda. The conference had a total of 73 oral and 16 poster presentations and an exhibition which attracted 64 exhibitors from around the world. 30 participants from Uganda, sponsored by the Ministry of Energy and Mineral Development attended the conference and these included, Hon. Eng. Irene Muloni, Hon. Peter Lokeris, Mr. Fred Kabagambe-Kaliisa, two members of Parliament from the Natural Resources Committee, District Chairpersons from Hoima, Buliisa and Nwoya Districts and 21 staff from PEPD.



Figure 52: Top left -Rt. Hon. Mizengo Pinda opens the 6th EAPCE'13, top right-Eng. Irene Muloni chairs the session on East African Investment Outlook, bottom left - Mr. Ernest Rubondo makes his presentation and bottom right-Hon. Peter Lokeris chairs the session on Managing Petroleum Revenues.

The following presentations and remarks were made by the Ministry during the conference:

- a. Remarks during the Official Closing by Hon. Eng. Irene Muloni, Minister of Energy and Mineral Development and Chairperson of the Sectoral Council of Ministers of Energy, EAC.
- b. Developments in Uganda's Emerging Oil and Gas Sector by Mr. Fred Kabagambe Kaliisa, Permanent Secretary, Ministry of Energy and Mineral Development.
- c. EAPCE and Regional Petroleum Sector Cooperation:- Impact on East African Petroleum Development by Mr. Ernest Rubondo (Commissioner, PEPD).
- d. Working challenges in the development of oil industries and it's co-existence with the sensitive Albertine Graben by Mr. Arnold Waiswa Ayazika from NEMA and Dr. Joseph Kobusheshe, Environment Specialist, PEPD.
- e. Planning the Development of small onshore fields in a land locked country – the case of Karuka and Taitai discoveries in Uganda by Mr. Fred Kabanda, Principal Geologist and Ms. Catherine Amusugut, Geologist, PEPD.
- f. The Role of Potential-Field (Gravity and Magnetic Data) in De-risking Hydrocarbon Exploration in frontier Basins - a Case of Pakwach Basin, in the Albertine Graben by Mr. Robert Tugume (Principal Geophysicist, PEPD).

- g. Transfer Zones and Hydrocarbon Accumulation in the Albertine Graben of the East African Rift System by Dozith Abeinomugisha, Principal Geologist, PEPD.

Pre- conference field excursions to Tanzania, Rwanda and Uganda together with post-conference field excursions to Uganda, Tanzania and Kenya were undertaken as part of the conference.

3.8.1.1 Recognition of the EAPCE Pioneers

The 6th EAPCE 2013 recognised special contributions made by pioneers who spearheaded the organisation of the conference from its infancy, including meetings held between 1996 to 2001. The initial budget for the conference was provided by Finland and technical support by the Royal Kingdom of Norway which continued to be a major contributor to the EAPCE budget until 2007 when the EAC supported the full budget. The attendance of the conference has since grown from 150 participants in 2003 to over 1000 participants in 2011. In realisation that it was 10 years since the first conference was held in 2003, the pioneers from the EAC Partner States, Finland and Norway were recognised. From Uganda, these included Messers. Fred A. Kabagambe-Kaliisa (Permanent Secretary, Ministry of Energy and Mineral Development), Reuben Kashambuzi (Former Commissioner, PEPD) and Ernest Rubondo, Commissioner PEPD.

3.8.1.2 Uganda's Exhibition Booth at EAPCE'13

The department exhibited the petroleum potential of the Albertine Graben and investment opportunities in Uganda's petroleum sub-sector during the conference.

The materials in the exhibition booth at the conference included maps, posters, brochures and other documents which were made available to visitors in both hard and electronic (USB) copies. Additional promotional materials such as the Ministry's branded T-shirts were also distributed at the booth. The department's team which manned the exhibition booth was led by Mr. Frank Mugisha (Principal Geophysicist), and included Mr. Nurudin Njabire (Geologist), Micheal Okello (Geochemist), Irene Batebe (Petroleum Officer – Refinery) and Gloria Sebikari, Communications Officer. A total of 40 major companies/organisations visited the booth which comprised of independent Exploration and Production (E & P) companies, seismic service companies, Government agencies and media houses, several of them expressing interest in the next licensing round for oil blocks in Uganda and other related services.

3.8.1.3 EAPCE'13 Pre-Conference Workshop

A pre-conference workshop, based on the theme "Enhancing skills in Production Sharing Agreements and Contract negotiations" was held on 5th February, 2013 and attracted 50 participants from different countries including Uganda, Tanzania, Kenya, South Sudan, Burundi and Nigeria. The workshop was facilitated by Consultants from PETRAD, Norway.

The workshop discussed a number of topics including an introduction to terms and concepts used in the petroleum contracts, the preparation objectives and negotiation strategies for optimal resource management, knowledge elements of negotiation and the understanding of the interests of the state and

the International Oil Companies among others.

3.8.1.4 EAPCE'13 Excursions to the Albertine Graben

Uganda hosted pre-conference and post-conference field excursions to the Northern and Southern parts of the Albertine Graben respectively. The key objective of the field excursions was to introduce the delegates to the petroleum potential of these parts of the Graben. The excursions were also aimed at introducing the participants to the geology of the Albertine Graben and also enable them appreciate the tourism. The excursions attracted a total of 16 delegates who included geoscientists, engineers, economists and managers, among others. The excursion to the Southern Albertine Graben was held between 10th – 12th February 2013 and led by Messrs Andrew Ochan, David Basiima & Joseph Kobusheshe, while the excursion to the Northern part of the Graben held from 2nd – 4th February was led by Andrew Ochan, Nurudin Njabire & Wilson Tumushabe.

3.8.2 Uganda/ Democratic Republic Of Congo (DRC) Cooperation

On 3rd June, 2013, the Democratic Republic of Congo (DRC) formally informed Government of Uganda of M/S Soco- Exploration & Production's (Soco) plans to resume activities of exploring for oil in Block 5 of the Albertine Graben on the Lake Edward in DRC.

In line with the agreement of cooperation for the exploration of hydrocarbons and exploitation of common fields signed between the Governments of Uganda and DRC (then Zaire) in 1990 and its addendum of 2008, Soco forwarded a work programme and a request to establish its operation base in Uganda to the Ministry. The work programme includes undertaking an Environmental Impact baseline study and a Bathymetry Survey on Lake Edward in the DRC.

SOCO E&P DRC (Soco) was granted clearance by the Democratic Republic of Congo (DRC) Government to resume oil exploration activities in Block 5 of the Albertine Graben in DRC. Soco also received clearance from the Government of Uganda to establish its operations base in South Western Uganda. Subsequently a delegation from the Government of DRC and Soco held a meeting with MEMD on 5th September, 2013 to brief the Ministry on the planned activities. The meeting was chaired by Mr. Honey Malinga, Assistant Commissioner from the Department and the delegation from DRC was led by Mr. Clement Mubiayi Nkashama, Principal Advisor in Office of the President and comprised of 16 members from Government of DRC, ICCN-WWL (a Environment consultancy and CSO) and Soco E&P.

3.8.3 Trilateral Summit

The Presidents of Uganda, Kenya and Rwanda held a trilateral summit meeting in Kampala between 24th and 25th June 2013 which was attended by Ministers and Dignitaries from the three partner states. The objective of the summit was to discuss issues relating to infrastructure development, energy, political federation, trade facilitation and EAC Cooperation. The summit agreed, among others, to take forward the possibility of EAC Partner States investing in the oil refinery to be constructed in Uganda, develop a crude oil pipeline from Uganda to Kenya which is also linked to South Sudan and develop pipelines for petroleum products from Eldoret to Kampala and extended to Rwanda. It was agreed that committees will be instituted to coordinate and mobilise resources required to take forward these resolutions. Uganda will spearhead the refinery development, whereas Kenya will spearhead pipelines development.

3.8.4 Second Infrastructure Summit

The Presidents of Uganda, Kenya and Rwanda held the 2ND Infrastructure Summit on 28TH August 2013 in Mombasa, Kenya. This followed meetings of the Ministers and Senior Officials from the respective countries which were held on 27TH and 26TH August, 2013 respectively. The Summit was also attended by representatives from the Government of Burundi and that of South Sudan. The Summit was convened to review the progress of implementation of the decisions reached during the 1ST Infrastructure Summit held in June 2013. Messrs Robert Kasande (Assistant Commissioner, Geology), John Bosco Habumugisha (Assistant Commissioner, Pipelines) and Dickens Asimwe Kata, Legal Officer from the department participated in the summit and the preparatory meetings for this summit.

3.8.5 The 7TH East African Petroleum Conference and Exhibition 2015 (EAPCE'15)

The 1ST Meeting of the Steering Committee (SC) for the 7TH East African Petroleum Conference and Exhibition 2015 (EAPCE'15) which will be hosted by the Republic of Rwanda was held at Palace Hotel in Arusha, Tanzania from 26TH to 27TH September 2013. The key objective for the meeting was to commence preparations for EAPCE'15.

Messrs Frank Mugisha, Principal Geophysicist and Nurudin Njabire, Geologist from the department represented Uganda on the Steering Committee. The Republic of Rwanda, will host the 7th EAPCE 2015 (EAPCE'15) while the United Republic of Tanzania, the host of the EAPCE'13 is the rapporteur.

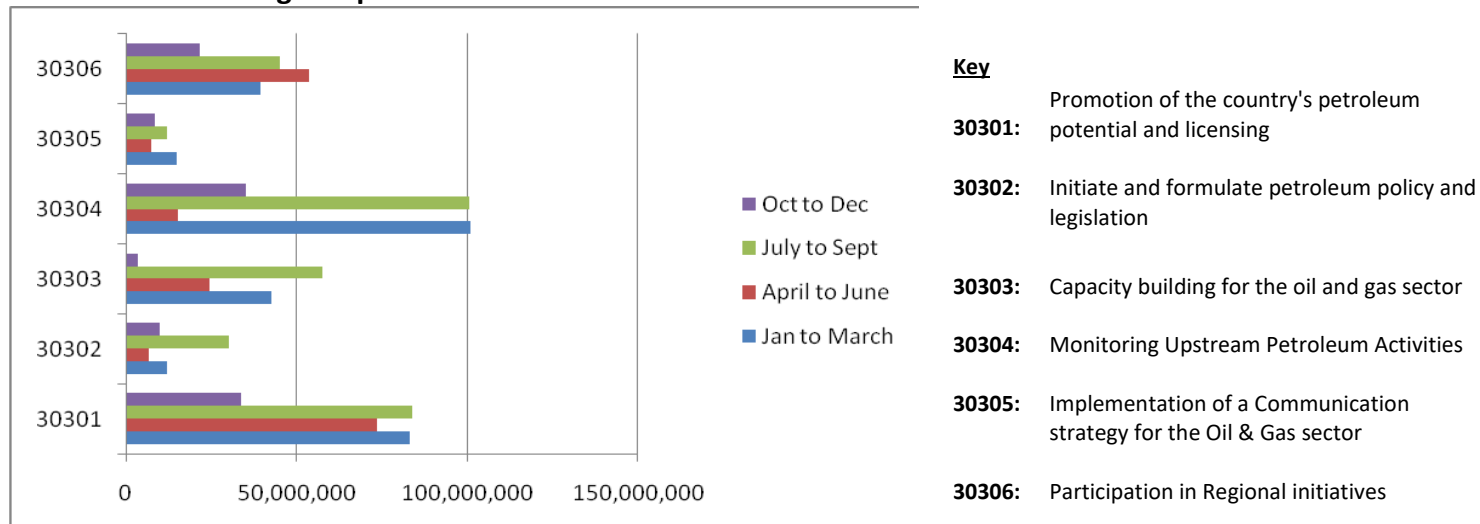
The adopted theme for EAPCE'15 is 'Proven Destination for Investment in Petroleum Resources for Regional Energy Sufficiency and Lasting Socio-Economic Development'.

3.9 FINANCIAL REPORT

3.9.1 Recurrent Programmes

The Department utilised Uganda shillings: Two hundred ninety three million, one hundred twenty eight thousand, seventy two (**UGX 293,128,072**) on Recurrent programmes during the year as summarised in the graph below:

PEPD Recurrent Budget Expenditure for 2013



3.9.2 Development Budget

The Department utilised thirty one billion, three hundred sixty six million, four hundred sixty nine thousand, seven hundred eighty six Uganda shillings (**UGX 31 366 469 786**) on development programmes including the Refinery Development Project as summarized below.

Table 21: Summary of the Development Budget Expenditure for January to March 2013

Code	Item	Expenditure (Ugx.)
30301	Promotion of the Country's Petroleum Potential	18,609,820
30302	Initiate and formulate petroleum policy and legislation	37,326,525
30303	Capacity building for the oil and gas sector	477,519,137
30304	Monitoring Upstream Petroleum Activities	84,189,579
30305	Development and Implementation of a Communication strategy for the Oil and Gas Sector	21,064,449
30306	Participation in Regional initiatives	10,311,520
30351	Transfer to the Midstream Unit	639,754,527
30380	Oil refinery construction	295,490,288
30372	Monitoring, Supervision and Appraisal of Capital Works (Building and other structures)	162,737,135
TOTAL		1,747,002,980

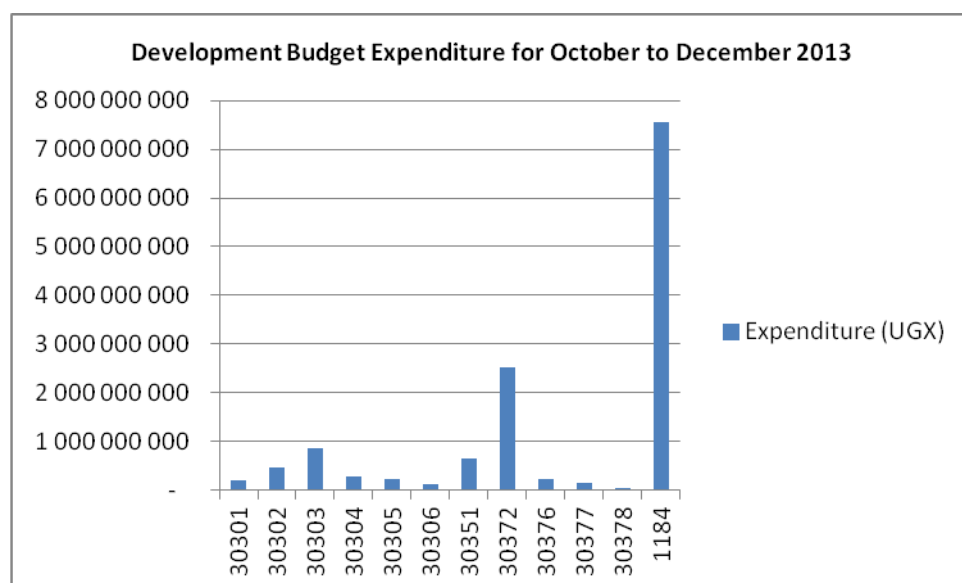
Table 22: Summary of the Development Budget Expenditure for April to June 2013

Code	Item	Expenditure (Ugx.)
30301	Promotion of the Country's Petroleum Potential and Licensing	89,503,039
30302	Initiate and formulate petroleum policy and legislation	92,072,417
30303	Capacity building for the oil and gas sector	89,958,183
30304	Monitoring Upstream Petroleum Activities	149,870,589
30305	Development and Implementation of a Communication strategy for the Oil and Gas Sector	111,121,726
30306	Participation in Regional initiatives	29,788,254
30351	Transfer to the other Government Institutions (Preparation for Transition to new institutions)	1,142,315,67
30372	Government Building and Administrative Infrastructure	1,1518,080,920
30376	Purchase of Office and ICT Equipment including Software	14,366,618
30377	Purchase of Specialised machinery and Equipment	36,558,686
30378	Purchase of Office and Residential Furniture	4,593,274
1184	Oil refinery development	2,295,465,020
TOTAL		5,573,694,422

Table 23: Summary of the Development and Refinery Development Project Budgets Expenditure for July to September 2013

Code	Item	Expenditure (Ugx.)
30301	Promotion of the Country's Petroleum Potential and Licensing	213,544,953
30302	Initiate and formulate petroleum policy and legislation	493,598,326
30303	Capacity building for the oil and gas sector	750,850,390
30304	Monitoring Upstream Petroleum Activities	310,794,420
30305	Development and Implementation of a Communication strategy for the Oil and Gas Sector	272,207,333
30306	Participation in Regional initiatives	111,472,846
30351	Transfer to the other Government Institutions (Preparation for Transition to new institutions)	666,541,283
30372	Government Building and Administrative Infrastructure	79,576,064
	Total	2,898,585,615
	Refinery Development Project	
30301	Promotion of the Country's Petroleum Potential and Licensing	190,949,688
30303	Capacity building for the oil and gas sector	328,191,469
30380	Oil Refinery Construction **(Includes amount set aside for compensation)	7,354,182,444
		7,873,323,601

Development Budget Expenditure for October to December 2013



- 30301:** Promotion of the Country's Petroleum Potential and Licensing
- 30302:** Initiate and formulate petroleum policy and legislation
- 30303:** Capacity building for the oil and gas sector
- 30304:** Monitoring Upstream Petroleum Activities
- 30305:** Devt & Implementation of a Communication strategy for the Oil & Gas Sector
- 30306:** Participation in Regional initiatives
- 30351:** Transfer to the other Govt Institutions (Transition preparation to new institutions)
- 30372:** Government Building and Administrative Infrastructure
- 30376:** Purchase of Office and ICT Equipment including Software
- 30377:** Purchase of Specialised machinery and Equipment
- 30378:** Purchase of Office and Residential Furniture
- 1184** Refinery Development Project

3.9.3 Norwegian support for Strengthening Management of the Oil and Gas Sector in Uganda

The 15th Programme Coordination Committee (PCC) Meeting for the programme “Strengthening Management of the Oil and Gas Sector in Uganda (SMOGP)” was held on 9th January, 2013 in Entebbe. The meeting reviewed the work undertaken under the programme during October to December 2012, together with overall achievements and challenges during 2012.

The Programme held its fourth Annual Meeting on 13th February 2013 and this marked the end of the third year of Programme implementation and commencement of its fourth year of implementation. During the fourth annual meeting, the programme presented its annual performance for 2012 and achievements made in the three Pillars of Resource, Revenue and Environment Management together with Programme Management. The work plans and activities for 2013 were also presented.

During January to March 2013, a total of Three billion, nine hundred twenty million, five hundred fifty eight thousand two hundred Uganda Shillings (**UGX 3,920,558,200**) was utilised from the Norwegian Support Fund budget.

A total of Four hundred and twenty million, seven hundred eighty six thousand, six hundred Uganda Shillings (**UGX 420,786,600**) was utilized from the Norwegian Programme budget to carry out activities under the resource, environment and revenue pillars that are coordinated by PEPD, NEMA and MoFPED respectively between April to June 2013. The bulk of the funds under this programme were not availed between April to June 2013 due to the freeze on funding by the Norwegian Government.

A total of Five hundred sixty nine million, four hundred twenty five thousand, two hundred fifty seven Uganda Shillings (**UGX 569,425,257**) was utilized from the Norwegian Programme budget to carry out activities under the resource, environment and revenue pillars that are coordinated by PEPD, NEMA and MoFPED respectively between July to September. The freeze on Norwegian support to the Oil and Gas Sector was lifted during September 2013 and activities resumed in line with the 2013 work plans and budgets.

A total of Seven hundred and forty nine million, three hundred eighty one thousand, nine hundred ninety five Uganda Shillings (**UGX 749,381,995**) was utilized from the Norwegian Programme budget to carry out activities under the resource, environment and revenue pillars that are coordinated by PEPD, NEMA and MoFPED respectively during the months of October to December.

3.9.4 Non-tax revenues

Between January and March 2013, PEPD generated non-tax revenues amounting to Five billion, eight hundred million, seven hundred ninety thousand, one hundred forty one Uganda Shillings (**UGX 5,800,790,141**). The funds were received as fees from licensed oil companies, as shown below.

Table 24: Summary of the Non-Tax Revenues for January to March 2013.

	Company	Particulars	Amount US\$	Amount UGX
1	Tullow Ug. Operations Pty	Training Fees (EA2)	\$50,000	133,073,000
2	Japan Engineering Co. Ltd	Purchase of Refinery Feasibility Study Report	\$30,000	80,232,900
3	Total E&P	Discovery Bonus (Lyc - 1)	\$2,000,000	5,320,800,000
4	Total E&P	Training Fees (6 months - EA1)	\$100,000	264,987,000
5	Total E&P	Surface Rental Fees (Lyc)	\$640.50	1,697,241
			\$2,180,640.5	5,800,790,141

Between July and September, PEPD generated non tax revenues amounting to one hundred seventy nine thousand four hundred and eighty five United States Dollars (**USD 179,485**). The funds were paid as license fees by the licensed oil companies, as shown below:

Table 25: Summary of the Non Tax Revenue for the period July to September 2013

No	Company	Item	Revenues (USD.)
1.	Total E&P	Training fees (EA 1)	\$75,000
2.	Total E&P	Annual Surface Rental (EA 1)	\$4,485
3.	Total E&P	Training Fees (EA 1A)	\$100,000
	Total		\$ 179,485

3.10 CONCLUSION

PEPD continued to monitor and regulate operations of the licensed oil companies in the country.

The department completed the development of Guidelines for Reporting of Petroleum Resources by Oil Companies and monitoring field operations. Guidelines for preparation of Field Development Plans (FDPs) and Petroleum Reservoir Reports (PRRs) together with guidelines for data submission by oil companies were also finalised awaiting final approval.

Activities to promote the petroleum potential of the Albertine Graben included responding to inquiries from the international oil industry which continued to show significant interest in participating in developing the country's oil and gas sector. The department also undertook a program to carry out resource estimation for each of the prospects and discoveries in the country.

Applications for production licenses over six discoveries in EA 2 were submitted by Tullow Oil during the year. In addition, discussions were held on the Field Development Plan and Petroleum Reservoir Report for the King Fisher Discovery.

The development of regulations to support the upstream and midstream Petroleum Acts that became effective during April and July 2013 progressed during the year. Training and capacity building of staff also continued with some concluding and others commencing studies in petroleum related disciplines. Short-term capacity building courses were also undertaken.

The 6th East African Petroleum Conference and Exhibition was successfully held in Arusha, Tanzania and the department actively participated in the organisation of the Conference. Representatives of the department made various presentations, participated in the exhibition and pre-conference workshop together with hosting pre and post conference excursions to the Albertine Graben.

Other aspects of implementation of the National Oil and Gas Policy such as planning for the commercialization of the discovered oil and gas resources through development of a refinery and its attendant infrastructure and implementing the communication strategy for the oil and gas sector in Uganda, were undertaken.

During the year, the first petroleum production license to be issued in the country became effective, marking the commencement of the development phase. This attests to the progress made in the sector towards production of the country's oil and gas resources. The pace of activities and investments in the sector are therefore expected to increase going forward and hence a need for the continued and increased support from all stakeholders so as to ensure efficient and effective development of the oil and gas sector in the country.

Implementation of the Resettlement Action Plan for the Refinery Development commenced with disclosure of compensation amounts to the project affected persons. Other aspects related to the commercialization of the discovered oil and gas resources continued to be undertaken.

The department on behalf of the Ministry of Energy and Mineral Development appreciates the support from other Government Institutions, Oil Companies and other stakeholders that continue to contribute to the implementation of its mandate.

4.0 PETROLEUM SUPPLY, INFRASTRUCTURE AND REGULATION



Rev. Justaf Frank Tukwasibwe
Commissioner,
Petroleum Supply Department



Mr. John Friday
Asst. Commissioner
Business & Economics



Mr. Stephen Barisigara
Ag. Asst. Commissioner
Petroleum Standards

The key policy objective in Uganda's downstream subsector, as spelt out in the Energy Policy for Uganda (2002), is: To ensure adequate, reliable and affordable supply of petroleum products at internationally competitive and fair prices within appropriate health, safety and environmental (HSE) standards.

The implementation of this policy objective is spearheaded by the Petroleum Supply Department (PSD) as provided for under the Petroleum Supply Act, 2003.

In this section, the downstream subsector gives an update on performance progress for the calendar year 2013.

Figure 53: Management of Petroleum Supply Department

4.1 Standards and Licensing Operations

During the reporting period, a total of fifty nine (59) companies were issued with Petroleum Operating Licenses and twenty six (26) Petroleum Construction Permits were issued. In addition to the above, forty four (44) Environmental Impact Statement reports and twelve (12) Environmental audits were reviewed and recommended to the National Environmental Management Authority (NEMA) for approval and only two (2) were rejected.

i) Fuel Marking Program

During the reporting period, the fuel marking program progressed well with Global Fluid International (GFI) carrying out the marking services at the designated customs entry points. The Department, together with Uganda National Bureau of Standards (UNBS) devoted more efforts on monitoring the marker level and enforcement to quality requirements. The Department obtained two more mobile laboratories thereby bringing the total number to four that are currently under use for monitoring purposes. This greatly enhanced the capacity of the program with regard to countrywide coverage of the retail network. Monitoring teams carried out sampling and analysis of fuel at retail stations for presence or dilution of the marker in the fuel. Through this process, it was possible to detect and check adulteration and untaxed products. Because of this intervention, adulteration now stands at 3% as compared to 29% in March 2010.

ii) Petroleum Testing Laboratory

During the period under review, petroleum products were analysed for conformity to quality specifications and standards. The central petroleum laboratory at Nakawa supported this operation. The petroleum products were analysed for colour/appearance, density, viscosity, distillation characteristics, insoluble matter and water contamination. A total of 1564 samples were analysed out of which 462 were non-complaint. The non complaint fuel was upgraded to the right specification and quality.

iii) Petroleum Standards Development

In the reporting period, five draft standards on engine oil were produced and one workshop conducted to present the above draft standards for stakeholder's discussion and input. As part of petroleum standards development, one East African Community (EAC) petroleum standards editing workshop was facilitated in Kampala and two product standards specifications were reviewed by the EAC Partner States. Discussion for four liquefied petroleum gas (LPG) draft standards at technical committee level were also facilitated and final draft standards produced for a stakeholder review and approval by the UNBS Council.

Terms of reference for consultancy services to develop HSE technical regulations, codes of practices and EIA guidelines were produced. By the reporting periods, the procurement process for this consultancy was ongoing; adverts inviting bidders had been placed in the newspapers.

4.2 Oil Pipelines Extension

i) Eldoret- Kampala-Kigali Refined Petroleum Products Pipeline Project

Given the geographical location of our country, the benefits of the pipeline cannot be overemphasised, and this has remained a critical priority of the sector. In January 2013, the two Governments embarked on procurement of a new Pipeline Developer on Build-Own-Operate-Transfer (BOOT) arrangement. Unfortunately, this too was unsuccessful as the resultant tariff offered by two bidders that reached financial evaluation was uncompetitive compared to the current road transport charged per M³. The Governments' Joint Coordinating Commission (JCC) had determined the desired tariff threshold per M³. Much as the threshold was communicated to the two bidders and negotiated, the efforts were futile as each of the bidders still returned an uncompetitive and unacceptable tariff.

In view of the above, the JCC recommended to the Governments that the Eldoret – Kampala – Kigali Refined Petroleum Products Pipeline be developed along Engineering, Procurement and Construction (EPC) arrangement.

The Government of the Republic of Rwanda joined this infrastructure development on 28th August 2013 when the three Governments signed the Memorandum of Understanding (MOU) for the development of the pipeline during the 2nd Northern Corridor Integration Projects Summit held in Mombasa, Kenya. The initiative to develop the pipeline infrastructure was reignited at the Summit which directed that the investment be completed by March 2018. The Summit further instructed that the pipeline be extended to Kigali following which an international procurement process for the feasibility study for Kampala – Kigali was due for completion early January 2014. The study is expected to take six (6) months.

4.3 Trade in Petroleum Products

On the international scene, the stabilised prices from 2012 climbed the trend and reached their highest values in February 2013 of average price of US \$ 112.99 per barrel after rising from US \$ 106.60 in December 2012. Over the period under review, the prices were at the bottom level of average of US \$ 100.77 per barrel in May. The last half of the year stabilised and decreased to an average price of US \$ 107.10 up to December 2013.

On the local scene, the low prices passed from 2012 standing at average of Ug. Shs 3700, 2800 and 3350 for petrol, kerosene and diesel per litre respectively rose to their peak of 3900, 2900 and 3500 respectively in March 2013. The average local pump prices dropped down and stabilised throughout the year closing the festive December season of 2013 at the average price of Ug shs 3650, 2850 and 3300 per litre for petrol, kerosene and diesel respectively.

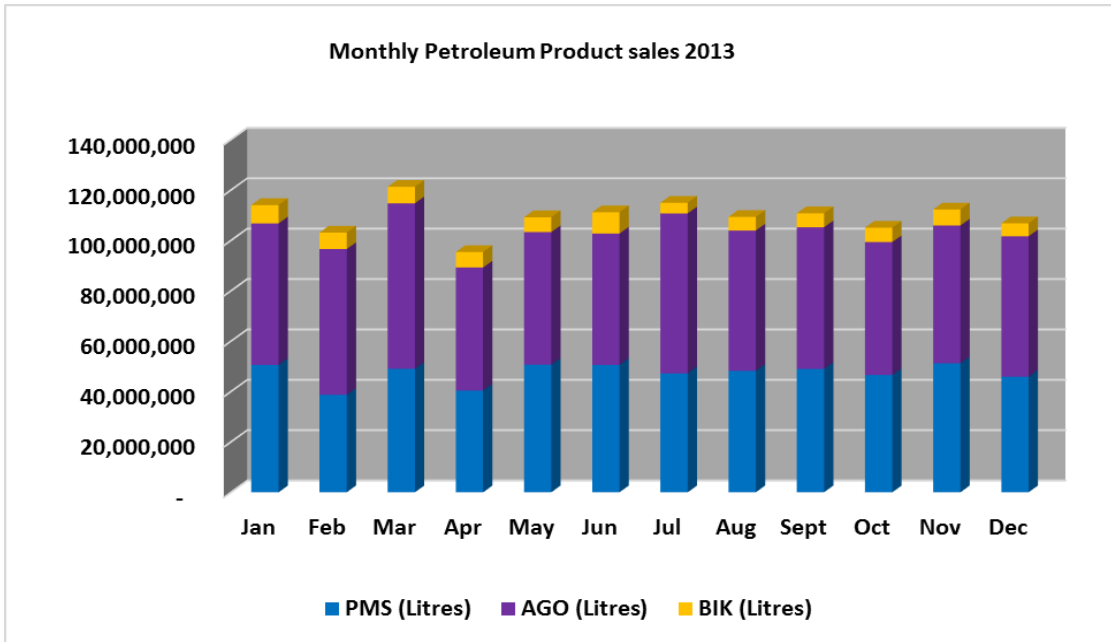
i) Imports and Sales of Petroleum Products

The volumes of white petroleum products' imports rose from 1,226,983,634 litres in 2012 to 1,313,350,223 in 2013. This is an increase of 7% which may be attributed to the efficient fuel marking system and improved monitoring by the anti smuggling unit of Uganda Revenue Authority as well as continuous meetings and sensitisation of the growing number of licensed oil importers.

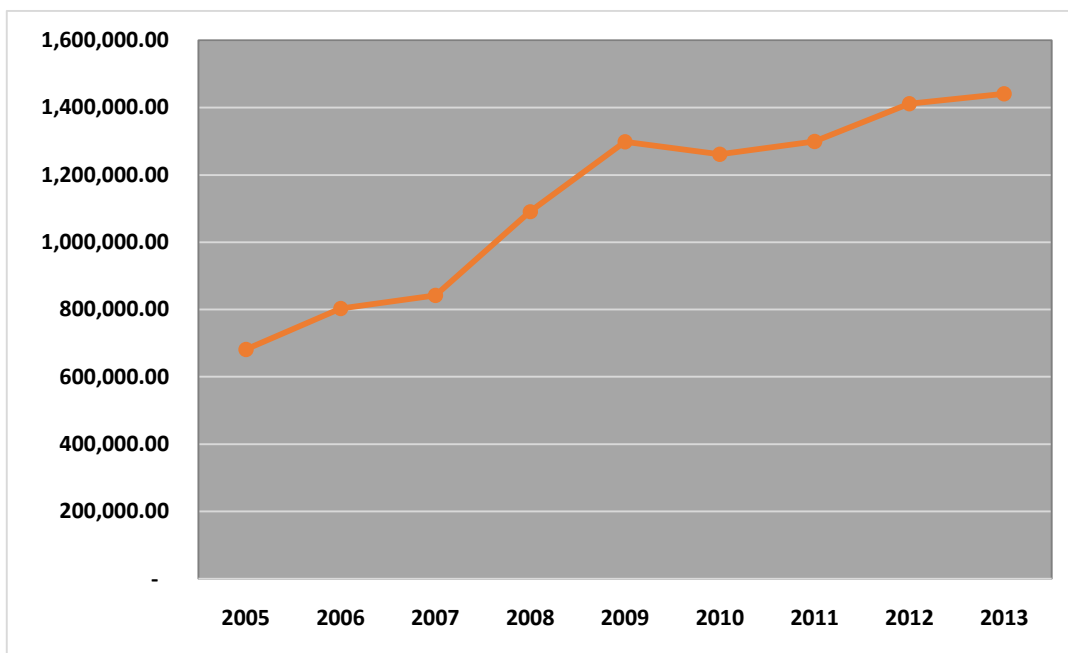
Similarly, the sales volumes for all petroleum products increased from 1,410,254,800 litres in 2012 to 1,441,208,000 litres in 2013. This is an equivalent increase of 2.2% in the volumes of the

products consumed. The drop is caused by companies obliging to exclude their company usage of the products. The annual sales for petrol, diesel and kerosene were 529,908,700 litres, 644,467,800 litres and 68,953,100 litres respectively. Their combined total volume is equivalent to 3.5% increase from 2012 sales of white products.

The fuel stock levels in the country were more reliable than the previous year and could hold products to run on average for 9, 8 and 7 days of national consumption for petrol, kerosene and diesel respectively.



Annual Sales of Petroleum Products Trend (cubic metres)



ii) Domestic Pump Prices

The lower prices in December, 2012 with an average price of Ug. Shs. 3700, 2800 and 3350 for petrol, kerosene and diesel respectively dropped and rose in January in 2013. In March to April the prices reached peak average prices of Ug. Shs. 3900, 2900 and 3550 for petrol, kerosene and diesel respectively before stabilising throughout the year.

There was no usual hike of prices during the festive season in December as they remained at Ug. Shs. 3650, 2850 and 3330 respectively for petrol, kerosene and diesel.

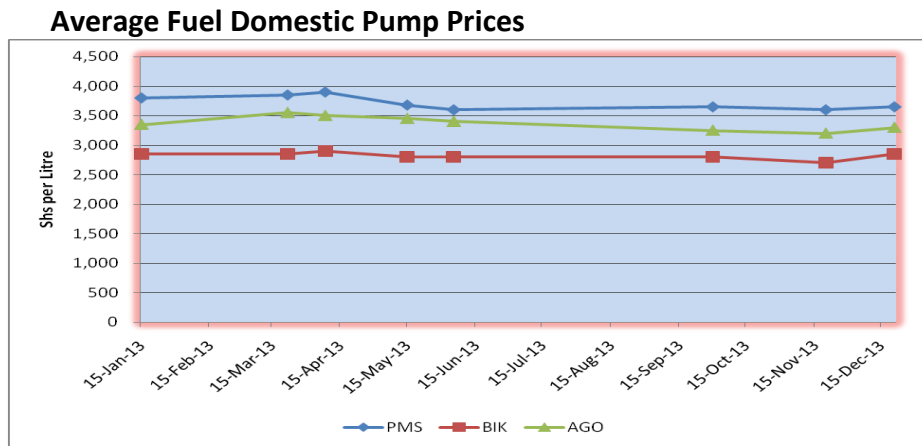


Figure 54: Local Pump Oil Prices 2013

iii) The Market Share

The traditional dominance of market share by Shell (U) Ltd now called VIVO Energy and TOTAL (U) Ltd were cut down from percentages of 27 and 25 to 15 and 17 respectively. The new entrants to bulk shares were notably Nile Energy, Stabex Petroleum and Synergy Oils (U) Ltd.

The former dominant multinational companies, Shell/Vivo Energy and Total still maintained their lead but cut down to below 40 percent.

Market shares of Oil Companies in 2013

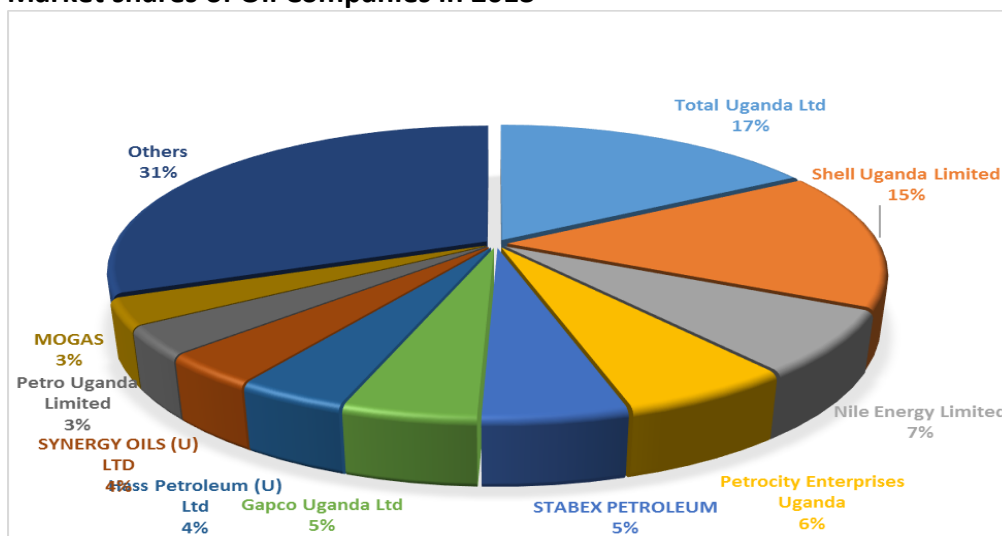


Figure 55: Market shares of Oil Companies in 2013

iv) International Crude and refined products Prices

The rising prices trend for crude petroleum products inherited from 2012, stabilised after hitting highest point for the year 2013 in February, of an average of \$ 112.99, 116.33 and 96.05 per barrel for Opec Basket, IPE Brent and Nymex Lt. Sweet respectively.

The prices then ran smoothly for all products throughout the year posting their lowest price values in November.

The diagram below illustrates this trend.

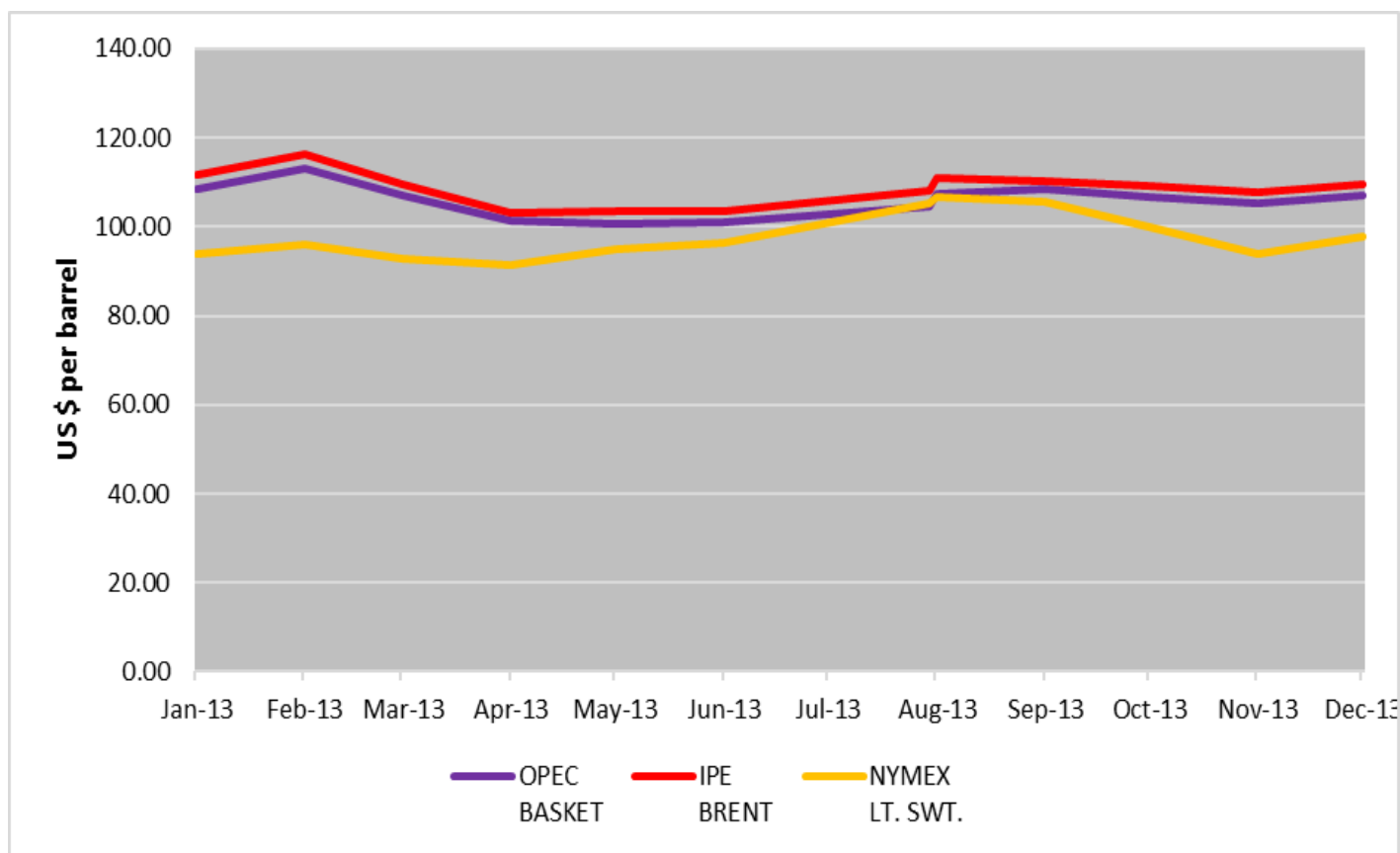


Figure 56: International prices of Crude oil in 2013

The price movement of crude oil was followed by the international prices of refined petroleum products and natural gases as illustrated in Fig. 56 above. The year started with average prices rising from US \$ 108.38, 111.26 and 93.42 per barrel for Nymex Petrol, IPE Diesel and Nymex Kerosene in January 2013 respectively, to annual highest average prices of US \$ 112.99, 116.33 and 96.05 per barrel in February.

The drop in prices was also comparatively less down to US \$ 101.40, 102.99 and 91.52 per barrel for Nymex Petrol, IPE Diesel and Nymex Kerosene respectively, in April 2013 before being relatively stable for the rest of the year.

The average prices of natural gases fluctuated moderately between \$/MMBtu 4.40 and \$/MMBtu 3.00 in Texas while in New York it reached heights of \$/MMBtu 34.06 and as low as \$/MMBtu 3.00.

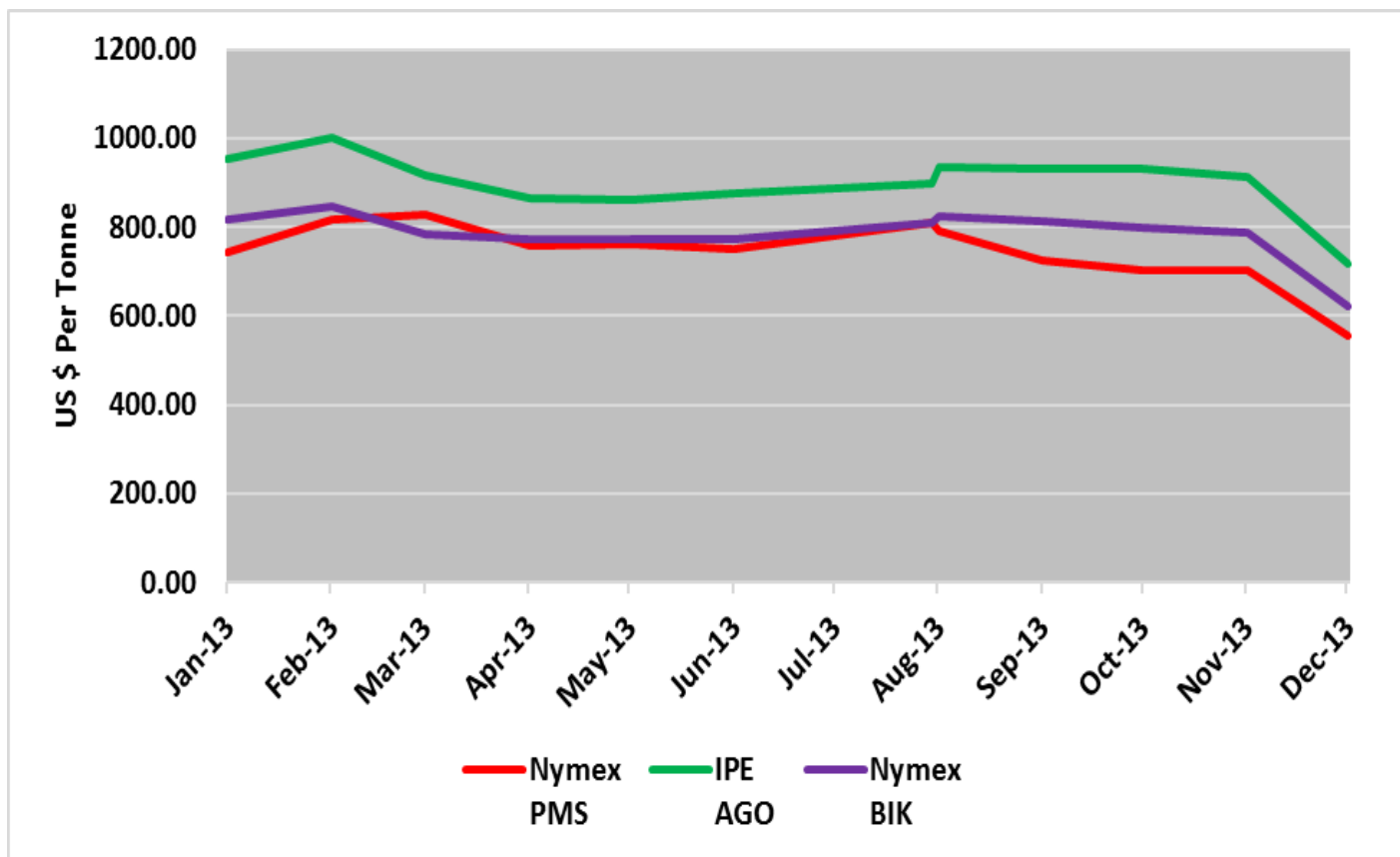


Figure 57: International Prices of refined Petroleum Products in 2013

The relatively high prices of the previous year 2012, persisted up to February 2013 before reducing and stabilised in the course of the year and dipped lower at the end of the year. This was reflected in the smoothness of domestic product prices.

4.4 Business Monitoring and Enforcement Operations

4.4.1 Petroleum Products Supply

During the period under review, the supply of Petroleum Products in the country was stable and no interruptions were experienced even during the high demand cycles of Easter and end of year travel festivities when the country used to experience supply interruptions.

Oil Marketing Companies importing into Uganda continued depending on the Mombasa route for importation of 98% of Uganda's industry requirement while the remaining 2% was supplied through Dar es Salaam in Tanzania.

Implementation of the Single Customs Territory commenced on trial basis with products imported through Mombasa in November and the first trials on products imported by Total and Shell were successful. Full implementation is planned for the first quarter of 2014 and this intervention will improve the transit period as products will experience no delays at the border entry points. In addition, Oil Marketing Companies will be in position to load from any loading point in Kenya which will improve supply to Uganda.

4.4.2 Monitoring and Inspection

There has been regular monitoring and inspection of facilities in Kampala, Western Uganda, Central and North Eastern Uganda. The field activities were again carried out in 2013 in the Districts of Mityana, Kyegegwa, Mubende, Kabarole, Kasese, Rubirizi, Bushenyi, Sheema part of Mbarara and partly Kampala. The retail prices of petroleum products were quite stable over the period but varied from company to company and area to area due to differences in price buildups such as differing transport costs and profit margins. Pump prices are determined by forces of demand and supply, competition and overall investment in the respective in the respective facilities. The average prices for the last quarter of 2013 for Bulk Illuminating Kerosene (BIK), Premium Motor Spirit (PMS) and Automative Gas Oil (AGO) were UGX 2852, UGX 3621 and UGX 3281 respectively for Western Uganda including Mityana, Mubende, Kyegegwa, Kabarole, Kasese, Rubirizi, Bushenyi, Sheema, and Mbarara.

The department remains committed to observance of principles of fair competition and stable supply of Petroleum products in the country. Effort is being made to ensure that all industry players in the petroleum downstream industry adhere to same principles of ensuring health, safety and environment conditions and petroleum industry set standards.

iv) Petroleum Standards Development

In the reporting period, five draft standards on engine oil were produced and one workshop conducted to present the above draft standards for stakeholder's discussion and input. As part of petroleum standards development, one EAC petroleum standards editing workshop was facilitated in Kampala and two product standards specifications were reviewed by EAC Partner states. Discussion for four LPG draft standards at technical committee level were also facilitated and final draft standards produced for a stakeholder review and council approval.

Terms of reference for consultancy services to develop HSE technical regulations, codes of practices and EIA guidelines were produced. By the end of the reporting period, the procurement process for this consultancy was ongoing; adverts inviting bidders had been placed in the newspapers.

4.4.3 Storage Facilities

Demand for petroleum products in the country has grown tremendously and storage facilities have not correspondingly changed which translates into difficulties of enforcing the 10 day stock requirement for every operator. As a result of the need to bridge the storage gap, during the reporting period, a private partner to operate Jinja Storage Facilities under Private Public Partnership had concluded refurbishment and started restocking. Procurement for Consultancy services for independent certification were ongoing, the contract had been submitted to Solicitor General for review. The independent certifier is expected to certify the refurbishment works executed and lead the commissioning of the facility. Full scale restocking will commence after commissioning.



Figure 58: The facility in Jinja has started operation

The terms of reference for consultancy services for upgrading the 40 million litre Nakasongola Storage Tanks has been produced and the procurement process initiated. By close of the period under review, invitation for bidders had been placed in the newspapers.



Fig 59: Restocking of Jinja storage tanks commenced in October 2013

4.4.4 Enforcement to compliance with Petroleum Supply legislations

During the period under review, enforcement operations were carried out in Kampala and seventy nine (79) operators without operating Licenses were closed. One operator who damaged the seals that had been used to close the illegal pumps was taken to court and judgement was expected in 2014.

5.0 THE MINERAL SECTOR

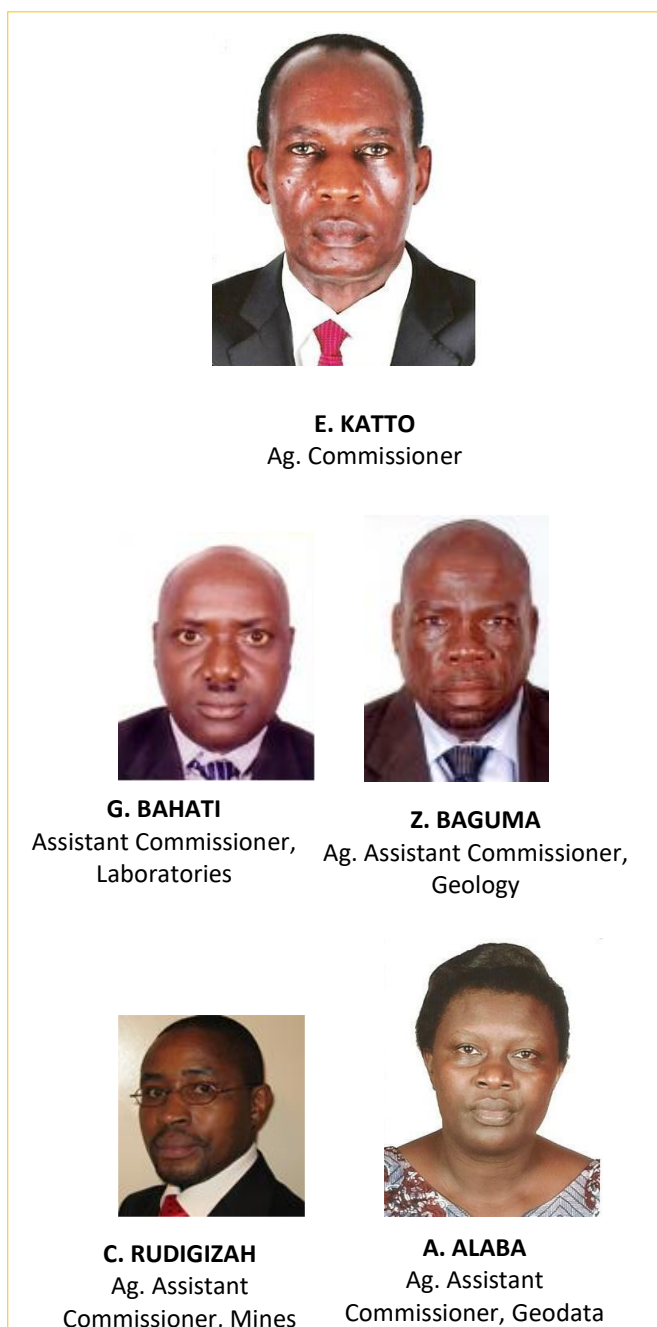


Fig 60: Management of GSMD

During the period under review, the following key outputs were recorded under the mineral sector: -

- i. Continued with the sensitization of local leaders and communities in all the seven districts of Karamoja Region in preparation for the airborne geophysical surveys, geological mapping and mineral resources assessment of Karamoja Region.
- ii. Commenced geological mapping, geochemical surveys and mineral resources assessment of Karamoja region. Geological and geochemical surveys started with sheet 25/3 (Waiver) in Abim District. Preliminary results of the surveys revealed great mineral potential for gold, wolfram, and columbite-tantalite and tin in the area. Karamoja region that comprises 20% of the country's land mass was not mapped during the completed Sustainable Management of Mineral Resources Project (SMMRP).
- iii. Ground geophysical surveys were conducted over Karuma in Kiryandongo district. Preliminary field data revealed massive magnetic conductors which could probably be host to nickel, gold and base metals. Further exploration work is required to ascertain the mineral potential over Karuma area.
- iv. Detailed geological mapping and ground geophysical surveys (gravity and magnetics) were conducted over Katwe, Kibiro, Panyimur and Buhuka geothermal prospects. The survey revealed more wide spread occurrence of surface manifestations at the above geothermal sites indicating a larger geothermal system. MagnetoTelurics (MT) has been recommended for further exploration to image sub-surface geothermal reservoir.

- v. A Geothermal development framework working paper was prepared with the aim of identifying critical issues and strategies for development of geothermal resources energy.
- vi. The sub sector generated **UGX 5.2 billion** shillings as Non-Tax Revenue (NTR) from royalties, mineral license fees, and sale of publications and geophysical data. Sales of geophysical data amounted to **UGX 22.85** million shillings while revenue from sales of maps and publications amounted to **UGX 4.8** million shillings respectively.

- vii. Mineral production from aggregate cobalt, gold, iron ore, kaolin, limestone, manganese, pozzolana, tin, vermiculite, and wolfram amounted to **UGX 158,502,287 million shillings**.
- viii. Revenue worth **UGX 83.6 billion** shillings was realized from mineral exports of cobalt, columbite-tantalite, copper, gold, lead, nickel, quartz, rubies, silver, tin, tungsten and vermiculite and a total of **UGX 21.2 billion** was realized as import fees for gold.
- ix. A total of 873 licenses were operational as of 31st December, 2013. Out of these were: 159 Prospecting Licenses (PL), 164 Exploration License (EL), 21 Location Licenses (LL), 3 Retention Licenses (RL), 5 Mining Leases and 95 Mineral Dealers' License (MDL). A total of 170 Exploration Licenses and 20 Location Licenses expired.
- x. The Department continued to monitor earthquakes and geotectonic activities country wide. Kyahi, Hoima and Kilembe earthquake monitoring stations were upgraded to improve on seismic data transmission and earthquake monitoring.
- xi. The departmental website www.uganda-mining.go.ug as well as geodata portals www.uganda-mining.go.ug:81/UgandaGMIS and www.flexicadastre.com/uganda continued to be maintained and updated to enable quick and easy access to geodata by staff and potential investors. Over 36,000 visits were recorded on the website.

5.1 Mineral Exploration and Investment Promotion

5.1.1 Airborne Geophysical Surveys and Geological Mapping of Karamoja

The following activities were undertaken under the airborne geophysical and geological mapping of Karamoja;

(a) Policy and Regulation

Monthly meetings on mineral policy and mining legislations were carried out at the Department of Geological Survey and Mines, Entebbe (Figure 61). Consultations with stakeholders in Karamoja were made during a workshop at Karamoja Agro Pastoral Development Program (KADP) in Moroto Municipality. 5 copies of the Mining Act, 2003 and 3 copies of the Small Scale Mining Hand Book were given to distinguished participants from the International Union on Conservation of Nature during a workshop at Karamoja Agro Pastoral Development Program (KADP) premises in Moroto Municipality.



Figure 61: Review of Mineral Policy and Mining Legislation Workshop at the DGSM Board Room

(b) Workshops and sensitization

- i. Sensitization of Natural Resources Officers and persons involved in Resources Management from Karamoja region on the Mineral Policy, 2001 was undertaken in Katikekile, Nakabat, Nadunget, North Division, Napak District, Acerer, Toror, Morulem sub-county headquarters, Rupa subcounty, and Moroto Town (Figures 62 and 63). The main issues raised during the workshops included: land evictions, ownership of minerals and commencement of airborne surveys over the region.



Figure 62: Sensitization at Nakabat, Moroto District



Figure 63: Training Sessions in Moroto Municipality District Hall.

- ii. Two (2) internal training workshops on standardization of lithological units and use of remote sensing in geological mapping were carried out on 2nd October, 2013.
- iii. Training of staff in value addition, petrological laboratory analysis of rocks and minerals was conducted for the laboratories staff during December, 2013.
- iv. A workshop on Strengthening Responsible Mining, Sustainable Livelihoods and Biodiversity Conservation in Northern Uganda was held on 21st August, 2013.
- v. A one day workshop on Cost Benefit Analysis of Mining in Karamoja in collaboration with the International Union of Conservation of Nature was held on 19th November, 2013 at KADP premises in Moroto Municipality. The workshop attracted participants in the categories of Local Government Leaders, NGOs, LSM & SSM, MEMD and Elders. The Project Coordinator/ Karamoja Project made a presentation on 'Overview of Mineral Sector and Investments in Karamoja'. This was followed up by collection of data to analyze cost benefits of mining in Karamoja. Large Scale and Small Scale Mining Companies were visited and interviewed. A follow up workshop on Cost Benefit Analysis of Mining in Karamoja organized by the International Union of Conservation of Nature (IUCN) was held at Golf Course Hotel in Kampala on 13th December, 2013 to present the findings of the Cost Benefit Analysis.
- vi. An internal training workshop was conducted for the DGSM staff at Entebbe about Mineral Resources of Karamoja and Rare Earth potential of Karamoja by Mr. James Natukunda (Senior Geologist- Mapping) and Mr. Edwards Isabirye (Senior Geologist- Industrial Minerals) on 15th March 2013 in the Board Room of the Department of Geological Survey and Mines, Entebbe (Figure 64). It was noted that Karamoja has good potential for REEs. Twenty seven (27) technical staff attended the training.



Figure 64: Training workshop at DGSM Boardroom, Entebbe

(d) Geological mapping of sheet 25/3 (Waiwer), Abim district;

Geological mapping and geochemical surveys of Karamoja commenced with Sheet 25/3, Abim District. The geology is composed of charnockites, granulites (felsic and intermediate), migmatitic garnetiferous gneisses and superficial deposits (alluvium and laterites) (figure 67). Faults, quartz veins, aplitic veins, pegmatites, fold structures and jointing were remarkably observed in the field.



Figure 67: Exfoliation and veins in charnockites and micro folding in felsic granulites

Minerals of interest found on the sheet are: graphite, garnets, cordierite, tourmaline, mica and ilmenites (Figure 68). Alluvial gold working was encountered in the sheet at UTM location coordinates 585438mE/288206mE.



Figure 68: Garnets in granulites and alluvial gold working at Morulem

Peculiar imprints on rock surfaces at Otukei were mapped and are known to have potential for geo-tourism (Figure 69). More work is required to assess the age and history of events that took place here.



Figure 69: At location 567390mE/274696mN, synoptic view of sole feet /grinding stone occur at Otukei Charnockite

(e) Geochemical mapping of sheet 25/3 (Waiwer), Abim district

Literature review indicates that anomalous high values of niobium- tantalite (Nb-Ta) are mapped in sheets 25/2 and 25/3. During the geochemical surveys, sixty nine (69) geochemical samples were collected for multi-element analysis but for paying more attention to tin, gold, niobium, tantalum and wolfram. More emphasis was centered on hydrothermal alteration veins manifested by tourmalization and epidotization. The geochemical report and a map at 1:50,000 scales are under preparation.

(f) Promotion of investment in Karamoja region

Information about gold in Angorom and Rupa; iron ores at Napak; marble in Lolung; Tank Hill, Forest Reserve, Katikekile, Kosiroi and Matheniko; phosphates at Alerekek; copper at Boboong; gemstones; and geochemical data were disseminated to thirteen (13) companies interested in the development of mineral resources of Karamoja Region.

(g) Health and safety and social awareness of miners

Awareness and training on health and safety issues were conducted in Rogom, Abim District; Training manuals in the Small Scale Mining Hand Book were disseminated to Natural Resources officers of Napak, Nakapiripirit, Amudat and Moroto Districts to guide them on health and safety issues.

(h) Licensing and Inspections

During the period under review, field inspections were carried out in areas held by M/S Great Lakes Cement Limited, M/S African Minerals Limited, M/S MCB Resources Limited and M/S DAO Marble Limited (Figure 70-71). Issues of illegal mining, under-declaration of mineral production, non-performing licenses and environment degradation were raised (Reports available at DGSM).



Figure 70: M/S DAO Marble operation under Exploration License no.0638



Figure 71: A truck loading marble mined by local miners from Tank Hill in Moroto to be transported to Tororo Cement Factory

(i) Government Buildings and administration infrastructure

Procurement process for acquisition of land in Rupa (Moroto) on plots 17 and 19 for setting up the regional geological offices in Moroto was initiated.

(j) Purchase of specialized machinery and equipment

Seismic data acquisition systems were installed at Kilembe, Hoima and Entebbe and two (2) training workshops on seismic data acquisition and analysis were conducted at DGSM, Entebbe. Seismometers were tested and calibrated for field deployment and procurement of more equipment was initiated.

(k) Financing

The technical and financial proposals for the airborne geophysical surveys were presented and submitted to potential development partners such as the World Bank, MoFPED, Sector Working Group and the Counsel of Abu Dhabi to finance the funding gap of the project.

5.1.2 Geothermal Energy Resource Exploration and Development

The Geothermal Unit continued with the implementation of the Uganda Geothermal Resources Development Project (1199). The Unit also provided in-office and in-field client consultations and expert advice about geothermal exploration. Activities included: generation of geo-scientific data, monitoring, promotion of geothermal energy as well as licensing and regulation of geothermal exploration activities.

(a) Data acquisition

During the year the project continued to acquire geo-science data of use to the geothermal industry and make this data available publically.

(i) **Ground geophysical survey of Panyimur and Kibiro geothermal prospects:** Gravity and magnetics survey was carried out in Panyimur and in Kibiro. Low magnetic signature and gravity high were indicated at Kibiro (Figure 72a, 72b and 72c). MagnetoTelluric (MT) surveys are recommended to image the sub-surface using electrical methods.

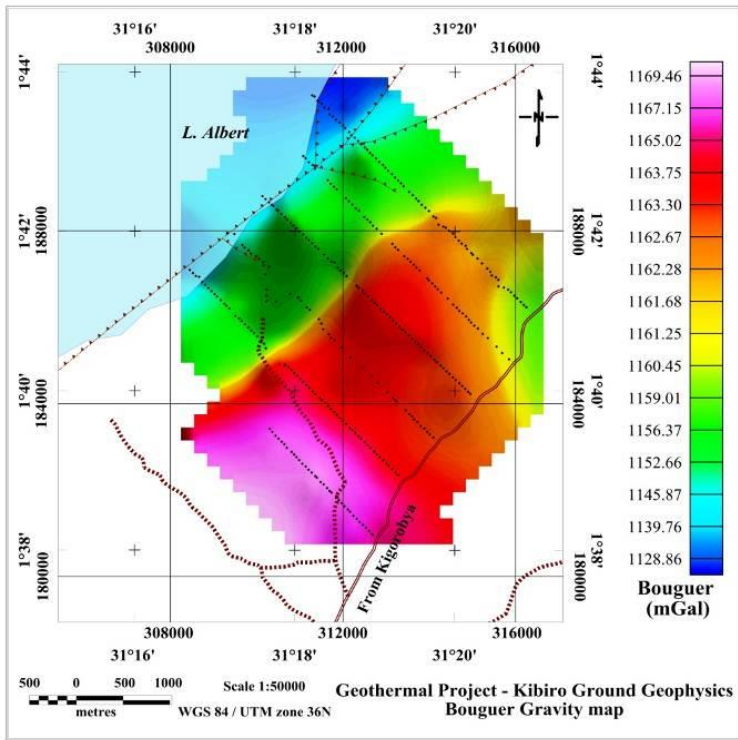


Figure 72a: Bouguer gravity map

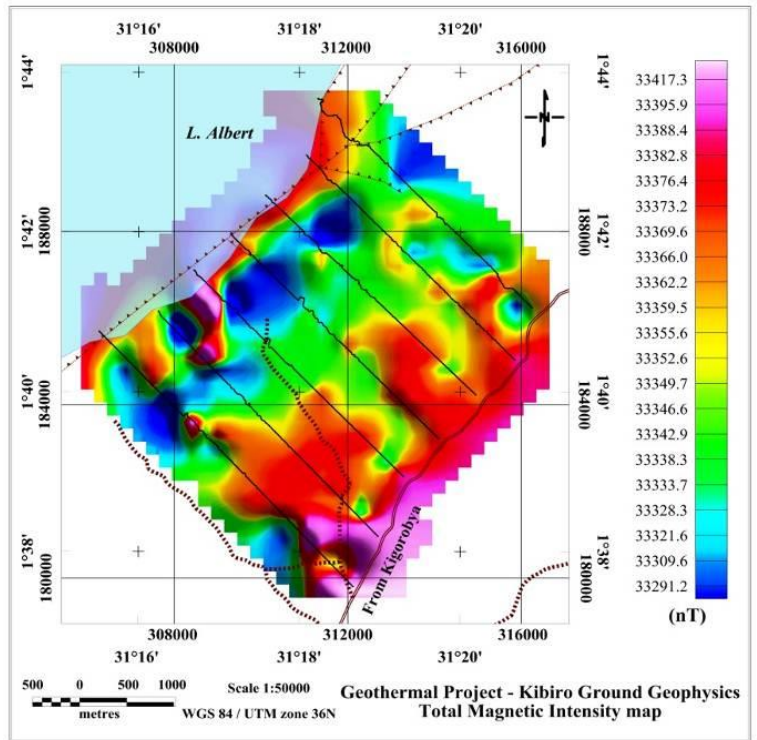


Figure 72b: Total magnetic intensity map

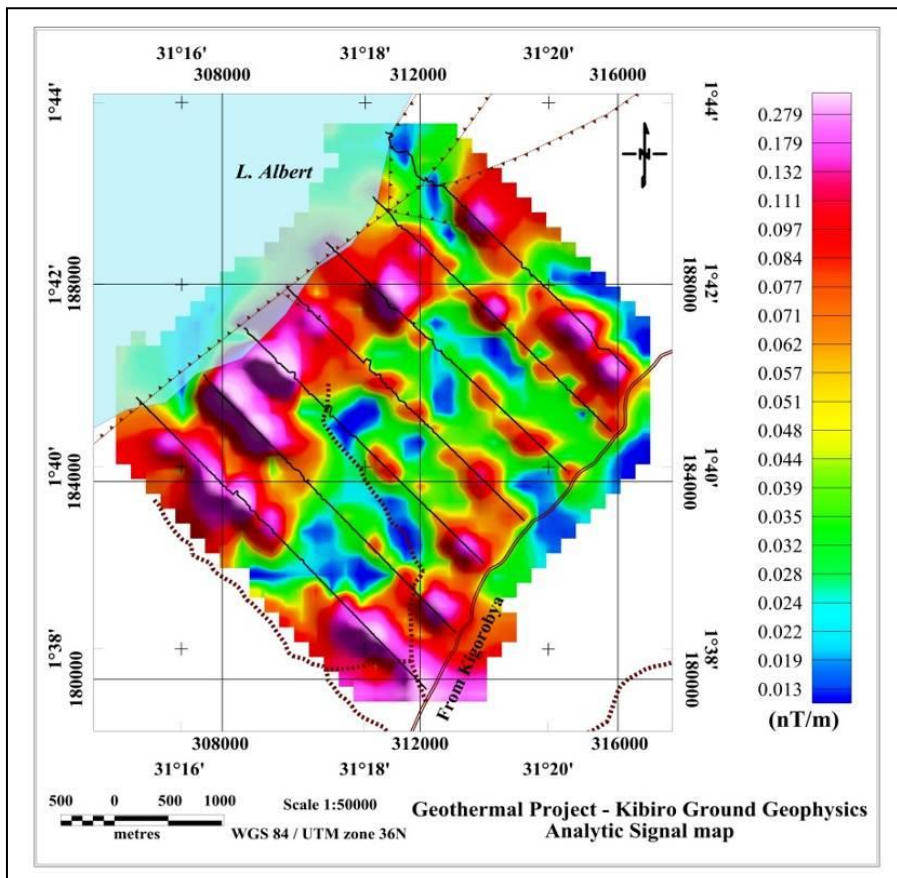


Figure 72c:
Analytic
signal maps

(ii) Geological Mapping of Katwe-Kikorongo

A team of four (4) geoscientists undertook surface geological mapping in Katwe-Kikorongo geothermal resource site in April 2013 (Figure 73). This exercise involved mapping of lithologies, structures and geothermal surface manifestations. New discoveries were made and the wide spread occurrence of surface manifestations is suggestive of a large geothermal system in this area. XRD analyses of bentonitic clays from Katwe have been received and are yet to be interpreted.



Figure 73: Geologists mapping in Katwe-Kikorongo (Nyindo Zansi)

(iii) Geological mapping of Buranga-Ntoroko and Panyimur geothermal prospect

Geological mapping of Buranga-Ntoroko geothermal area was undertaken. New geothermal surface manifestations were discovered which included travertine, warm springs and thermophilic grass. New surface manifestations of geothermal were discovered and structures were mapped in Ntoroko. Geological mapping of Panyimur also indicates new surface manifestation. The occurrence at widely scattered localities from one end to another is highly suggestive of a huge geothermal system. XRD analysis of bentonitic clays from Kibuku has been received and is yet to be interpreted. The reports of the findings are under compilation.

(iv) Geological Mapping of Buhuka area in Hoima and Kaiso Tonya area

A team of geologists undertook geological mapping of Buhuka area in Hoima and Kaiso Tonya area. Geothermal surface manifestations (travertine) were noted at Buhuka-Kingfisher during the Monitoring and Evaluation field visit. Other features like diatomite and volcanic rocks were mapped at Kaiso-Tonya area during petroleum exploration. Hydrothermally altered ground has been noted around Buseruka escarpment. These geothermal features are widely scattered suggestive of an extensive geothermal system (Figure 74). This undoubtedly merits follow-up to recognize and map these geothermal surface manifestations. Geological mapping of Kaiso-Tonya area revealed both active and inactive geothermal manifestations in this area. A report is yet to be submitted.

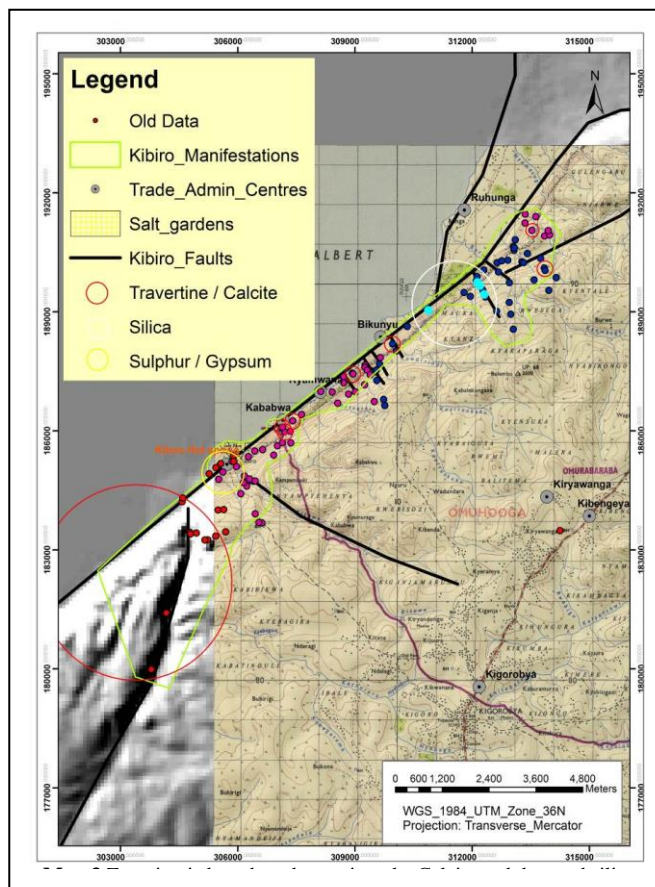


Figure 74: Geothermal zonation of manifestations based on silica, sulphur and calcite.

(v) Environmental Baseline Survey Katwe-Kikorongo, Ntoroko and Panyimur

Vincent Kato (Project Coordinator) undertook an environmental baseline survey at Katwe-Kikorongo and Ntoroko Geothermal Resource Site in April 2013. A Report is being compiled. Data for the baseline study was acquired from the field, and from existing sources such as government reports. The biggest part of a baseline study involved studying the physical environment, however, the cultural, social and economic environment data was also collected. In order for government and stakeholders to assess the impacts of the geothermal project, detailed baseline studies on the project need to be prepared. The Geothermal resource site is located in a conservation area.

(vi) Environmental Baseline Studies

A draft report on Buranga baseline survey was produced from available literature. This was followed by field visits in Ntoroko and Bundibugyo District. In January 2013 an environmental baseline survey report was undertaken in Kibiro (Vincent Kato, Annet Namboya and Wilbrod Okoth). A description of natural, social and economic environment considered local community, land-use, proximity to infrastructure and housing, amenity, noise dust, air quality, topography, landscape, climate, geo-hazards, hydrology, groundwater, flora, fauna, topsoil, subsoil, heritage (geological, cultural), proximity to conservation areas, pre-existing site contamination and previous disturbance. In December 2013, a baseline survey of Panyimur was undertaken.

(vii) Satellite image interpretation: In April 2013, satellite images and aerial photos were acquired and used to map lineaments and fault traces (Figures 75-77). Digital terrain maps were also processed to aid in fault trace mapping. Remote sensing data (Aster and Landsat) for Katwe and Buranga was acquired and interpreted. This aided structural mapping of these geothermal resources sites. In addition, West Jec produced hard copies of Aster, Landsat and SRTM for the above geothermal sites.

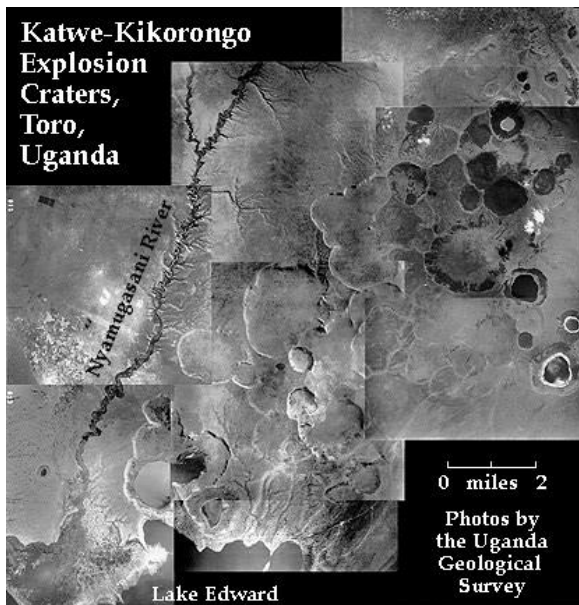


Figure 76: Satellite imagery of Katwe-Kikorongo Geothermal Resource Site

Figure 75: Aerial Photo showing explosion craters around Katwe-Kikorongo Geothermal Resource Site

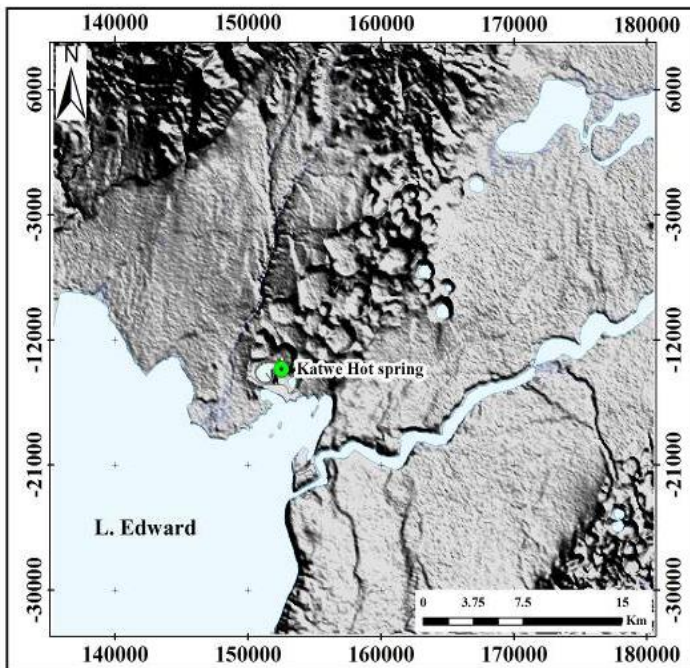


Figure 77: DEM of Katwe area showing major faults in the area.

(viii) Geophysical data acquisition and compilations: In April 2013, airborne magnetic data from the Department of Petroleum Exploration and Production (PEPD) and DGSM archives were processed, analyzed and interpreted. Low magnetic signatures are interpreted to represent demagnetized zones related to geothermal activity (Figures 78 and 79). Oil well data was further acquired from PEPD and interpreted for carrying out additional geothermal exploration. This data was quite useful because Petroleum companies always drill deep wells and measure temperature during wire line logging and well flow tests. In that regard, this information has always supplied the geothermal industry with many exploration targets to date.

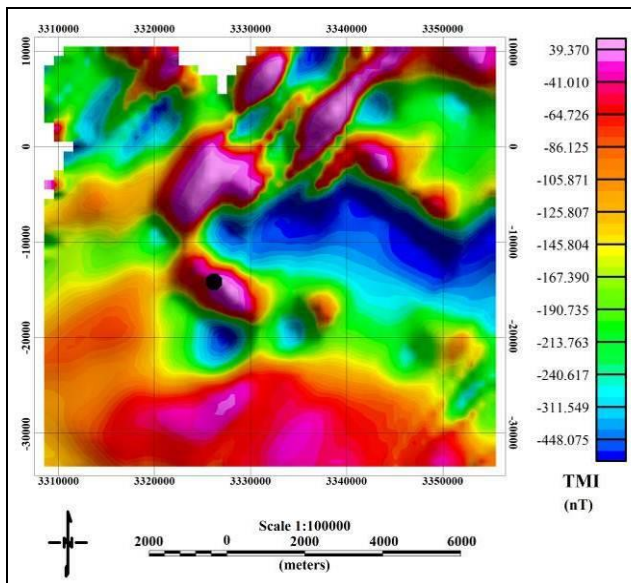


Figure 78: Low magnetic signature East and North East Katwe warm springs (black dot). Source: old DGSM data.

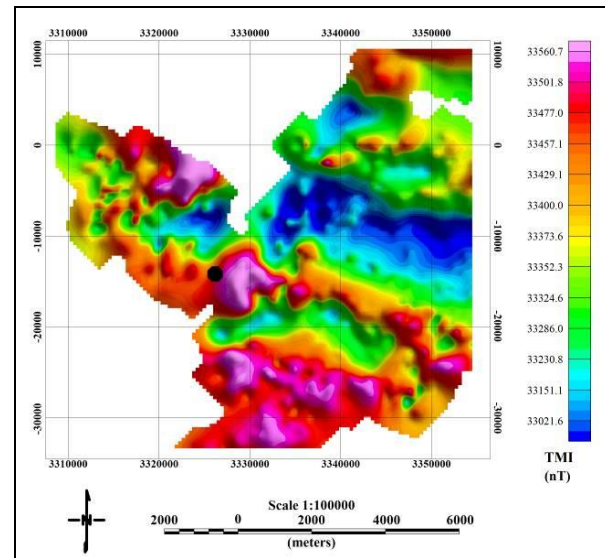


Figure 79: Low magnetic signature East and North East Katwe warm springs (black dot). Source: old PEPD data.

(ix) Geochemical survey: Deus Katomi Muhwezi (Geochemist), Henry Onyege (Chemist) and Isaac Ajule (Laboratory Technician) while trying to locate the documented Nyindo-zansi fumarole instead discovered hot and warm springs, travertine along River Rwimi. A report is being compiled.

(x) Reconnaissance exploration survey: From 5th to 20th October 2013, West Japan Engineering Consultants Inc (West Jec), Technical Consultants of JICA together with DGSM staff undertook a reconnaissance survey covering 15 geothermal resource sites in seven districts in Southwest and Western Uganda. The aim of the survey was to assess these prospects and rank them for more detailed surveys. The surveys involved collecting thermal waters, verification of interpreted satellite data, collecting environmental information and other infrastructure information.

(b) Rift Link: Dr. Andreas Schumann from the Geology Department of Makerere University, Kampala donated fifty five (55) geophysical research papers on the East African Rift Valley concerning the development of the Western Rift Valley and Mt Rwenzori using geophysical methods. This valuable information is yet to be synthesized and will help refine our geological models.

(c) Geothermal Industry Development Framework Paper: A Geothermal Industry Development Framework working paper was prepared with an aim of identifying critical issues for the industry and recommended strategies to encourage the sustainable growth and development of the sector in Uganda. The framework aims to guide the development of accurate and reliable information on geothermal resources in Uganda; networks that encourage sharing of information and experience; geothermal techniques suitable for Uganda; a skilled geothermal workforce; community understanding and support of the economic, environmental and benefits of geothermal energy; a consistent, effective and efficient regulatory framework for the geothermal energy; and an attractive investment environment. The framework will identify a series of recommendations and strategies, which can be applied by the Government and stakeholders to respond to challenges facing the industry.

(d) Data management

National database: In the geothermal field, it is important to manage and store data efficient for easy and safe access of different disciplines within the public. The Project developed and maintained a national database to house all geoscience data relevant to geothermal exploration (Figure 80).

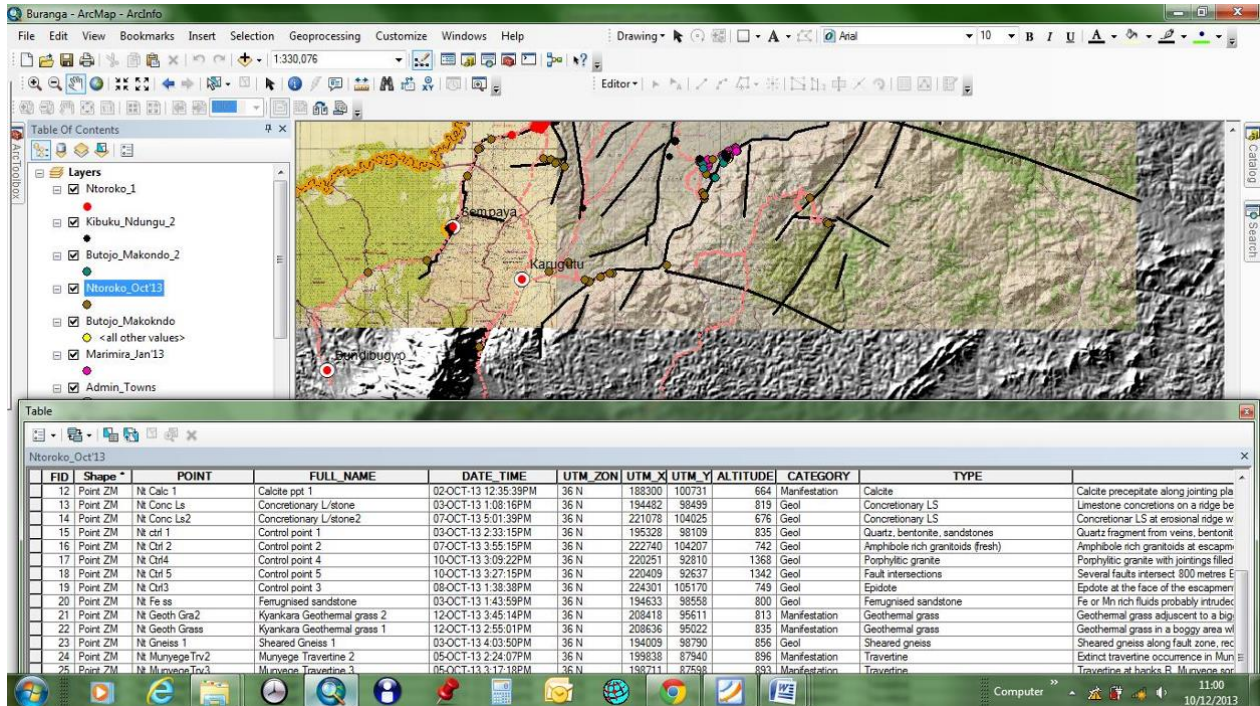


Figure 80: Geothermal database

(e) ARGeo Geothermal Inventory database (AGID): The Project is working with UNEP under its ARGeo project to develop a database. This database will provide detailed and current geothermal information on the countries in the region which will be availed to public and private investors interested in geothermal development.

(f) Information Stock take: The Project has started stocktaking all the existing geothermal data and information. So far 100 reports have been identified.

(g) Licensing and regulation

Nationally, by the end of December 2013, the Ministry had granted ten (10) geothermal exploration licences to private companies namely; Ascot Associates Ltd (EL-1064), Clean Source Energy Partners Ltd (EL-1138), FCN Energies Ltd (EL-1142), Cozumel Energy (U) Ltd (EL-0705), Clean Source Energy Partners Ltd (EL-1037), Katwe Geothermal Power Project Ltd (EL-0772), Pawakom International Ltd (EL-1060), Gids Consult Ltd (EL-0725), Moberge Finance Ltd (EL-1000), and Clean Source Energy Partners Ltd (EL-1046) (Figure 81). Most of these companies (new market entrants) have not carried out surveys as spelt out in their submitted proposed work programs which is a requirement to sustain tenure in geothermal license areas.

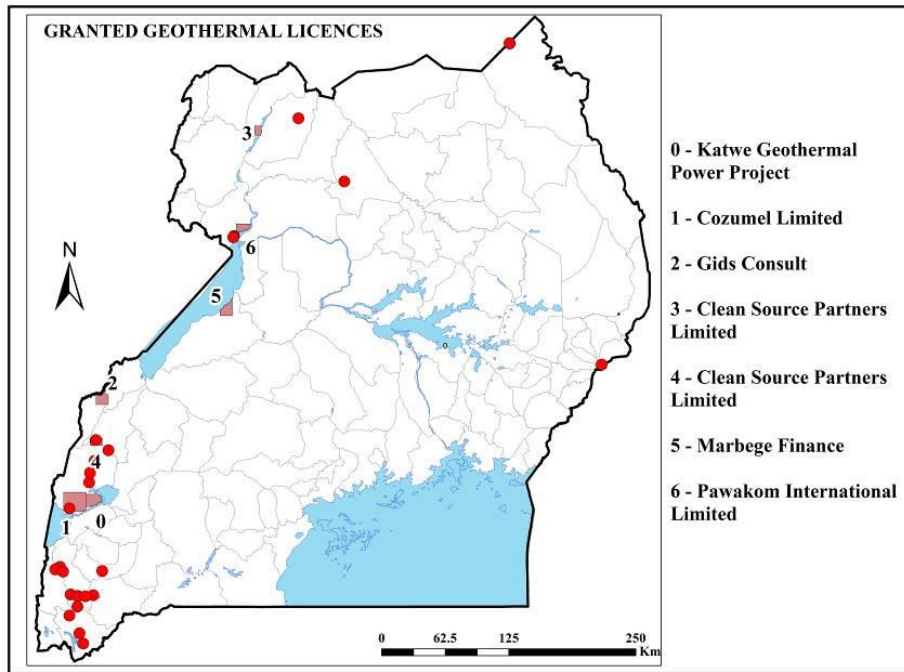


Figure 81: Geothermal concession map

(h) Geothermal Institution

The Ministry is undergoing restructuring and a new Department of Geothermal Resource is going to be established.

(i) Monitoring and supervision

Katwe-Kikorongo: From 17th to 19th April, 2013 Vincent Kato on a supervision trip to Katwe-Kikorongo geothermal resource site established that a field geological team (Figure 82) had identified the earlier documented Nyindo Zansi site and this was attributed to the fact that the field team had acquired skills and competence to map inactive surface manifestations, fault traces and lithologies.



Figure 82: Mapping at Katwe-Kikorongo geothermal site

Kibiro: Monitoring and supervision of geological and geophysical surveys was undertaken at Kibiro geothermal site from 26th - 30th January 2013, 11th to 13th April 2013 and 17th August 2013. The teams in the field did not have any serious problem except geophysical base station equipment could malfunction at times.

Panyimur: Monitoring and supervision of geological and geophysical surveys was also undertaken in Panyimur on the 28th January 2013.

(j) International partnership

- **USAID:** Vincent Kato, Geothermal Project Coordinator met Mr. Steven Hirsh from USAID who was on mission to explore how Uganda Geothermal companies can benefit from the USAID Geothermal facility.
- **UNEP:** On 15th August 2013, DGSM together with UNEP held a workshop in Entebbe which was attended by 48 DGSM staff and other stakeholders (Figure 83). This was to review the work so far carried out in Kibiro and identify gaps to be addressed in the UNEP-Argeo project. This workshop was followed by ground-verification fieldwork by DGSM staff and a UNEP Consultant. On 17th August 2013, the UNEP Consultant accompanied by an MEMD Official undertook a field visit to Kibiro. A draft project proposal for Kibiro pre-feasibility survey was produced and submitted for review by the UNEP Consultant in November 2013.



Figure 83: Workshop participants

- **JICA:** The Ministry has been working with WestJec which was contracted by Japan International Cooperation Agency (JICA) to conduct a “geothermal Development Survey’ in Uganda starting 19th February 2013. The objective of this survey was to collect and analyze information regarding the current situation and future plans of geothermal developments for power generation. With results of this survey JICA is considering the possibility of extending assistance to Uganda. The inception report was submitted in March 2013. On 29th August 2013, WestJec Consultants had a working session with DGSM Technical staff to prepare for a reconnaissance survey in South West Uganda (Figure 84).



Figure 84: West Jec Consultant showing interpreted satellite image data to staff at DGSM boardroom

- **Toyota Tsusho Corporation from Japan:** On 17th July, 2013, the Project Coordinator met a delegation from Toyota Tsusho Corporation from Japan. This is after they had met H.E. The President of Uganda in Japan and expressed interest in geothermal development in Uganda.
- **ENERGY 1 Light Africa:** On 29th July, 2013, The Project Coordinator met investors (Mike Wikins, mike@energyone.co.za) from Energy 1 Light Africa who have interests in developing geothermal in Uganda.
- **Anthony Knaggs:** On 14th February 2013, the Project Coordinator received Mr. Anthony Knaggs who had interest in developing geothermal resources in Uganda. Open file data was provided and Knaggs advised on necessity of using end of the well data from PEPD.
- **Ormat Technologies:** Mr. Vincent Kato together with officials from Ormat Technologies (Amelia Ida Letvin & Nissan Yamin) conducted a field visit to Kibiro, Panyimur, Buranga and Katwe-Kikorongo Geothermal Resources sites (1st to 4th March 2013). Promotional materials were given to the investors.
- **NPA:** Mr. Vincent Kato attended a Presidential Economic Committee (PEC) meeting which was preparing a draft paper on minerals and geothermal energy at NPA offices on 17th June 2013.
- **Glosat Africa:** Glosat Africa and its mother company Glosat South Korea developed interest in sourcing companies that want to fund and develop geothermal in Uganda. Available open file information was provided to them.
- **University of Mexico:** Mr. Scott Jasechko, a hydrochemistry PhD student at the University of Mexico applied to carry out research on the Uganda Geothermal Sites.

- **Khoday Group of Industries:** This Company expressed interest in developing geothermal resources in Uganda and was subsequently provided with open file information.
- **Geothermal Energy Association (GEA):** This U.S association with geothermal member companies prepared an article on Uganda for press, covering updates on the East African geothermal market and it promoted US industry interest in planned and on-going projects in East Africa. Prospectiuni S.A of Romania showed interest after reading an article in the Geothermal Energy Association's weekly newsletter where U.S companies were invited in Uganda for technical assistance with MT services and for taking advantage of the investment opportunities in Uganda.
- **Geothermal Risk Mitigation Facility:** The Government has submitted a proposal to the Geothermal Risk Mitigation Facility in Addis Ababa, Ethiopia for funding consideration.
- **Regional Integration Project Summit:** The heads of governments of Uganda, Kenya and Rwanda have agreed to sign a Memorandum of Understanding between Kenya (Consultant) and Rwanda and Uganda (clients) to jointly develop the geothermal resources of Uganda and Rwanda taking advantage of Kenya's vast experience and skilled geothermal workforce.
- **World Geothermal Energy Summit 2013:** The Minister of State for Minerals attended the above summit from 5th – 6th December 2013, Nairobi, Kenya.
- **WORLD BANK (WB):** Following the letter of expression of interest in the Iceland – World Bank Compact for the development of geothermal resources, WB has prepared an Aide Memoir which is to be submitted to the Head Office.

(I) Promotion of geothermal energy

The use of geothermal energy for electricity generation and direct use application is new technology in Uganda and virtually non-existent. Nonetheless interest and activity in the geothermal sector has continued to gather momentum.

Geothermal Drilling Systems International submitted a technical and financial proposal for detailed geo-scientific studies of four geothermal sites in Uganda.

Waiver of Exemption: The Ministry was granted a waiver of exemption by Uganda Wildlife Authority (UWA) to undertake geothermal exploration activities in protected areas.

Geothermal sites map: A Location map of known geothermal sites was up-dated (Figure 84). As more sites are discovered, the map will continuously be up-dated.



Figure 85: Updated location map of known geothermal sites

Geothermal Brochures: A geothermal brochure was produced to create awareness of the geothermal industry in Uganda. The brochure portrays to all stakeholders that geothermal energy is a safe, clean, and competitive option that can be incorporated in Uganda’s energy mix.

ACME: On 11th December 2013, Vincent Kato gave a lecture at the African Center for Media Excellence (ACME), in Bunga about the geothermal industry in Uganda.

Procurement

Procurement of the following equipment: Magneto Telluric equipment; Transient electromagnetic; Gravity meter; Geological mapping equipment; safety equipment; Analytical equipment was initiated.

5.1.3 Geological Surveys

Under geological surveys, the department is expected to monitor, stimulate and facilitate the economically sustainable and environmentally sound exploration and development of the nation’s mineral resources. In line with these expectations, the department conducted geological mapping of parts of Karamoja region as well as geophysical surveys over Kafunjo nickel prospect and Karuma Kiryandongo copper-nickel anomaly. Details of the outputs are as follows:

i. Geological Mapping of sheet 25/3 (Waiwer), Abim District

Geological mapping of sheet 25/3 (Waiwer) has established that the area is underlain by charnockites, porphyritic granulite and fine-medium grained granulite lithology that have been cross cut by late phase quartz veins and pegmatite dykes. Forty eight (48) rock samples were collected of which twelve (12) are under microscopic study. Two N-S and E-W major string joints, foliation and lineation systems are prominent in this area and control major faulting and trends of hills and it is along these two directions that quartz veins and pegmatite dyke occur. Hydrothermal alteration manifested by tourmalization and epidotization signify that this area might be potential for epigenetic vein and pegmatite type of mineralisation such as gold, wolfram, columbite-tantalite and tin.

A Draft Geological mapping report for sheet 25/3 (WAIWER) was prepared. A final report awaits the completion of the study of the thin sections of samples collected from the area during the geological mapping.

ii. Geochemical surveys of sheet 25/3 (Waiwer), Abim district

During the geochemical mapping sixty nine (69) stream sediment samples were collected. These have been submitted to the Mineral Dressing Laboratory at DGSM for drying and sieving. They will be analysed for multi-elements but paying more attention to Sn, Au, Nb, Ta and W. A preliminary report on the geochemical mapping of sheet 25/3 was prepared.

iii. Mapping of geosites

“Sole feet” shaped features occur close by neatly arranged in the Akado Hill charnockite implying that human activity took place in this place in the past. The half oval shaped features are generally wide in the upper narrowing towards the lower and deepest in the central part. They might have been used for grinding millet, cassava, sorghum, simsim and ground nuts (Figure 86A).



Figure 86: Half oval shaped features in charnockite at Akado Hill (A); ‘Rugby – ball’ shape at Otukey Ridge (B).

In the Otukey Ridge on the other hand, these ‘sole feet’ are clearly different from those at Akado Hill – largely resembling a half-Rugby ball (Fig. B), implying that similar human activities took place in this place in the past.

iv. Base maps for sheets 79/1, 79/2, 66/2,66/3 and 25/3

Literature review of previous work of sheets 79/1, 79/2, 66/2, 66/3 and 25/3 was undertaken and geological base maps with geological observations points, stream sediment sampling sites and geophysical sampling sites were generated.

v. Geophysical surveys over Kafunjo-Ntungamo district

A reconnaissance ground magnetic survey was carried out to support M/S Viir Metals and Refiners Ltd on EL 1118, Kafunjo – Ntungamo district, 15th – 19th November, 2013. The purpose of the survey was to delineate the tin bearing pegmatites within the concession area. The exercise that involved carrying out the magnetic measurements did not show any anomaly of probable pegmatite veins. It was concluded that failure to discover an anomaly was attributed to the low magnetic susceptibility between the tin bearing pegmatites and the shales/phyllites surrounding rocks.

vi. Geophysical surveys over Karuma- Kiryandongo district

Ground magnetic and Transient Electromagnetic (TEM) survey were carried out for M/S Pearl Mining (U) Ltd on concessions, ELs 304 and 305 in Karuma, Kiryandongo district from 2nd – 21st December, 2013. Preliminary field data interpretations reveal massive magnetic conductors which could probably host nickel, gold and other associated base metals.

vii. Promotion and monitoring of investment of the Mineral Sector

The department provided routine in-office client consultations and expert advice and also undertook routine review and assessment of exploration work programs. Quarterly reports were assessed in order to ensure that the results of exploration are fully and clearly recorded for the benefit of future explorers and guide licensees to adhere to industry standards. Three hundred and twenty four (324) new applications were reviewed and assessed for grants and One hundred and eighteen (118) Exploration Licenses were reviewed for consideration for renewal.

viii. Geophysical data dissemination

The department continued to disseminate the acquired high resolution airborne geophysical data in addition to providing technical advice on its utilization to investors and other interested parties. A sum of twenty two million, eight hundred fifty six thousand two hundred sixty shillings (**UGX 22,856,260/=**) was realized from the data sales during the period under review.

ix. Geological Museum

The museum is still undergoing re-arrangement and re-identification of specimen. About 20 specimens were re-labeled and put on display. The museum hosted visitors among who were 130 students from Kyambogo University.

Materials received from investors including, rocks and minerals were examined and identified. About 23 samples and specimens were received and they were identified as: kaolinite, hematite, tourmaline, ruby, epidote, hematite, magnetite and kaolinite. Fourteen (14) thin sections were prepared and studies for rock samples collected during dam site investigations of Muzizi, in Kibale District were undertaken. The rocks were established to be granite, gneisses and dolerites.

x. Petrology Laboratory

Fifteen (15) rock slabs of granite and diabase were cut, sized and polished, for individuals carrying out feasibility studies on dimension stone. Twenty eight (28) samples brought in by local investors were identified as ruby, epidote, hematite, quartz, agglomerate, tourmaline, amethyst, chalcedony, opals, kyanite, magnetite and limonite.

xi. Earthquake monitoring and other geotechnical activities

Monitoring of earthquakes and other geotectonic activities continued from the stations at Kilembe, Hoima and Kyahi near Mbarara. The department upgraded the Very Small Aperture Satellite (VSAT) Global communication infrastructure (GCI) to improve seismic data transmission from Kyahi Earth Earthquake monitoring station near Mbarara to Entebbe National Data Center.

The fiber optical cables and accessories were installed in order to avoid loss of seismic data packets from Vienna International Data Center. This improved the flow of seismic data.

Hoima station was upgraded with a new REFTEK digital data logger and sensor. A permanent Trimble Global Positioning System was also installed at this station. Data obtained both through GPS and seismic stations will be used for deformation studies in the rift caused by geotectonic disturbances. A solar power system was installed to run the new GPS and seismic equipment.

Kilembe seismic station was upgraded with new earthquake digital monitoring instruments comprising of a broadband seismometer and Reftek data logger, replacing the old analogue paper data recording system. The station is also now powered by a solar power system. Fencing activity of new seismological sites (vaults) at Wakiso (Nakawuka) is complete while that at Mubende (Butologo) is due to commence.

Three seismometers were tested and calibrated for field deployment. Installation of software for downloading and converting data to the standard SEISAN format was done. The section staff together with the IT section of the department continued looking for other options on how to download data remotely but this is still not successful.

New sites for installation of temporary seismic stations were identified in Zombo, Nakasongola and Nebbi districts. The temporary stations will help to constrain earthquake locations within the Western Arm of the East African Rift System.

The seismological unit provided technical information to the following companies:

1. Gids consult Ltd, a company contracted by the Petroleum Exploration and Production Department to compile geotectonic and baseline environmental information around Kabaale where an oil refinery is planned to be constructed.
2. Ziba Limited, a company that is in the process of developing an 8MW hydro power station at Kyambura, in Rubirizi District.
3. Hydrochina Haudong Engineering Corporation, a company contracted to carry out geotectonic investigations for the 600MW Karuma Hydro power project.
4. China International Water & Electrical Corporation, a company contracted to carry out geotectonic investigations for the 183 MW Isimba hydropower project.

The seismological unit staff held discussions with oil exploration companies, which are in the process of establishing a passive seismic experiment in the Albertine Graben. Modalities of establishing and running of the network are underway.

5.1.4 Geodata Services

The activities included acquiring, processing, updating, maintenance, and dissemination of geo-information/ geo-data to staff, investors and the general public. Through geoinformation dissemination a total of four million seven hundred fifty nine thousand Uganda Shillings (**UGX 4,759,000**) was realized from sales of maps and publications. Other outputs achieved are outlined under Documentation Centre, Cartography, and GIS activities as detailed below:

a. Documentation Centre

Under the Documentation Centre, the following were achieved:

i. Acquiring, processing of geoinformation/data and updating of geoscience databases

- **Maintenance of the network for the Modern Documentation Centre (MDOC) System:** The online system has been maintained and is accessible by external clients through <http://www.uganda-mining.go.ug/webudis> and <http://www.uganda-mining.go.ug/weblibero>.
- One hundred and twelve (112) published and 163 unpublished geoscientific reports were received and their metadata captured into LIBERO and UDIS. Existing publications were also captured in the new system.
- Continued with classification and indexing of records in Electronic Records Management System (ERMS)
- Updated economic mineral databases, reference files, half degree sheets and authors' files with mineral occurrences and bibliographic records for easy geoinformation search and retrieval.

ii. Geoinformation exchange, dissemination and Mineral Sector Promotion

- Several inquiries from the general public, investors and researchers were handled. Over 185 DGSM staff, one hundred and twelve visitors were attended to and relevant geoinformation was availed to them.
- The Documentation Section maintained the DGSM website on www.uganda-mining.go.ug and over 36,000 users visited the website.
- Sold publications worth seven hundred and twenty six thousand (726,000/=) shillings to investors in the mineral sector.
- One hundred and two (102) copies of The Mining Act, 2003; eighty two (82) copies of the Mining Regulations, 2004; twenty nine (29) copies of the Mineral Policy; fifteen (15) copies of the Small Scale Mining Handbook, twenty six (26) copies of "Mineral Resources of Uganda", one (1) copy of the Uganda Mining SEAMIC report and a copy of "Opportunities for mining investment" were all issued to different stakeholders of the mineral sector for further

promotion of investment in the sector (details of the stakeholders are available in the documentation centre)

5.2. Cartography and GIS Activities

The following activities were undertaken:

5.2.1. Geoscience data/information acquired and maintained

- A total of two hundred and fifty five (255) mineral right applications were scanned and uploaded into the Mining Cadastre and Registry System (MCRS).
- Reviewed and validated shapes for a total of four hundred and eighteen (418) mineral rights applications.
- Databases on mineral occurrences, concessions and temporary plots were updated; A total of two hundred twenty two (222) title prints for Mining Leases (5), Retention Licenses (3), Exploration Licenses (196) and Location Licenses (18) were prepared.

5.2.2. Geoinformation dissemination and mineral sector promotion

- Geoinformation to at least three hundred and fifty (350) visitors and staff with various technical needs concerning geological maps, minerals, mineral exploration and mining activities was disseminated.
- To facilitate search of geodata, a web based geodata portal was maintained at <http://www.uganda-mining.go.ug:81/UgandaGMIS> and the Mining Cadastre and Registry System was also maintained at <http://www.flexicadastre.com/uganda>.
- Prepared and produced four (4) geothermal manifestations and licensing status maps to guide in Geothermal Resources Exploration and Investment Opportunities.
- Sold maps worth four million thirty three thousand and three hundred shillings (**UGX 4,033,300**).

5.3 Laboratory Services

The Laboratories Division continued with its core activities of providing analytical services of rocks, minerals, ores, water as well as physical tests for rocks for Government and the private sector. The following outputs were achieved:

- Prepared four (4) composites from twenty two (22) pozzolana samples taken from four (4) sites in Kaserem, Kapchorwa District. A detailed analysis for CaO, Fe₂O₃, SiO₂, Al₂O₃, MgO, TiO₂, P₂O₅, and Loss on Ignition (LoI) was performed on the composites, and a pozzolanic activity index test was also done on one of the samples.
- Prepared three (3) composites from twenty (20) limestone samples taken from Komerimeri and Norimukin in Amudat District. A detailed analysis for CaO, Fe₂O₃, SiO₂, Al₂O₃, MgO, TiO₂, P₂O₅, LoI, and insoluble residue was performed on the composites and samples.

- Sample preparation for assay (crushing and pulverization, sieving, heavy mineral concentration) of 98 rock, 612 soil and stream sediment samples received from exploration projects in Karamoja Region, Kisoro District, Bushenyi District, and Kamwenge District was undertaken.
- Sample preparation for assay (crushing and pulverization, sieving) of 50 rock, 150 soil and stream sediment samples received from Kamalenge, Mubende district was undertaken.
- Prepared sixty eight (68) geochemical stream sediments samples from Sheet 25/3 (waiver) in Abim district for assay. The samples were part of the Airborne Geophysical and Geological Mapping of Karamoja Region Project.
- Prepared ten (10) Pozzolanic Samples to be used for a road test project, under the Civil Engineering Department of Makerere University.
- Conducted magnetic separation of twenty seven (27) heavy mineral concentrate samples from South Western Uganda.
- Carried out inventory on the status of equipment in the laboratory.
- Carried out sampling and analysis of consignments for mineral dealers as part of the requirements for application for export permits.
- Analyzed 74 samples for gold (Au); 50 samples for silver (Ag), 50 samples for copper (Cu), 9 wolfram samples for tungsten (WO_3); 6 samples for columbite-tantalite; 5 cassiterite sample for tin (SnO_2); 5 samples for iron oxide (Fe_2O_3), 4 samples for phosphorus pentoxide (P_2O_5) and one (1) for manganese oxide (MnO). Analytical results are presented in **Table 26**.

Table 26: Mineral commodity analyses

Commodity	Source	Quantity	Assay (%)	Assay (ppm)
1. Gold (Au)	Northern Uganda:	3.17 g	98.11%Au	
	Two (2) samples	1.78 g	96.87%Au	
	Karamoja: Five (5) samples	0.84 kg	90.04% Au	
		3.91 g	98.22%Au	
		2.51 g	95.12%Au	
		380 g	96.66%Au	
		2.90 g		<0.01 ppm Au
		2.50 g	98.07% Au	
	Bugiri: Two (2) samples	5.28 g 3.0 g	57.11%Au and 48.70%Au	
Busia: Two (2) samples	2.0 g each	89.88%Au and 72.45%Au		
Ibanda: One (1) sample	2.0 g	91.44%Au		
Mukono Police: Eight (8) samples	20 g each		<0.05 ppm each	
Mubende: One (1)	2.5 g	98.98%Au		

Commodity	Source	Quantity	Assay (%)	Assay (ppm)
	sample			
	Buhweju: One (1) sample	8.8 g	98.96%Au	
	Luwero: One (1) sample	200 g		2.78 ppm
	Mubende: Fifty (50) samples	200 g each		Au: 0.74 to 9 ppm
2. Silver (Ag)	Mubende: Fifty (50) samples	200 g each		Ag: 20 to 200 ppm
3. Copper (Cu)	Mubende: Fifty (50) samples	200 g each		Cu: 0 to 160 ppm
4. Wolfram (WO ₃)	Kabale: Three (3) samples	2.50 g each	39.99% WO ₃ , 54.55% WO ₃ and 64.76% WO ₃	
	Kisoro: One (1) sample	7.4 kg	53.82%WO ₃	
	Lyantonde: Five (3) samples	100 g each	42.05% WO ₃ , 38.10% WO ₃ , 37.10% WO ₃ , 39.32% WO ₃ and 28.40% WO ₃	
5. Columbite Tantalite	Kisoro: One (1) sample	100 g	13.01% Ta ₂ O ₅ , 60.12% Nb ₂ O ₅	
	Kabale: One (1) sample	150 g	17.40% Ta ₂ O ₅ , 54.10% Nb ₂ O ₅	
	Wakiso: One (1) sample	200 g	13.37% Ta ₂ O ₅ , 47.75% Nb ₂ O ₅	
	Kabale: Two (2) samples	200 g each	18.01% Ta ₂ O ₅ , 53.88% Nb ₂ O ₅ , and 36.61% Ta ₂ O ₅ , 35.60% Nb ₂ O ₅	
	Ntungamo: One (1) sample	250 g	10.44% Ta ₂ O ₅ , 62.16% Nb ₂ O ₅	
6. Tin (Sn)	Ntungamo: One (1) sample	500 g	56.44%Sn	
	Kisoro: One (1) sample	2.8 kg	67.72%Sn	
	Isingiro: Two (2) samples	250 g each	69.0%Sn and 67.5%Sn	
	Wakiso: one (1) sample	80 g	57.55%	

Commodity	Source	Quantity	Assay (%)	Assay (ppm)
7. Iron (Fe ₂ O ₃)	Arua: One (1) sample	550 g	74.1%Fe ₂ O ₃	
	Kabale: Four (4) samples	1.00 kg each	54.11% Fe ₂ O ₃ , 40.99% Fe ₂ O ₃ , 72.66% Fe ₂ O ₃ & 50.90%Fe ₂ O ₃	
8. Manganese (MnO)	Kabale: One (1) sample	500 g	48.0 %MnO	
9. Phosphorus (P ₂ O ₅)	Eastern Uganda: Four (4) samples	400 g each	13.78%, 11.55%, 8.93%, and 12.41% P ₂ O ₅	

- The Laboratories staff participated in evaluation of applications for mining leases for a limestone quarry at Hima in Kasese District, and an iron ore mine in Kanungu District.

5.4 Mines Administration

To achieve its outputs, the Mines Division undertook a number of activities, the highlights of which are discussed under the following sections: legislative and policy matters; provision of services and monitoring investments, licensing, Non Tax Revenue and mineral statistics.

5.4.1. Legislation and Policy Matters

In order to improve and formulate an appropriate mineral policy, laws and an enabling environment to increase private investment in the sector, the division participated in the review of the policy and mining legislation. The review revealed a number of gaps in the current legislation framework. The report of the findings is being prepared.

5.4.2 Provision of services

During the period under review, the division provided services as follows:

- Over three hundred (300) clients were attended to, including members of staff, investors and the general public. These clients were advised on technical issues, regarding the Mining Act (2003), Mining Regulations (2004) and availability of areas for licensing for different mineral commodities.
- Received and analyzed quarterly reports for exploration operations, evaluated progress and offered technical guidance on how to improve performance.
- Compiled mineral statistics and updated the mineral statistics records
- Collected revenues / fees during the Fiscal year 2013 were worth **UGX 4,648,808,788/=**;

- Reviewed two hundred and eleven (211) applications for mineral rights, work programs and project briefs submitted by applicants of which one hundred sixty four (164) were granted, nine (9) were rejected and others are still under review;
- Acquired data and information during inspections, produced and filed reports for relevant actions, thus generated and took part in compiling geo-scientific data.

5.5 Monitoring Investments

5.5.1 Field Inspections and Monitoring

Field inspections are carried out to offer technical advice, regulate and supervise exploration, development and exploitation activities of private sector operators. The following inspections covering mining areas were made:

Mubende District, Central Region

A team comprising of Grace Nakku, Edward Isabirye (Senior Geologist), Jackson Mayanja (Mining Engineer) and Mathias Mugere (Assistant Inspector of Mines) conducted a surface right verification for application for a Mining Lease by Building Majesties Limited in Mubende District. The inspection team found the mining lease applicant compliant with the provisions of the law.

Dura, Kamwenge District, Western Region

Mr. John Kennedy Okewling, Mining Engineer on the dates of 16th – 17th May 2013 and 2nd – 3rd October 2013 represented the Department at the Dura Lime Stone Mining Operation Steering Committee inspections and meetings on Dura Quarry (Mining Lease number ML0248) that normally take place in Kamwenge District.

Moroto, Karamoja Region

The following inspections were conducted:

- A team comprising of Agnes Alaba (Ag. Assistant Commissioner, Geodata), Grace Nakku (Senior Inspector of Mines), Zachary Baguma (Ag. Assistant Commissioner/Geology), Jackson Mayanja (Mining Engineer), Mathias Mugere (Assistant Inspector of Mines) and Nathan Meshetsya (Officer in Charge, Tororo Inspectorate) carried out an inspection in Moroto District on February 25 - 27, 2013. The inspection was intended to verify acquisition of surface rights for a Mining Lease applicant by M/S Jan Mangal Limited. The inspection team found the mining lease applicant compliant with the provisions of the law.
- A team comprising of Eng. Joseph Okedi (Ag. Principal Inspector of Mines), John Kennedy Okewling (Mining Engineer), Nathan Meshetsya (Officer in Charge, Tororo Inspectorate) and Mathias Mugere (Assistant Inspector of Mines) carried out an inspection in Moroto District from 6th – 8th May 2013. The inspection was aimed at investigating allegations that a one Abubaker Bogere was illegally purchasing Marble from the areas under Location Licenses numbers LL0427 and LL0428 held by Great Lakes Cement Limited and selling limestone to

Jinja Marble who hold Exploration Licence number EL0751. The inspection was also aimed at establishing facts on whether M/S DAO Marble Limited was conducting mining operations in the area under Exploration Licence number EL0638 as opposed to carrying out exploration operations authorised by the exploration license in question. The inspection was in addition aimed at investigating allegations of non-payment of royalties by M/S Great Lakes Cement Limited (Mr. Siraji Mwinyi Bukenya) for marble mined by locals within location Licenses numbers LL0427 and LL0428. The team established facts regarding all the allegations and made recommendations to address them in the field inspection report.

- iii. A team comprising of Mr. Zachary Baguma (Ag. Commissioner), Ms. Agnes Alaba (Ag. Assistant Commissioner-Geodata), Mr. David Sebagala (Ag. Senior Inspector of Mines), Mr. John Kennedy Okewling (Mining Engineer), Mr. Mathias Mugere (Assistant Inspector of Mines) and Mr. Nathan Meshetsya (Officer in Charge-Tororo Inspectorate) and Mr. John Kennedy Okewling (Mining Engineer) inspected mining operations in Moroto District from 04th - 07th September, 2013. The inspection was intended to verify acquisition of surface rights by two separate Mining Lease applicants by the names of M/S Moroto Cement Industries Limited and M/S Dao Marble Limited. The team established M/S DAO Marble Limited was compliant with surface rights acquisition while Moroto Cement Limited had an MoU for Surface rights of the factory site and not the resource site.

Busia, Manafwa, Nakapiripirit and Moroto (Eastern and Northeastern Region)

A team comprising of Mr. John Kennedy Okewling (Mining Engineer), Mr. Tabaaro (Inspector of Mines), Nathan Mushetsya (Officer in Charge -Tororo Inspectorate), Mathias Mugere (Assistant Inspector of Mines) and Julius Peter Beja (Intern) carried out inspections in the districts of Busia, Manafwa, Nakapiripirit and Moroto from 04th - 14th November, 2013. The inspection was part of the routine inspection of major exploration and mining operations within Busia, Manafwa, Nakapiripirit and Moroto Districts. The inspection was also intended to survey and establish the amount of marble extracted by M/S DAO Marble Limited under their mine development operation in Moroto District. The inspection team established that in general most mining operations employees were not vigilant on health and safety issues, and that the mining operators were reluctant on record keeping. It was also established that M/S DAO Marble Limited had extracted and kept on site approximately 21,671 tonnes of limestone and marble from their proposed Mining Lease area. The royalty expected from the minerals mined was estimated at seventy million eight hundred and fifty six thousand, five hundred Uganda Shillings only (**UGX 70,856,500/-**).

Osukuru phosphate, Tororo district

Eng. Joseph P. O. Okedi (Ag. Principal Inspector of Mines) and Mr. Edwards Isabirye (Senior Geologist) accompanied the Parliament Select Committee for Natural Resources to Tororo and Manafwa Districts. The inspection was intended to assess progress of activities at the Osukuru Phosphate Prospect and evaluate the resource potential of the Namekera Vermiculite Mine with a view of justifying increasing funding to the mineral sector. Following the inspection, the Committee recommended that the team of representatives from the Ministry of Energy and Mineral Development prepare a technical paper to be presented to parliament when summoned for the benefit of the plenary.

5.5.2 Licensing

The following licenses were granted during the calendar year 2013:- 159 Prospecting Licenses (PL), 164 Exploration Licenses (EL), 21 Location Licenses (LL), 3 Retention Licenses (RL), 5 Mining Leases and 95 Mineral Dealers' Licenses (MDL). 170 Exploration Licenses and 20 location licenses expired. The details are in Table 27 below.

The current licenses include those granted during the reporting period and those that were still valid over the reporting period. Noticeable is the fact that we received an overwhelming number of applications for prospecting and exploration licenses as a direct result of the interpreted airborne geophysical data undertaken during SMMRP and the implementation of the Mining Cadastre.

Table 27: Mineral Licensing Status January – December, 2013

Type of License	Status as at 01/01/2013	Granted	Renewed	Expired	Revoked	Status as at 31/12/2013
Prospecting	190	159	N/A	195	0	154
Exploration License	513	164	39	170	0	546
Retention License	2	3	0	2	0	3
Location	36	21	8	20	0	45
Mining Leases	25	5	0	0	0	30
Mineral Dealers*	0	95	N/A	0	0	95
Total	766	447	47	387	0	873

* License expires on the 31st day of December of the year of issue

5.5.3 Non-Tax-Revenue (NTR)

Details of the non-tax revenues assessed during the year are presented in table 28 below. The NTR assessed and collected was 23.6% over the UGX 4 Billion annual target. However in comparison with the previous year, there was a 4% decline, this is partly attributed to the adjustments in the URA online revenue collection system that resulted from the Finance Bill, 2013. Some assessments could not be made for some period until the system was rectified after the Bill was passed by Parliament. In addition Kasese Cobalt Company Limited (KCCL), a large royalty contributor has not yet paid all the royalties that were assessed following the revision of the royalty rates from 3% to 5% of gross value.

Table 28: NTR assessed and reported collected (January – December 2013)

Amount in UGX						
S/No.	Details of NTR	Jan-March	April-June	July-Sept	Oct-Dec	Total 2013
1	Prospecting license fees	7,200,000	8,200,000	4,000,000	6,200,000	25,600,000

2	EL fees and Rents	158,690,000	228,110,000	113,740,000	304,292,000	804,832,000
3	Location fees and rents	3,900,000	4,500,000	5,900,000	4,100,000	18,400,000
4	ML/SML fees and rents	13,100,000	107,560,000	29,100,000	167,520,000	317,280,000
5	Mineral Dealers license fees	106,900,000	33,400,000	33,900,000	24,000,000	198,200,000
6	Royalties	71,821,990	1,277,603,872	860,865,959	1,157,815,141	3,368,106,962
7	Import Fees	166,879,337	0	45,204,344	0	212,083,681
	Total	528,491,327	1,659,373,872	1,092,710,303	1,663,927,141	4,944,502,643

5.5.4 Mineral Statistics

a) Mineral Production

The value of minerals produced and reported during the calendar year 2013 was Uganda Shillings 157.88 Billion as per the details in Table 29. Mineral production this year increased by 17.5% from the previous year.

Worth noting is that Kisita Mining Company has been the only company reporting gold production. It is imperative to note that most of the gold in the country is mined by Artisanal Miners.

Table 29: Mineral Production for January to December 2013

Mineral	Av. Price per Tonne in 10 ³ UGX, 2012	Production in Tonnes 2013				Quantity in Tonnes		Average Value in 10 ³ UGX	
		Jan –Mar	April-June	July-Sept	Oct- Dec	CY2012	CY2013	CY 2012	CY 2013
Limestone	120	255429.56	213027.76	223963.99	229950.51	936,263.66	922,371.820	112,351,639.20	110,684,618
Pozollana	21	153,736.51	133,097.96	150,222.79	186,413.32	650,323.76	623,470.580	13,656,798.96	13,092,882
Gold (kg)	117,291	1.1493	0.5316	1.6788	1.9279	4.3302	5.2876	507,895.08	620,188
Vermiculite	579	2032.8	0	263.8	0	51,961.8	2,296.6000	30,085,882.20	1,329,731
Cobalt**	80,429	129.21	52.09	0.00	0.00	555.80	181.3000	44,702,412.63	14581778
Crude cobalt carbonate	1,408	0.00	0.00	0.00	566.70	0.00	566.7000	0	797,914
Wolfram	34,575	25.20	7.55	27.95	11.70	43.40	72.4000	1,500,555.00	2,503,230
Syenitic Aggregate	1.5	4,097.13	15,096.96	36,020.64	54,690.95	20,472.16	109,905.680	30,708.24	164,859
Kaolin	100	8,099.21	21,159.91	14,616.15	0.00	42,886.46	43,875.2700	4,288,646.00	4,387,527
Iron Ore	271.29264	798.10	790.67	693.70	0.00	4,431.18	2,282.4700	1,202,146.52	619,217
Tin (75% Purity)	34,034	1.81	7.36	7.81	8.644	0	25.6240	0	872,087
Manganese (Above 46% Mn)	3,037					0	0.0000	30,370.00	0
Grand Total								208,357,053.83	149,654,031

Average price of gold on LME and average URA monthly fixed exchange rates were used to compute the average value of gold (and other minerals) over the year.

Note: This information was compiled from data available by the time of compiling this report.

b) Mineral Exports

Table 30: Mineral exports as per permits issued and for minerals produced in year 2013

Commodity	Quantity (Kg)					Value (UGX)
	Jan - March	Apr - June	July - Sep	Oct - Dec	Total	
Berryl Ore	-	-	19800	-	19,800	30,761,065
Cobalt	140,000	120,000	100,000	42880	402,880	27,974,413,300
Coltan	-	-	-	500	500	40,497,198
Columbite/Tantalite	-	-	-	550	550	55,458,278
Crude Cobalt Carbonate	-	-	-	566,700	566,700	1,014,182,028
Gold	116	4.06	40.87	4.06	164.99	21,598,627,677
Lead	50,000	-	-	-	50,000	227,030,351
Marble	-	-	4,000,000	-	4,000,000	-
Nickel	-	50,665	-	-	50,665	1,185,561,000
Quartz	-	-	500,000	400,000	900,000	26,813,188,470
Rubbies	-	-	0.33	-	0.33	11,565,000
Tin	-	-	-	34,104	34,104	873,259,953
Tungsten ore	21,000	20,000	25,400	63,900	130,300	3,462,188,087
Tungsten tailings	-	-	6,600	22,000	28,600	394,034,746
Total						83,680,767,153

Note:

* The value of the USD is taken as the average quarterly value over the year.

* The average price of Wolframite (>40%) is USD 260/MTU

All minerals are mined in the course of prospecting, exploration, mining and mineral beneficiation operations. The produced minerals are subject to the payment of royalties on the gross value based on the prevailing market price of the minerals. These are then exported or consumed domestically. Any person may acquire an import permit (issued only on payment of the prescribed fee) to import minerals into Uganda (either for domestic consumption or for re-export), on conditions prescribed by the Mining Act 2003 and specified in the permit and is required to make a declaration before a customs officer regarding the type and quantity of minerals imported, after which the customs officer shall certify the import permit. Before any minerals are **re-exported from Uganda**, the relevant import permit is surrendered to a customs officer who then submits it to the Commissioner-DGSM.

The **importation of minerals for re-export** explains why in some cases the quantity produced is much less than that of the exports for some commodities such as gold. In instances where the amount **exported** is less than that produced, the reason then is that some of the produced material has been stock piled as a means of controlling the effects of commodity price fluctuations especially for commodities such as cobalt.

c) Mineral Imports

Table 31: Mineral imports as per permits issued for year 2013

Commodity	Jan - March	Apr - June	July - Sep	Oct - Dec	Total	Value
Gold	120	-	40.8	-	160.8	21,208,368,103
Mercury	-	2	-	-	2	-
Total						21,208,368,103

Most of the Gold imports to Uganda were from South Sudan. The companies currently licensed to deal in minerals produce verifiable certificates of origin of the minerals and respective export permits from the originating country before the DGSM issues them import permits in the process of importing minerals into the country. MEMD has established this as a vital step in conducting due diligence on the suppliers of these companies or individuals.

6.0 THE SUPPORT SERVICES

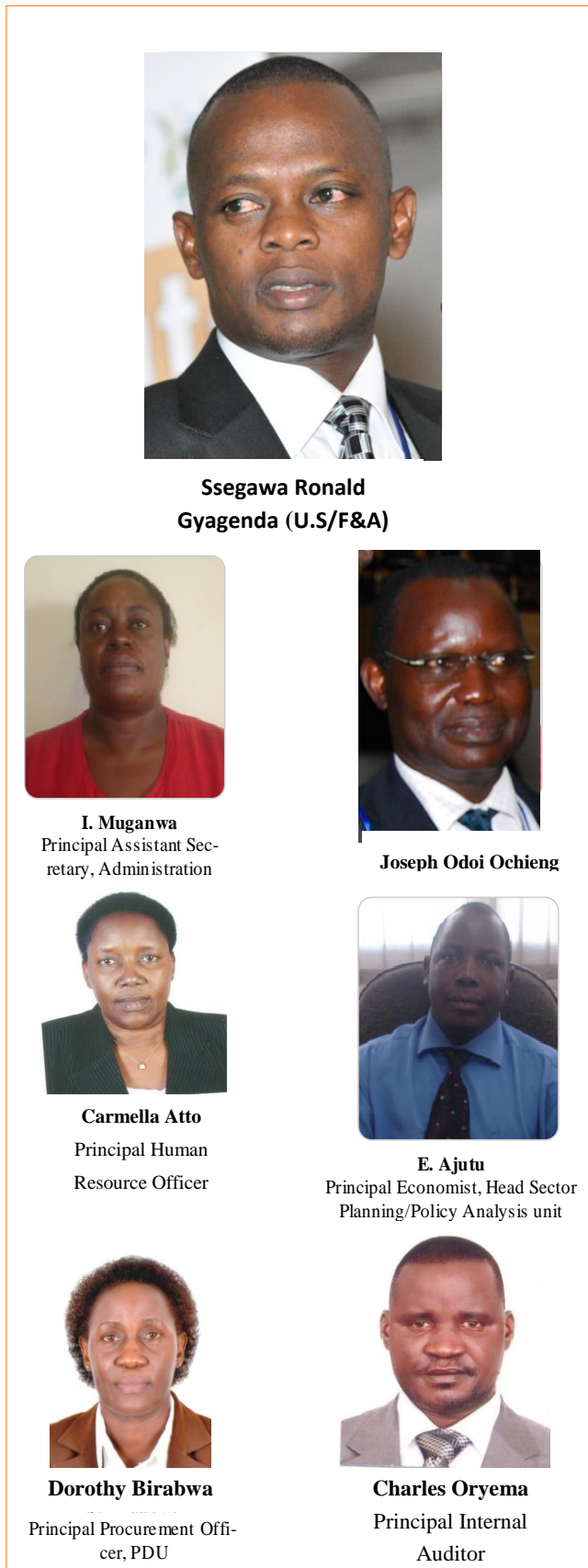


Figure 87: Management of F&A

The Finance and Administration Department of the Ministry is comprised of six sections/units namely: Administration, Personnel, Accounts, Procurement and Disposal, Planning/Policy Analysis and Internal Audit. The key activities and outputs of the Finance and Administrative Department are to provide guidance on Policy formulation and implementation, Planning and Policy Analysis, Procurement and facilities Management, and undertake Financial and Administrative responsibilities.

The key strategic objectives of the Department are to put in place Legislation, standards, and institutions for the creation of an enabling environment for private sector participation and enhancement of free and fair competition in the Energy and Mineral sector.

In addition, the department is mandated to build and strengthen capacity of the institutions responsible for managing the energy and mineral resources in the Ministry. The Department also compiles and avails information and data on the website and through the Resource Centre, to interested stakeholders about the sector, which is used by the private sector in the development of the sector.

The key outputs recorded during the period under review included: -

- i. Administration duties and personnel service.
- ii. Human resources management and development.
- iii. Financial management and accounting.
- iv. Procurement/disposal and facilities management.
- v. Resource centre/library management.
- vi. Planning, monitoring and budgeting.

The Support services of this ministry were:-

- i. Restructuring plans for the ministry were executed leading to filling vacant posts;
- ii. Staff Performance Appraisals were conducted and eligible staff subsequently promoted;
- iii. The payroll was cleaned and updated following recruitment, promotions, transfers and exit of some staff;
- iv. Responses to the Auditor General's report to Parliament were made;
- v. Pre-qualified firms to supply goods and services, enhanced transparency and timely procurements;
- vi. Implemented the IFMS operations and submitted timely financial reports to the Accountant General;
- vii. The Ministry's website up-graded and maintained;
- viii. Held HIV/AIDS workshops and provided VCT services to staff;
- ix. Ministry's Budget prepared and submitted on schedule;
- x. Ministerial Policy Statement prepared and submitted on schedule;
- xi. Implementation Plans and reports compiled and submitted on schedule;
- xii. Annual Reports prepared and published;
- xiii. Progressive Reports for the Implementation of H.E. the President's Election Manifesto compiled and submitted on schedule.

6.1 Finance Management and Accounting

Budget Performance for FY 2013/2014

The Ministry's overall budget for the FY2013/14 was UGX 1,650.557 billion of which UGX 2.698 billion was wage, UGX 4.219 billion was Non Wage Recurrent, UGX 1,276.648 billion for GoU domestic development and UGX 366.992 billion as donor funding. The half year budget outturn as at December 2013 for Wage and Non-wage recurrent was 52% and 44.0% respectively.

i. Summary of the approved Wage and Non-Wage Recurrent Budget FY2013/14

Prog	Department	Non-wage (billions)	Wage
01	F&A (Headquarters)	0.92	0.58
03	Energy Resources	0.63	0.42
04	Petroleum Exploration and Production	0.93	0.320
05	Geological Survey and Mines	0.47	0.68
06	Directorate	0.16	0.36
07	Petroleum Supply	0.90	0.35
08	Internal Audit	0.21	0.00
	Total	4.22	2.71

ii. Summary of Wage and Non-Wage Recurrent Budget Performance by Dec. 2013 (in billions)

Item	Approved Budget	Released	Spent by end of December 2013	(%) Budget Released	(%) of Budget spent	(%) released spent absorbed
Wage	2.698	1.404	1.402	52.0	52.0	99.8
Non-wage	4.219	1.857	1.649	44.0	39.1	88.8

iii. GoU Development Budget Performance in the FY2013/14 by December 2013 (billions)

Proj	Account	Approved Budget	Releases	Spent by Dec 2013	% Release spent
325	Energy for Rural Transformation II - MEMD	2.34	0.96	0.91	94.6
940	Support to Thermal Generation	68.00	25.72	25.72	100
1023	Promotion of Renewable Energy & Energy Efficiency	1.93	0.90	0.71	78.7
1024	Bujagali Interconnection Project	1.50	1.55	1.55	100
1025	Karuma interconnection Project	1.92	0.48	0.48	100
1026	Mputa Interconnection Project	1.50	0.44	0.44	100
1137	Mbarara-Nkenda/Tororo-Lira Transmission Lines	5.40	2.36	2.36	100
1140	NELSAP	3.20	1.29	1.29	100
1142	Management of the Oil and Gas Sector in Uganda	18.18	8.39	8.33	99.4
1144	Hoima - Kafu interconnection	3.00	1.55	1.55	100
1183	Karuma Hydroelectricity Power Project	1,091.90	32.27	32.34	100.2
1184	Construction of Oil Refinery	34.98	16.51	16.49	99.9
1198	Modern Energy from Biomass for Rural Development	2.93	0.79	0.54	68.0
1199	Uganda Geothermal Resources Development	3.30	1.22	0.30	24.3
1200	Airborne Geophysical Survey and Geological Mapping of Karamoja	3.60	1.22	0.99	81.3
1212	Electricity Sector Development Project	4.06	3.71	3.18	85.8
1221	Opuyo-Moroto Interconnection Project	1.00	0.83	0.83	100
1222	Electrification of Industrial Parks Project	3.04	1.12	1.12	100
1223	Institutional Support to Ministry of Energy and Mineral Development	17.88	8.90	7.21	81.0
1258	Downstream Petroleum Infrastructure	5.00	1.60	0.53	32.9
1259	Kampala-Entebbe Expansion Project	2.00	1.36	1.36	100

Table 32: GoU Development Budget comparison between 2013/14 and 2014/15 (UGX billions)

Project Name and Code	Approved 2013/14	Estimates 2014/15
0325 ERTII – MEMD	2.34	2.34
0940 Support to Thermal	68.00	68.00
1023 Prom. Of Renewable Energy	1.93	1.93
1024 Bujagali Interconnection Project	1.50	1.50
1025 Karuma Interconnection Project	1.92	1.92
1026 Mputa Interconnection	1.50	1.50
1137 Mbarara-Nkenda/TORoro-lira	5.40	1.40
1140 NELSAP	3.20	1.70
1142 Mgt of Oil & Gas	18.18	18.29
1144 Hoima Kafu	3.00	2.00
1183 Karuma HPP	1,091.90	1,096.00
1184 OIL Refinery Construction	34.98	34.98
1198 Biomass Energy	2.93	2.93
1199 Geothermal Resources Development	3.30	3.300
1200 Airborne Surveys	3.60	3.60
1212 ESDP	4.06	12.41
1221 Opuyo-Moroto	1.00	1.00
1222 Industrial Parks	3.04	1.04
1223 Institutional Support to MEMD	17.88	19.88
1258 Downstream Petroleum Infrastructure	5.00	12.50
1259 Kampala-Entebbe Expansion Project	2.00	2.00

Financial Reporting

By August 2013, the Final Accounts for the FY2012/13 had been duly submitted to the Accountant General and other stakeholders. IFMS continued to enhance timely and effective financial reporting. Following the recent reforms in the Accountant General's office, the Electronic Funds Transfer (EFT) mode of payment has further enhanced effectiveness and timely payments to stake holders. Timely reporting on financial matters still remains a strong point of IFMS.

6.2 Human Resource Management and Development

6.2.1 Establishment

The Ministry has an approved establishment of 350 posts. By end of the period under review, the Ministry requested Ministry of Public Service for clearance to fill 19 vacant posts. Ministry of Public Service responded that due to inadequate wage allocation for Financial Year 2013/14, the Ministry cannot fill vacant positions in the establishment this Financial Year 2013/14.

6.2.2 Recruitment of Staff and Promotions

Recruitment of staff to fill up the vacancies has been continuously undertaken and accordingly deployed in the various Departments. In addition, some Officers at the Ministry were promoted thus filling some vacant positions at the Ministry. Details are listed below.

Staff Transfers / External Deployment

The Public Service by normal posting instructions, posted a number of Officers to the Ministry as new appointees, others on transfer while others left the Ministry on transfer.

i) New appointments into the Ministry for the period under review

No	Name	Position	Status
1	Kyakonye Fred Weraga	Assistant Commissioner, Mines	New Appointment
2	Tamusuza Kambagira Amos	Senior Energy Officer	New Appointment
3	Birungi Richard Nelson	Geophysicist	New Appointment
4	Muheirwe Morris Tabaaro	Inspector of Mines	New Appointment
5	Tinkasiimire Peter	Petroleum Officer	New Appointment
6	Nyakahuma Joel	Petroleum Officer	New Appointment
7	Suubi Joshua	Geologist	New Appointment
8	Padde Semu	Geologist	New Appointment
9	Mulindwa Henry	Geologist	New Appointment
10	Olwa James	Geologist	New Appointment

ii) Officers who joined the Ministry on transfer are as follows:

- a. Ms. Birabwa K. Dorothy – Principal Procurement Officer from Ministry of Information and Technology.
- b. Mr. Ibrahim Mukwaya – Senior Accountant from Ministry of Finance, Planning and Economic Development.
- c. Ms. Atino Hellen – Senior Personal Secretary from Ministry of Water and Environment.

- d. Ms. Nyanzi Asiat – Accountant from Ministry of Finance, Planning and Economic Development.
- e. Ms. Mughuma Constance – Procurement Officer from Accountant General’s Office, Ministry of Finance, Planning and Economic Development.
- f. Mr. Mugerwa Kizito – Procurement Officer from Ministry of Finance, Planning and Economic Development.
- g. Mr. Kasozi Kizito – Human Resource Officer from Public Service Commission.
- h. Mr. Okok David – Principal Stores Assistant from Mulago Hospital Complex.
- i. Mr. Wamusha Hamuza – Senior Assistant Secretary from Ministry of Trade Industry and Cooperatives.
- j. Ms. Nansubuga Rose – Senior Assistant Secretary from Ministry of Finance, Planning and Economic Development.
- k. Ms. Nakyanzi Mariam – Personal Secretary from Public Service Commission.
- l. Ms. Mirembe Rebecca – Senior Accounts Assistant from Ministry of Justice and Constitutional Affairs.
- m. Ms. Kabajumba Joy K – Accounts Assistant from Ministry of Justice and Constitutional Affairs.
- n. Mr. Akena Richard – Senior Accounts Assistant from Citizenship and Immigration Control.

iii) Officers who left the Ministry on transfer are as follows;-

- a. Mr. Kyeyune Henry Lutimba – Principal Procurement Officer transferred to Ministry of Agriculture, Animal Industry and Fisheries.
- b. Mr. Emitu Stephen Naigo – Senior Accountant transferred to Ministry of Trade, Industry and Cooperatives.
- c. Ms. Beinomugisha Edith – Principal Personal Secretary transferred to Ministry of Public Service.
- d. Ms. Juliet Banura – Senior Personal Secretary - transferred to Ministry of Water and Environment.
- e. Mr. Akiiri Kenneth – Principal Assistant Secretary transferred on promotion to Ministry of Tourism, Wildlife and Antiquities.
- f. Mr. Obonyo Donas – Senior Accounts Assistant transferred to State House.
- g. Mr. Ssekimwanyi Kyagaba Edmond – Principal Statistician transferred on promotion to Ministry of Agriculture, Animal Industry and Fisheries.
- h. Mr. Ojiambo O. Samuel –Accountant transferred to Ministry of Foreign Affairs.
- i. Ms. Nyanzi Barbra Hilda – Procurement Officer transferred to Treasury Directorate.
- j. Mr. Orena Vincent – Senior Accounts Assistant transferred to Judiciary Department.
- k. Mr. Byaruhanga Franklin - Accounts Assistant transferred to Directorate of Ethics and Integrity.
- l. Ms. Namukwaya Harriet – Accounts Assistant transferred to Ministry of Agriculture, Animal Industry and Fisheries.
- m. Mr. Echongu Henry Willy – Accounts Assistant transferred to Public Service Commission.

iv). Confirmation in Appointment

A number of Officers completed their probationary period successfully and they were confirmed in their appointment. They are:-

No	Name	Title
1	Sudan Unity Birungi	Geologist

2	Ekunu Moses	Personal Secretary (SG)
3	Nnakirijja Jacqueline	Geologist
4	Onyege Henry	Chemist
5	Tuunde Keith	Geologist
6	Kabengyere Lillian	Office Typist
7	Akullu Janet Anita	Stores Assistant
8	Ssenkole Stephen	Driver
9	Kimala David Musisi	Driver
10	Nakato Moureen	Office Attendant
11	Ssekate Robert	Driver
12	Nakkazi Joan	Office Attendant
13	Mbonye Arsen Mutesi	Principal Energy Officer

6.2.3. Career Progression/ promotions/Exit

i) Progression

The Ministry has a number of staff, who were promoted to higher posts; due to attainment of higher qualifications for some, while others met the requirements of the promotional offers in the period under review.

No.	Name and previous Designation	Current Designation
1	Mr. Lubangakene Chris – Senior Mineral Dresser	Principal Mineral Dresser
2	Akiiri Kenneth – Senior Assistant Secretary	Principal Assistant Secretary
3	Ssekimwanyi Kyagaba Edmond – Senior Statistician	Principal Statistician
4	Mr. Abeinomuigisha Dozith – Senior Geologist	Principal Geologist
5	Ms. Maali Rwampigyi Nelson – Petroleum Officer	Senior Petroleum Officer

ii) Re- designation

No.	Name and previous Designation	Current Designation
1.	Wamala Julius Namasango – Senior Petroleum Officer	Senior Energy Officer

iii) Exit from the Ministry

During the period under review, no staff exited the Ministry through attaining the Public Service mandatory retirement age, resigned from the Public Service/absconded from duty except through death where the Ministry lost two contract staff in motor accidents.

iv) Obituary

The Ministry lost two members of staff in motor accidents and a number of staff lost their parents, relatives, friends and in-laws by end of the period under review. On Sunday 14th July, 2013 the Ministry lost a hard working officer (Mr. Otim Joshua – Information Technology Officer) who was attached to the Department of Finance and Administration in a motor accident around Matugga on the Kampala – Gulu highway. He was buried on 17th July, 2013 at his home village Odokomit, Lira District. On Saturday 23rd November, 2013 the Ministry lost another officer, Mr. Masiga Emmanuel in a motor accident around Kakiri, Wakiso District. He was working as a driver in the Nuclear Energy Unit under the Energy Resources Department. He was buried on 26th November, 2013 at Nabijjo Cell, Namakwekwe Village, Mbale District.

6.2.4 HIV/AIDS Work Place Policy

In accordance with the Ministry HIV/AIDS Workplace Policy, the Ministry HIV/AIDS implementation team, which includes the Departmental Focal Point Officers assisted by Peer Educators, headed by the Ministry Focal Point Officer – the Principal Human Resource Officer, with the guidance of the Permanent Secretary has implemented a number of activities during the year under review. These include:-

Commemoration of World AIDS day 2013 by the Ministry which is an annual event through participation in the National World Aids day Celebrations in addition to having in-house activities with the theme **“Re – engaging Communities for effective HIV prevention”**.

- (i) The in-house activities for the commemoration were carried out on 6th December, 2013 at the Ministry premises - Amber House Quadrangle. These included five days free HIV Counselling and Testing (HCT) for members of staff that started from 2nd to 6th December, 2013. Top management and members of staff tested for HIV/AIDS as a way of re - engaging communities for effective HIV prevention. Inspirational health talks were presented by Dr. Stephen Watiti and Dr. Joe Opio as well as drama from TASO drama Group.
- (ii) The Ministry continued to improve the working condition for the workers, by conducting free counselling service for the staff in areas of reducing job related stress and burnout, reversing or reducing alcohol/drug related problems, HIV/AIDS prevention and support to access care. The service is scheduled every Thursday and Friday of the week in Entebbe.
- (iii) With help from GIZ, the Ministry continued to distribute cartons of condoms as a preventive measure in fighting against HIV/AIDS.
- (iv) The Ministry also held a number of HIV/AIDS consultative workshops and meetings within and outside the Ministry in partnership with other stakeholders.

6.2.5 Capacity Building

A number of staff members continued to benefit from long and short-term training, participation in conferences locally and abroad as well as in-house training. During the period under review, staff members such as those listed below have benefited from training covering postgraduate training, short-term training including study tours and investment conferences. A more exhaustive list is in Appendix 3.

ENERGY RESOURCES DEPARTMENT

No	Name	Designation	courses
1	James Baanabe Isingoma	Acting Comissioner, Energy Resources Department	Masters in Business Administration from East and Southern Africa Management Institute (ESAMI)
2	Ronald Atuhairwe	Electrical Engineer	Msc. Electrical Energy Systems Engineering, University of Cardiff, UK

3	Abbo Damalie Noel Ofumbi	Nuclear Engineer	MSc. in Nuclear Engineering, Imperial College, London
4	Pamella Nsubuga	Administrator	Masters in Management Studies (Public Administration and Management), Uganda Management Institute – Uganda.

Contract staff

The following was the list of Contract Staff in the Ministry as at December 2013 under the different Departments, projects and programmes:

i. Energy Resources Department

a) Energy for Rural Transformation II (ERT Phase II)

No	Name	Title
1	Emmanuel Buringuriza	Coordination Manager
2	Eng. Murengezi Moses	Advisor to PS on Energy and Mineral Sector Working Group
3	Oketayot Samuel	Project Accountant
4	James Baguma	Procurement Specialist
5	Naagula Asiya	Assistant Procurement Officer
6	Vivian Ajalo	Secretary
7	Sherifah Atugonza	Accounts Assistant
8	Stephen Waiswa	Driver
9	Wabaye Abbey	Office Attendant
10	Ivan Senfuma	Communication Officer
11	Keefa Odongo Okurut	Monitoring Officer
12	Deogratiuous Sekkungu	Driver
13	John Bigabwa	Driver
14	Joanita Nalwanga	Office Attendant
15	Phillip Agunda	Office Attendant
16	Berocan Jacqueline Beatrice	Office Attendant
17	Fred Kiwanuka	Office Attendant
18	Racheal Basirika	Office Attendant
19	Macleon Kaliba	Office Attendant
20	Sophia Muyama	Office Attendant
21	Monicah Anichan	Secretary
22	Doreen Mugisha	Office Attendant
23	Ovona Henry	Human Resource Officer
24	Akello Molly	Assistant Human Resource Officer
25	Ann Karungi	GIS Officer
26	Lynn Ainomugisha	I T Officer
27	Fred Mpira	Mail Runner
28	Opol Smith	Assistant Procurement Officer
29	Jalromo Rodians	Driver

30	Dindo Jimmy	Driver
31	Musana Charles	Driver
32	Mugaya Sosi Rogers	Driver
33	Nabagereka Bridget	Electrical Engineer
34	Barbara Nakasujja	Personal Secretary - REB

b) Promotion of Renewable Energy and Energy Efficiency Programme (PREEEP)

No	Name	Title
1	John Walusimbi Kigozi	Energy Officer
2	Birimumaso David	Energy Officer
3	Musiime Emmer Rava	Energy Officer
4	Augustine M. Tsongo	Energy Officer
5	Keisy Irene Atim	Energy Officer
6	Mayanja Hatimu	Energy Officer
7	Ochieng Julius	Energy Officer
8	Justine Akumu	Energy Officer
9	Alex Nuwagira	Procurement Officer
10	Pamella Nsubuga	Administrator
11	Suzan Nalwoga	Communication Officer
12	Robert Karunga	Driver
13	Lubowa Alex Kintu	Driver
14	Karungi Robert	Driver
15	Godfrey Mwebe	Driver
16	Pauline Nabayaza	Office Attendant
17	Rebecca Kaguna	Office Attendant
12	Barbara Kyobutungi	Office Attendant
13	Vicky Lubandi	Office Attendant
14	Katikiro Erisa	Site Attendant
15	Kibogo Peter	Site Attendant

c) Nuclear Energy Unit

NO	NAME	TITLE
1	Abbo Damalie Noel Ofumbi	Nuclear Engineer
2	Ocilaje Thomas	Nuclear Engineer
3	Wamala Emmanuel	Nuclear Engineer
4	Baguma Sabbiti	Nuclear Safety Engineer
5	Twesigye Alex	Trainee - Nuclear Fuel Cycle
6	Tusiime Denis Tungotyo	Trainee - Nuclear Fuel Cycle
7	Nabugosiri Caroline	Office Attendant

d) Energy Sector Development Project

NO.	NAME	TITLE
1	Okama Zion	Socio – Economist

2	Achao B. Marion	Socio – Economist
3	Nakiyingi Diana	Administrator
4	Nakato Hellen	Statistician
5	Atuhairwe Ronald	Electrical Engineer
6	Martin Mutabingwa	Electrical Engineer
7	Mukeera Ibrahim	Electrical Engineer
8	Kemigisha Paskazia	Social Worker
9	Namungu Patience Brendah	Social Worker
10	Nakabiri Grace	Assistant Health Counselor
11	Bewayo Richard	Driver

ii. Finance and Administration

NO	NAME	TITLE
1	Nadiope William	Development Analyst
2	Muwoya David	IT Officer
3	Bakaawa Ddungu Adrian	IT Officer
4	Nabukenya Winnie	Front Desk Manager
5	Valeria Nakaweesa Ntege	Estate Engineer
6	Bashaija Nicholas	Assistant Estate Engineer
7	Ham Matsiko Mubinga	Accountant
8	Tomson Tomuim Karangira	Accounts Assistant
9	Kayaga Janet	Assistant Receptionist
10	Opuwa Frank Zion	Library Assistant
11	Adroner Mary	Assistant Procurement Officer
12	Kakooza Jimmy Rogers	Driver
13	Banda Scanlen	Driver
14	Meddy Kizito	Driver
15	Wamuwayi Robert	Driver

iii. Petroleum Exploration and Production Department

NO	NAME	TITLE
1	Susan Kateme	Programme Administrator
2	Gloria Sebikari	Senior Communication Officer
3	Bekunda Catherine	Communication Officer
4	Emmanuel Odea	Accountant
5	Muwooye Daniel	Cost Engineer
6	Goboola Ronald	National Content & Capacity Building officer
7	Bayiringisa John	Safety, Health and Environment Officer
8	Tumwebaze Joel	Safety, Health and Environment Officer
9	Twebase Caroline	Geophysicist
10	Balinga Jesca	Geophysicist
11	Ocitti Bob Felix	Geologist
12	Samora Ali	Petroleum Engineer
13	Florence Noawe Nkulubo	Cost Engineer

14	Angella Nalweyiso Semakula	Cost Engineer
15	Agwai Chris	Records & Information Officer
16	Francis Elungat	Land Officer
17	Jacob Were Magala	Procurement Officer
18	Raymond Mugume	System Administrator
19	Okema James Henry	Civil Engineer
20	Obalim Allan Joel	Systems Administrator
21	Kabuye Isaac	Legal Officer
22	Namubiru Betty Jackie	National Content & Capacity Building Officer
23	Bukenya Deo	Mechanical Engineer
24	Racheal Mugabi	Chemist
25	Bashir Hangi	Communication Officer
26	Joyce Lanyero Atube	Personal Secretary
27	Asiimwe Dickens Katta	Legal Officer
28	Emily Nakanya	Economist
29	Phiona Naturinda	Mechanical Engineer
30	Ariho Benjamin	Mechanical Engineer
31	Nagawa Lillian	Process Engineer
32	Jalum Robert	Process Engineer
33	Paul Rubondo	Senior Accountant
34	Fred Katusahabe	Accountant
35	Fatuma Mirembe	Personal Secretary
36	Joyce Mbabazi	Records Assistant
37	Doryne Nabukonde	Personal Secretary
38	Akwila Moses	Fleet Officer
39	Apollo Omongo	Procurement Assistant
40	Otai John	Driver
41	Oyire George	Driver
42	John Kayinda	Office Attendant
43	Christine Nakasi	Office Attendant
44	Agnes Lillian Aedeke	Office Attendant
45	Everlyn Agesa	Office Attendant
46	Rose Namatovu	Office Attendant
47	Elvis Bongomin	Office Attendant
48	Juliet Bonabana	Office Attendant
49	Florence Ayikoru	Washroom Cleaner
50	Solomon Eriaka	Washroom Cleaner
51	Stellah Ariyo	Compound Cleaner
52	Koline Adongo	Compound Cleaner
53	Eunice Matovu	Compound Cleaner
54	Emmanuel Mubajje	Compound Cleaner
55	Bernard Ongua	Compound Cleaner
56	Beatrice Etima	Office Attendant
57	Rebecca Nanyojo	Office Attendant
58	Higenyi Kulaira	Security Guard
59	Negohe Wilson	Watchman
60	Doreen Atukwatse	Watchman
61	William Maate	Watchman

62	Madilu Jamali	Watchman
63	Busingye Charles	Driver
64	Omoding Paul	Driver
65	Okiring Emmanuel	Driver
66	Ndanabaisi Gilbert	Driver
67	Simon Amani	Driver
68	Tushabe Morris	Driver

iv. Geological Survey and Mines Department – Development Fund

NO	Name	Designation
1	Geraldine Paul Babirye	Geophysicist
2	Robert Macheri	Geophysical Technician
3	Achieng Jacinta	Chemist
4	Martin Nganda	IT Officer
5	Bernadette Kenyange	Stores Attendant
6	Kellen Kiaya	Office Attendant
7	Prossy Namulindwa	Office Attendant
8	John Kikutte	Office Attendant
9	Doricah Kabarungi	Office Attendant
10	Berna Nassiwa	Office Attendant
11	James Makumbi	Driver
12	Nsereko Ronald	Driver
13	Felice Nyanjura	Driver
14	Dennis Mbehewereize	Security Guard (Hoima Station)
15	Nabatanzi Mariam	Receptionist
16	Hope Nabakooza	Assistant Receptionist
17	Wepukhulu David	Archivist
18	Paul Ndawula	Driver
19	Justus Mwesigwa	Driver

6.2.6 Supplies, Facilities Management and Welfare

The Ministry Procurement and Disposal Unit and the Contracts Committee handled the supplies and procurement activities in the Ministry in liaison with the User Departments. Various procurements were handled on the Integrated Financial Management System to ensure timely delivery of goods and services. The Procurement and Disposal Unit prepared and submitted to the Public Procurement and Disposal of Public Assets Authority (PPDA) monthly reports on Macro and Micro procurements. The procurements that were handled over the reporting period are summarised as below:

- Open Bidding - 117
- Restricted Bidding - 17
- Direct procurement- 49
- Request For Proposals - 1
- Request For Quotations - 70
- Shopping – 3
- Micro procurements - 249

6.3 Resource Centre

The resource center which serves as a point of information to the public regarding the activities of the Ministry continued to ensure proper collection, storage and processing of information materials which include textbooks, reports and journals, audio visual and electronic information. The center was able to execute the following duties as well:-

- Dissemination of information to users.
- Support staff with ICT.
- Internet management, maintenance and ensuring corporate mail services are available all the time.
- Update of the website and ensuring full time availability.
- Installation and maintenance of corporate software like anti-virus, accounting and Microsoft packages etc.

The Ministry also has a website (<http://www.energyandminerals.go.ug>) that provides general information and access to documents like Annual Reports, Acts and Policy documents.

In an attempt to improve its communication infrastructure, the Ministry in consultation with the National Information Technology Authority of Uganda (NITA-U) implemented structured cabling, procured advanced networking equipment and telephone handsets which are compatible with the existing electronic government (e-govt) equipment and migrated its mailing system to a Microsoft platform (exchange). This is an effort to ensure that the Ministry utilizes the national backbone and also in preparation for e-govt activities.

The unit also continued to procure up to date computers for staff, and ensured that all work stations are connected to the internet.

6.4 Sector Planning/Policy Analysis

6.4.1 Budgeting and Budget Estimates

i) Budget Framework Paper 2014/15

The Ministry, in response to the 1st Budget Call Circular dated 22nd October 2013, through the Sector Planning Unit (SPU) commenced on the process of preparing the Budget Framework Paper (BFP) for the Fiscal Year 2014/15. This was due for submission to MoFPED by 30th November 2013. The Medium Term Expenditure Framework (MTEF) ceiling for the Ministry included financial resources for the approved projects.

ii) Background to the Budget and the Budget Speech 2012/13

In May 2013, the Ministry's contribution to the Background to the Budget chapter and the Budget speech for the FY2013/14 were compiled and submitted to the Ministry of Finance, Planning and Economic Development in the required time. The contributions reflected summaries of the

Ministry's major achievements for the FY 2012/13 and the forecast for FY 2013/14. These were captured in the documents published by the Ministry of Finance, Planning and Economic Development.

iii) Ministerial Policy Statement (MPS) 2013/14

The Ministerial Policy Statement (MPS) for FY 2013/14 was prepared and submitted to Parliament by 30th June 2013 as per the Budget Act, 2001 requirement and the Budget was subsequently approved by Parliament in September 2013. The MPS also reflected achievements of the Ministry in the FY 2012/13 and the forecast for the FY2013/14.

iv) Public Investment Plan (PIP)

Profiles of the new and old Government Development Projects and Programmes under the Ministry were updated. These are:

- 0325: Energy for Rural Transformation (ERTII)
- 0940: Support to Thermal Power Generation
- 1023: Promotion of Renewable Energy and Energy Efficiency Programme (PREEEP)
- 1024: Bujagali Interconnection Project (BIP)
- 1025: Karuma Interconnection Project (KIP)
- 1026: Mputa Interconnection Project (MIP)
- 1137: Mbarara –Nkenda /Tororo-Lira transmission project
- 1140: NELSAP
- 1142: Strengthening the Management of Oil and Gas (SMOG)
- 1143: Isimba HPP
- 1144: Hoima –Kafu interconnection project
- 1149: UETCL-Statnett Twining Arrangement –Phase II
- 1183: Karuma Hydroelectricity Power Project
- 1184: Construction of Oil Refinery
- 1198: Modern Energy from Biomass for Rural Development
- 1199: Uganda Geothermal Resources Development
- 1200: Airborne Geophysical Survey and Geological Mapping of Karamoja
- 1212: Electricity Sector Development Project
- 1221: Opuyo-Moroto Interconnection Project
- 1222: Electrification of Industrial Parks
- 1223: Institutional Support to the Ministry of Energy and Mineral Development
- 1257: Mirama- Kikagati- Nshungyezi Transmission Line
- 1258: Downstream Petroleum Infrastructure Project
- 1259: Kampala (Mutundwe) - Entebbe Expansion Project

v) Implementation Plans

During the period under review, the Ministry continued to compile Quarterly Implementation Plans (QIPs) of the different development projects under the Ministry and subsequently the 2012/13 Annual Implementation Plans (AIPs) for all the Projects/Programmes were produced and submitted to the Office of the Prime Minister (OPM) in the required time.

vi) Performance Contract FY 2013/14

The Annual Performance Contracts and the Quarterly Implementation Plans for the FY2013/14 were prepared and submitted to MoFPED. In addition, the Annual Performance Targets for FY2013/14 for the Ministry were produced and submitted to the Office of the Prime Minister (OPM) according to the format provided.

6.4.2 Monitoring and Reporting

i) Annual Report (AR) 2012

During the year 2013, the Ministry's Annual Report of 2012 was finalized and published. The Report is available in digital form on the Ministry's website (<http://www.energyandminerals.go.ug>). This was the Ministry's 13th consolidated report that gives details of the Ministry's achievements for the Calendar Year 2012.

ii) Quarterly Progress Reports (QPR)

During the period under review, the Ministry submitted the Quarterly Progress Reports (QPRs) by the 15th day after the quarter to the Office of the Prime Minister and to the Ministry of Finance Planning and Economic Development.

iii) Energy and Mineral Development Sector Strategic Plan for Statistics (EMDSSPS)

The Ministry continues to participate in the implementation of the Plan for National Statistical Development (PNSD), spearheaded by the Uganda Bureau of Statistics (UBOS). The Plan is intended to strengthen the statistics activities in the Ministry. The Vision of the Plan is 'the proposed Statistics Unit to become a one stop centre for the country's statistics in the Sector'. During the period under review, the implementation of the Ministry Sector Strategic Plan for Statistics continued to be implemented.

iv) The Energy and Mineral Development Sector Working Group (EMD-SWG)

The Sector Planning Unit coordinates the secretariat for the EMD-SWG. To date, the Sector Working Group (SWG) has continued to spearhead the development of a Sector Investment Plan (SIP) to consolidate the various plans in the Energy and Mineral Development (EMD) Sector. The Secretariat successfully organised the **3rd Energy and Mineral Development Joint Sector Review Conference** that took place from **11th -12th November, 2013** at Hotel Africana-Kampala.

7.0 CHALLENGES AND CONCLUDING REMARKS

7.1 Challenges

The challenges experienced included the following:-

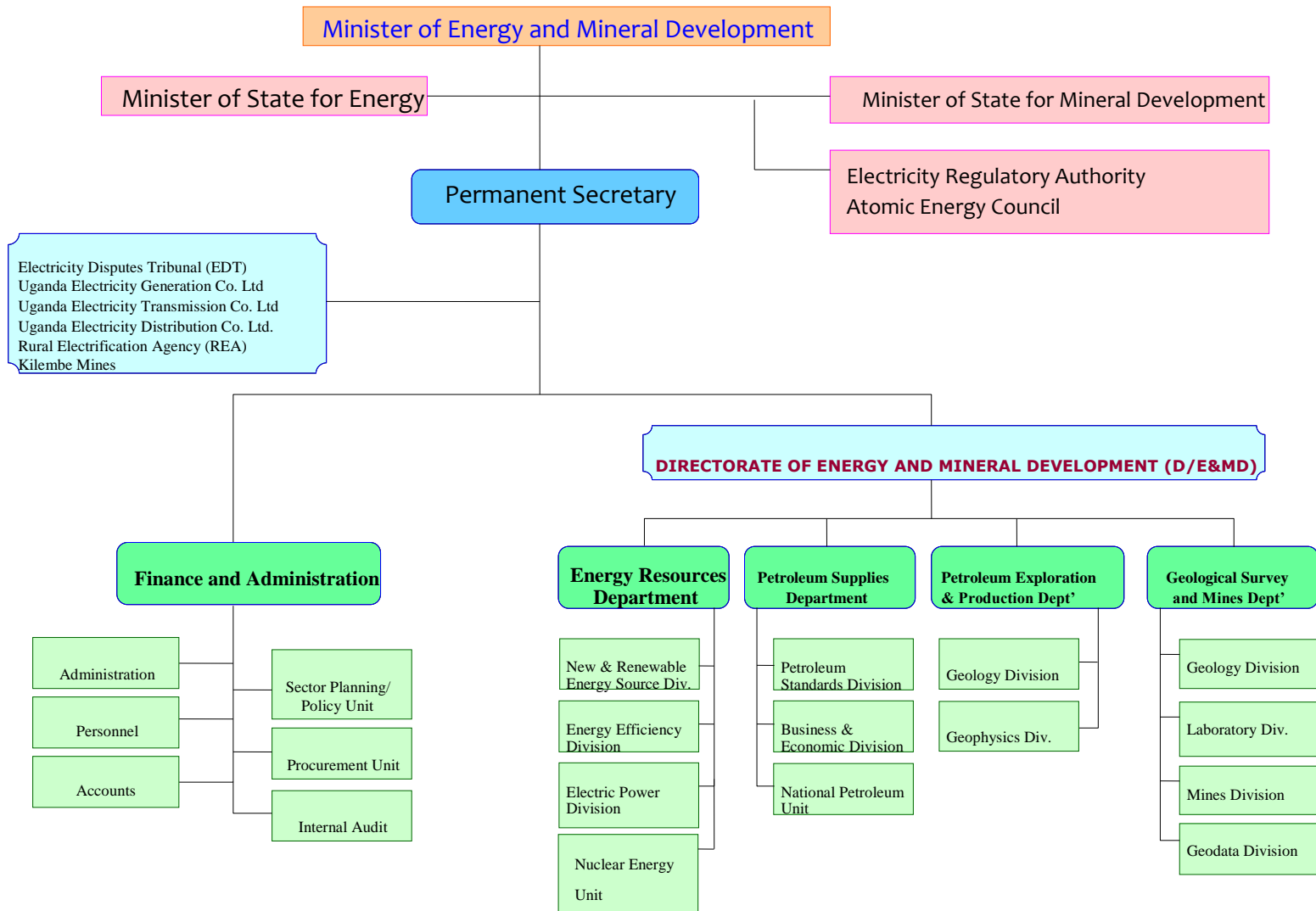
- **Land Acquisition:** to acquire land for infrastructure, mineral exploration & mineral development, as well as petroleum exploitation takes a very long time and land is very costly. That delays project development and results into high investment costs.
- **Taxation incentives:** the taxation regime has been identified as a disincentive to long term investment projects in refinery and pipeline development. This is an aspect that has to be addressed in order to encourage investment in the above projects.
- **Management of expectations created by the petroleum discoveries:** The people of Uganda in general, and in other areas where the discoveries have been made in particular, expect quick revenues, jobs and businesses, among other things. There are also anxieties about the possible negative aspects of developing the oil resources like environment degradation and how the revenues will be managed. To mitigate this challenge, government has intensified the sharing of information on the realistic development programme of the sector.

7.2 Concluding Remarks

The Ministry, in line with its mandate, will continue to vigorously implement the plan for meeting the electricity supply needs of the country; monitor the oil and gas activities including the drilling operations and refining. The ministry will also ensure competition and security in the supply of petroleum products. In addition, the Ministry will continue to encourage firms that intend to carry out mineral exploration all over the country with the view of enhancing mineral production and value addition.

APPENDICES

Appendix 1: The Ministry Organization Structure



Appendix 2: Staff Position

POST	No. APV	No. FIL	No. VAC	Over Established	Salary scale	NAME OF INCUMBENT	Sex	QUALIFICATIONS
MINISTER						Hon. Muloni Irene	F	Msc (Eng), MBA, BSc (Eng)
Ag. Princ. Personal Sec.	1	0	1	0		Julie Banura	F	BA.Sec Studies, Dip. Sec studies
Driver	1	1	0	0	U8 Upp	Wamuwayi Robert	M	UCE
Office Messenger	1	0	1	0	U8 L	Doreen Mugisha	F	UCE
Political Assistant						Sam Gizamba Gibuzui	M	
MINISTER OF STATE - MINERALS						Hon. Peter Lokeris	M	B.Com, Dip
Princ. Personal Sec.	1	0	1	0				
Office Attendant	1	1	0	0	U8 Upp	Judith Namara	F	UCE
Driver	1	1	0	0	U8 Upp	Lokol Joseph	M	UCE
Political Assistant						Ichumar Joshua	M	
MINISTER OF STATE- ENERGY						Hon. Simon D'ujanga	M	Msc (Eng), BSc (Eng)
Princ. Personal Sec.	1	1	0	0	U2L	Edith Bainomugisha	F	BA. Sec & Admin
Office Attendant	1	1	0	0	U8 L	Namukasa Gertrude	F	UCE
Driver	1	1	0	0		Kakooza Rogers	M	UCE
Political Assistant						Onyai Henry	M	
PERMANENT SECRETARY	1	1	0	0	U1S	F. A. Kabagambe-Kaliisa	M	BSc (Hons), Dip. Min. Expl., MSc, MAAPG, MSEG, CRS
Sen. Personal Sec. (SG)	1	1	0	0	U3 L	Akol Grace	F	BA.Sec studies
Driver	1	0	1	0	U8 Upp			
Office Attendant	1	1	0	0	U8 L	Kyanzi John	M	UCE
DIRECTOR	1	1	0	0	U1SE	Eng. P. Mubiru	M	BSc Mech. Eng., MSc

Sen. Personal Secretary (SG)	1	1	0	0	U3 L	Hellen Atino Outa	F	BASS, Diploma Admin
Driver	1	1	0	0	U8 Upp	John Kimbugwe	M	UCE
Office Attendant	1	1	0	0	U8 L	Vincent Nuwamanya	F	UCE
SUB-TOTAL	17	13	4	0				
F&A DEPARTMENT								
POST	No. APV	No. FIL	No. VAC	Over Established	Salary Scale	NAME OF INCUMBENT	Sex	QUALIFICATIONS
Under Secretary	1	1	0	0	U1SE	Ssegawa Ronald Gyagenda	M	B.A (Hons), M.A, PGD PAM
Principal Human Resource Officer	1	1	0	0	U2 L	Atto Carmella	F	B.A, PGD in HRM, Certs.
Principal Assistant Secretary	1	1	0	0	U2 L	Muganwa Immaculate	F	BA(SS), MA, PGD
Principal Accountant	1	1	0	0	U2 Upp	Odoi Ochieng Joseph	M	MBA, Bcom, CPA, ACCA
Principal Procurement Officer	1	1	0	0	U2 Upp	Birabwa Kalina Dorothy	F	MBA, B.Com. CIPS, Dip. B. Studies
Principal Internal Auditor	0	1	0	1	U3 Upp	Charles Oryema	M	BCom,UDBS, MBA, ACCA, CPA
Senior Assistant Secretary	3	4	0	1	U3 L	Bukenya Matovu Y.	M	MSc, BA Ed, Certificate in Law for Administrative Officers
					U3 L	Nansubuga Rose	F	MA. PAM, SWSA, Dip. Certs.
					U3L	Hamuza Wamusha	M	

					U3 L	Tibananuka Moses	M	B.A (Hons) Social Sciences, PGD. Public Administration & MBA
					U3 L	Barasa Sam Philly	M	BA, PGD, Certs.
Senior Accountant	1	1	0	0	U3 Upp	Ibrahim Mukwaya	M	MA EPP, BA. Econ, PGD, ACCA
Senior Human Resource Officer	1	1	0	0	U3 L	Alfred Nagwomu	M	BA, PGD, MSc. DMGT
Senior Procurement Officer	1	1	0	0	U3Upp	Watera Susan	F	Msc. Supply Chain Mgt, BA. PLM, CIPS. Dip IAT
Senior Information Scientist	1	1	0	0	U3 Upp	Dedeya Catherine	F	BLIS, Msc on-going
Senior Internal Auditor	1	0	1	0	U3 Upp			
Princ. Off. Supervisor	1	0	1	0	U4 L			
Assistant Secretary	1	1	0	0	U4 L	Akullo Judith	F	BA Social-Sciences, Executive MBA
Human Resource Officer	1	0	1	0	U4 L	Kizito Kasozi	M	BA Social-Sciences
Internal Auditor	1	1	0	0	U4 Upp	Ahebwa Bruce	M	BCom
Senior Records Officer	0	1	0	1	U3 L	Hibajo Stephen Wabwire	M	BLIS
Senior Personal Secretary	0	1	0	1	U3L	Mulungwa Monica Eunice	F	BA, Dip. In Stenography
Records Officer	1	1	0	0	U4 L	Namala Juliet	F	BLIS,
Procurement Officer	1	2	0	1	U4 Upp	Constance Muguma	F	BPLM
					U4 Upp	Kizito Mugerwa	M	B. Com, CERT. in computer applic
Accountant	1	1	0	0	U4 Upp	Asiat Nyanzi	F	MBA, CPA, BB studies
Personal Secretary (SG)	2	2	0	0	U4 L	Bridget Lumala. M	F	Dip. Sec. Studies, B. Sec Studies
					U4 L	Mary Namasaba Mushikori	F	

Senior Accounts Assistant	3	3	0	0	U5 Upp			
					U5 Upp	Vincent Orena	M	Dip. Business Admin
					U5 Upp	Buyi Christopher	M	LLB, PGD in Law, UDBS, Certs.
					U5 Upp	Acii Joyce Alice	F	UDBS
Princ. Stores Assist.	1	1	0	0	U5 L	David Okok	M	UACE
Asst. Records Officer	2	2	0	0	U5 L	Cheriotich Allen	F	UDBS, Dip. Records and inform.Cert in Basic Records
					U5 L	Ssenyonga Godfrey	M	B.DVS, Dip. Records & Infor. Mgt
Senior Stores Assistant	0	1	0	1	U6Upp	Grace Mpiriirwe	F	Cert.
Asst. Librarian	1	1	0	0	U6 Upp	Kizza Stephen	M	Dip in Librarianship
Sten. Secretary	1	2	0	1	U6 Upp	Kantu Faith Irene	F	Dip. Stenography
					U6 L	Timalirwe Beatrice	F	Dip. Steno, BA. Sec.
Records Asst.	3	4	0	1	U7 Upp	Kyamuni Mary	F	Certificate in Records
					U7 Upp	Nalule Stella	F	Certificate in Banking
					U7 Upp	Muwonge Mathew	M	B.A
					U7 Upp	Muzaale Mugabi Harriet	F	B. Social Science (Soc. & Econ)
Accounts Assistant	5	6	0	1	U7 Upp	Byaruhanga Franklin	M	Princ.of Accounts Phase I &II.
					U7 Upp	Echongu Henry	M	MBA, BBA, Certs.
					U7 Upp	Naggayi Sarah	F	O-Level
					U7 Upp	Namukwaya Harriet	F	O-Level
					U7 Upp	Harriet Kamugisha Katushabe	F	Dip.
					U7 Upp	Musisi Grace	F	Dip
Office Typist	4	4	0	0	U7 Upp	Alumo Aggrey	F	Cert. Sec. studies, Dip.in Sec. studies

					U7 Upp	Kabengyere Lillian	F	Cert. Sec. Studies
					U7 Upp	Kellen Kabaramagi	F	Dip. Sec. Studies
					U7 Upp	Namalera Margaret	F	Cert.
Stores Assistant	1	1	0	0	U7 Upp	Akullu Janet Anita	F	Cert
Telephone Operator	2	1	1	0	U7 Upp	Kagoya Joyce Kawuma	F	Diploma
Driver	4	3	1	0	U8 L	Bumba Patrick	M	UCE
					U8 L	Ssenkole Stephen	M	UCE
					U8 L	Wakoko Patrick	M	Cert. in Journalism
Office Attendant	5	5	0	0	U8 L	Naggayi Immaculate	F	UCE
					U8 Upp	Rachael Obbo	F	UCE
					U8 Upp	Akankwansa Aeron	F	Dip.in Clearing &Forwarding, Cert. in Busines Admin.
					U8 Upp	Ajok Alice	F	UCE
			0	0	U8 Upp	Kasumba Leonard	M	UCE
Sub-Total F&A	54	59	6	11				
POST	No. APV	No. FIL	No. VAC	Over Established	Salary Scale	NAME OF INCUMBENT	Sex	QUALIFICATIONS
Principal Economist	1	1	0	0	U2	Ajutu Emmanuel	M	BSc (Econ), MA (EPM), PGD. Comp. Science
Senior Development Analyst	1	1	0	0	U3 Upp	Aheebwa Peninah	F	BSc (Econ, Stat), MA (EPP), MSc. Energy Economics
Senior Statistician	1	1	0	0	U3 Upp	Sekimwany Edmond Kyagaba	M	BSc Stat, MBA
Senior Economist	0	1	0	1	U3 Upp	Baziwe Isaac	M	BA (Econ), MA (EPP)
Statistician	1	1	0	0	U4 Upp	Kisawuzi Ian	M	B.Stat

Economist	1	1	0	0	U4 Upp	Muhindo Partrick	M	M.A.EPP, BSc. Econ., UDBS
Office Typist	1	1	0	0	U7 Upp	Nakamate Ruth	F	Cert.
Driver	1	1	0	0	U8 L	Kiffude Lukuman	M	UCE
Office Attendant	1	1	0	0	U8	Annette Kagoya	F	UCE
s/total	8	9	0	1				
ENERGY RESOURCES DEPT								
POST	No. APV	No. FIL	No. VAC	Over Established	Salary Scale	NAME OF INCUMBENT	Sex	QUALIFICATIONS
COMMISSIONER'S OFFICE								
Commissioner	1	0	1	0	U1E			
Personal Secretary	1	1	0	0	U4 L	Kakayi Jane Lillian	F	Dip. Sec, Dip. Comm
Office Typist	2	1	1	0	U7 Upp	Alanyo Joyce	F	Certificate
					U7Upp	Kabengyere Lillian	F	Cert. Sec. Studies
Driver	5	4	1	0	U8 Upp	Buyungo Edward	M	UCE
					U8 Upp	Tweheyo Edmund	M	UACE
					U8 Upp	Kaggwa Henry	M	UCE
					U8 Upp	Ali Ibrahim	M	UCE
Office Attendant	3	3	0	0	U8upp	Tumwesigye Diana R	M	UCE
					U8 upp	Namyalo Damalie	F	UCE
					U8 upp	Sserwadda Gideon	M	UCE
NEW AND RENEWABLE								
Asst.Comm./New & Ren.Sources of En.	1	1	0	0	U1 E	Godfrey Ndawula	M	BSc Chem, MSc Chem, PGD
Princ. Energy Officer (Solar & Wind)	1	1	0	0	U2 SC	Wafula Wilson	M	BSc (Hons), MSc

Princ. Energy Officer (Biomass)	1	0	1	0	U2 SC			
Sen. Energy Officer	4	3	1	0	U3 SC	John Tumuhimbise	M	BSc (Hons), MSc
					U3 SC	Godfrey Kimuli	M	BSc (Hons), MSc, 3PG Certificates
					U3 SC	Ahimbisibwe Michael	M	BSc (Hons), MSc
					U3SC	Tamusuza Kambagira Amos	M	Bsc. Industrial Eng. & Mgt.
Energy Officer	2	2	0	0	U4 SC	Ssemakula Edward Baleke	M	BSc Elec Eng
					U4 SC	Natabo Miriam	F	BSc. Forestry
ELECTRIC POWER DIVISION								
Asst. Comm./Electrical	1	1	0	0	U1E (SC)	H. Bidasala Igaga	M	Bsc. Elec. Msc in Electrical Power, MBA
Princ. Energy Officer	1	1	0	0	U2 SC	Cecilia Nakiranda Menya.	F	Bsc Elec Eng, Msc in Electrical Power
Sen. Energy Officer	2	1	1	0	U3 SC	Wamala Julius Namusanga	M	MSc. Computer Sc., BSc. Elec Eng.
Energy Officer	1	1	0	0	U4 SC	Nsubuga Emmanuel Sande	M	BSc. Elec. Eng.
ENERGY EFFICIENCY								
Asst. Commissioner/ Energy Efficiency	1	1	0	0	U1E (SC)	James Baanabe	M	BSc Chem(Hons), Msc Chem
Principal Energy Off.	1	1	0	0	U2 SC	A. Mbonye	M	BSc, MSc, PGD
Senior Energy Officer	4	3	1	0	U3 SC	Simon Kalanzi	M	BSc.Eng (Hons), Msc
					U3 SC	Atwine Abdon	M	BSc (Hons) Elect. Engineering, MSc
				0	U3 SC	Nafuna Sarah	F	Msc. Law, BSc (Hons) Indus Chem

Energy Officer	2	1	1	0	U4 SC	Kaggwa Usamah Lutu	M	BSc, MSc
s/Total ERD	34	28	6	0				
PETROLEUM EXPLORATION & PRODUCTION DEPT.								
POST	No. APV	No. FIL	No. VAC	Over Established.	Salary Scale	NAME OF INCUMBENT	Sex	QUALIFICATIONS
COMMISSIONER'S OFFICE								
Commissioner	1	1	0	0	U1SE	Ernest N.T. Rubondo	M	Bsc, Msc, Cert.
Personal Secretary (SG)	1	1	0	0	U4 L	Ekunu Moses	M	BA.Sec Studies
Steno. Secretary	1	1	0	0	U5 L	Naome Katambara	F	Cert. Stenography
Coxswain	2	0	2	0	U7 Upp			
Office Typist	1	1	0	0	U7 L	Namulwanyi Robinah	F	Dip.Sec. Studies
Watchman	2	2	0	0	U8 L	Joseph Mubongi	M	UCE
						Dogu Christino	M	UCE
Office Attendant	4	3	1	0	U8 L	Nakkazi Joan	F	UCE
					U8 L	Nakawesi Moureen	F	UCE
					U8 L	Omuturu Ondia Florence	F	UCE
Driver/Mechanic	16	13	3	0	U8 Upp	James Sande	M	UCE
					U8 Upp	Aaron Sserubiri Musoke	M	UCE
					U8 Upp	Edward Ssenyondo	M	UCE
					U8 Upp	Sebugenyi Musoke David	M	Cert. In Motor Vehicle,
					U8 Upp	Robert Biryaho	M	UCE
					U8 Upp	Nelson Agiryo	M	UCE

					U8 Upp	Katula Frank	M	UCE
					U8 Upp	Olwora Fred Willies	M	Dip. Marketing
					U8 Upp	Byamukama Wilson	M	UCE
					U8 Upp	Bwana Alexis	M	UACE
					U8 Upp	Keeya Fred Kintu	M	UCE
					U8 Upp	Kijoma Patrick	M	UCE, Certs. In Mech.Eng.
					U8 Upp	Kimala Musisi David	M	UCE
Geology Division								
AC/Geology	1	1	0	0	U1E (SC)	Robert Kasande	M	Bsc, PGD, MSc
PGL (Exploration)	1	1	0	0	U2 SC	Abeinomugisha Dozith.	M	Bsc, Msc.Tectonic, BA.(Philosophy)
PGL (Dev't & Prod)	1	1	0	0	U2 SC	Fred Kabanda	M	Bsc, Msc, plus 3 PGDs
SGL (Exploration)	1	0	1	0	U3 SC			
SGL (Well site)	1	1	0	0	U3 SC	Nabbanja Proscovia	F	Bsc (Geo, Chem), Msc. Pet. Geosci
Senior Geo- Chemist	1	1	0	0	U3 SC	Lukaye Joshua	M	Bsc Eng, MSc Eng
Petroleum Engineer	6	6	0	0	U4 SC	Basiima David Ahimbisibwe	M	Bsc Eng, MSc Eng
					U4 SC	Korutaro Caroline	F	Bsc, Msc (Eng) Environment and Energy
Petroleum Engineer (Prodn)					U4 SC	Mugizi Herbert	M	BSc. Mechanical Engineering
					U4 SC	Richard Nuwagaba	M	BSc. Mech. Eng
Petroleum Engineer (Drilling)					U4 SC	Wandera Robert Omwembe	M	BSc. Mechanical Engineering
					U4 SC	Mugumya Winston	M	Bsc. Mech & Manufacture Eng.
Geologist (Well site)	4	4	0	0	U4 SC	Ochan Andrew	M	Bsc, PGD
					U4 SC	Amusugut Catherine Padde	F	BSc. Geology & Chemistry
					U4 SC	Tumushabe Wilson Mbile	M	BSc Geology & Chemistry

					U4SC	Padde Semu	M	
Geologist (Basin Eval)	3	3	0	0	U4 SC	Njabire Nurudin	M	Bsc, MSc
					U4 SC	Ariko Denis	M	BSc Geo.Chem, Msc
					U4 SC	Ssuubi Joshua	M	
Organic Geo-Chemist	4	3	1	0	U4 SC	Irumba Bright Clovice	M	Bsc., Msc Pet. Geochem
					U4 SC	Enach Steven	M	BSc. Technology (Chemistry)
					U4 SC	Okello Michael	M	BSc. Geology & Chemistry
Palynologist	2	2	0	0	U4 SC	Sserubiri Tonny	M	BSc. Chemistry, MSc. Geology
					U4 SC	Sempala Vivienne	F	BSc. Chemistry & Geology
Sen. Geol. Assistant/ Exploration	1	1	0	0	U6 Upp	Ssenabulya Andrew	M	BSc. Technology (Chemistry), Dip. Sci. Tech. Chem
Sen. Lab. Tech. Gr.1	1	0	1	0	U4 SC			
Geological Assistant (Well Site)	5	4	1	0	U7 Upp	Kasasa William	M	Advanced Cert. of Educ (HEGD)
					U7 Upp	Wathum Peter	M	Dip.water Eng, Cert.
					U7 Upp	Lule Amos	M	Diploma in Industrial Ceramics
					U7Upp	Okello Charles	M	Dip.
Lab. Technician	3	3	0	0	U6 Upp	Ainobyona Christine	F	Diploma in Science & Technology
					U6 Upp	Etano Godfrey	M	Dip. In Sc. Techn. Chemistry / Biochemical technique
					U6 Upp	Kuhasire David Dias	M	Dip. In Sc. Techn. Chemistry / Biochemistry technique
Lab. Attendant	2	1	1	0	U8 Upp	Edward .M. Takorakubi	M	Cert. In Geochemical analysis, Dip. Bsc. Env Mgt
Geological Attendant	1	0	1	0	U8 L			
Geophysics Division								
AC/Geophysics	1	1	0	0	U1 SC	Honey Malinga	M	Bsc, Msc.Exp.Geo, Dip.
PGP (Seismic & Wells)	1	1	0	0	U2 SC	Frank Mugisha	M	Bsc, Msc Exp.Geophy, PGD

PGP (Gravity & Mag)	1	1	0	0	U2 SC	Robert Tugume	M	Bsc, Msc.Pet.Geo, Dip.Surveys
SGP (Seismic&Wells)	1	1	0	0	U3 SC	Obita Philip	M	Bsc, Msc
SGP (Gravity & Mag)	1	1	0	0	U3 SC	Ongodia Bernard	M	Bsc, Diploma in Electrical Engineering,Certificates. MSc.
Geophysicist (S & W)	3	2	1	0	U4 SC	Nyombi Alex	M	BSc, Msc.
					U4 SC	Naboth Mugerwa	M	MSc. Pipeline Eng., BSc Elec, Dip.Elec. Eng
Geophysicist (gravity&mag)	2	2	0	0	U4 SC	Tonny Ssuna Ddungu	M	Msc, BSc (Geo & Chem)
					U4 SC	Ayaa Anthony	M	Msc, Bsc Tech.(Physics)
Senior Geophysical Tech.	2	1	1	0	U4 SC	Mulinde David	M	Bsc Tech.(Physics)
Geophysical Tech.	8	6	2	0	U6 Upp	Ngabirano Arthur	M	Dip.
					U6 Upp	Anicet Mbonye	M	Ordinary Diploma in Electrical Engineering , Bsc. Com Eng.
					U6 Upp	Yahaya Muzani	M	Dip. in Electrical and Electronics Engineering
					U6 Upp	Michael S.T.Weteeka	M	Diploma in Mechanical Engineering
					U6 Upp	Kenneth Karusya	M	Cert.
					U6 Upp	Byona Susan	F	Dip. Electrical & Electronic Eng
Surveying Attendant	2	0	2	0	U8 L			
Total PEPD	88	70	18	0				
GEOLOGICAL SURVEYS & MINES DEPARTMENT								
POST	No. APV	No. FIL	No. VAC	Over Established.	Salary Scale	NAME OF INCUMBENT	Sex	QUALIFICATIONS
COMMISSIONER'S OFFICE								

Commissioner	1	0	1	0	U1SE			
Personal Secretary	1	1	0	0	U4 L	Nandutu Seera	F	Diploma Secretarial
Office Supervisor	1	0	1	0	U6 L			
Stores Assistant	1	0	1	0	U7 Upp			
Drivers/Mechanics	8	6	2	0	U8Upp	M. Kiggundu	M	UCE
					U8Upp	J. Kayiwa	M	Cert. Mech. Eng.
					U8Upp	Denis Musisi Kanoonya	M	UACE
					U8Upp	Akaa Morris	M	UCE
					U8Upp	Baguma Stephen	M	UCE
					U8Upp	G.Wabbi	M	UCE
Office Attendants	3	3	0	0	U8 Upp	Eunice Namono	F	UCE
					U8 Upp	Safian Katusiime	M	UCE
					U8 Upp	Norah Kansiiime	F	UCE
Watchman (Hqs&Field)	3	1	2	0	U8L	Gabriel Muhairwe	M	UCE
GEOLOGY DIVISION								
Asst Comm. Geology	1	1	0	0	U1E (SC)	Edwards Katto	M	Bsc (Hons), Dip.Min. Exp. Msc.plus certs.
Principal Geologist (mapping)	1	1	0	0	U2 SC	Z. Baguma	M	Msc., Dip. Min. Exp. plus 2 cert.
Principal Geologist (Exploration)	1	1	0	0	U2 SC	Vincent Kato	M	Bsc.(Hons.), Msc. Geo.Survey, PGD
Principal Geophysicist	1	1	0	0	U2 SC	Fred .A. Tugume	M	PhD, Bsc.(Hons.), Msc. plus 1 certificate
Senior Geochemist	1	1	0	0	U3 SC	Peter Turyasingura	M	Bsc.(Hons.) plus 2 certificates
Senior Geologist (Mapping)	1	1	0	0	U3 SC	Natukunda James Francis	M	Bsc.(Hons.Geology & Chemistry), PG Certs

Senior Geologist (Industrial Minerals)	1	1	0	0	U3 SC	Edward Isabirye	M	Bsc.(Hons.) plus 1 certificate
Senior Geologist (Mettalic Minerals)	1	1	0	0	U3 SC	Gabriel Data	M	Bsc.(Hons.) plus 1 certificate, MSc
Senior Geologist (Remote Sensing)	1	1	0	0	U3 SC	Tumwine Annet	F	Bsc. (Hons.)
Senior Geologist (Petrology)	1	1	0	0	U3 SC	Fred Kigereigu	M	Bsc. (Hons.), Dip.Educ. plus certs.
Senior Geophysicist	1	1	0	0	U3 SC	Andrew Katumwehe	M	Bsc (Hons)
Geophysicist	2	1	1	0	U4 SC	Isaiah Tumwikirize	M	Dip. Sc.Tech. BSc
Geochemist	2	2	0	0	U4 SC	Muhwezi Katomi Deus	M	Bsc.(Hons.).MSc
					U4 SC	Bagiire Timothy	F	BSc. Chem. & Geo.
Geologist	15	15	0	0	U4 SC	Nyakecho Catherine	F	Msc. Geology, BSc. Geology & Chemistry
					U4 SC	Kibalama Harriet Molly	F	Bsc.plus 1 certificate
					U4 SC	Lugaizi Isa	M	Bsc.(Hons.Geology & Chemistry),
					U4 SC	Lugoko Paul	M	Bsc.(Hons.Geology & Chemistry),
					U4 SC	Mawejje Peter	M	Bsc.(Hons.Geology & Chemistry),
					U4 SC	Ekiryagana Martin	M	Bsc.(Hons.Geology & Chemistry),
					U4 SC	Edward Marimira	M	Bsc (Hons)
					U4 SC	Kiggwe Richard	M	Bsc. , Diploma in Secondary Education
					U4 SC	Eriya Kahwa	M	Bsc. (Hons.Geology & Chemistry)
					U4 SC	Vicent Kedi	M	Bsc. (Hons.Geology & Chemistry)
					U4 SC	Sudan Birungi	M	Bsc (Hons)
					U4 SC	Nnakiriji Jacqueline	F	Bsc (Hons) Tech.
					U4 SC	Tuunde Keith	M	Bsc (Hons) Geology, Physics

					U4 SC	Olwa James	M	
					U4 SC	Mulindwa Henry	M	
Senior Geophysical Technician	1	0	1	0	U4 Upp			
Sen Asst Geological Off.	1	1	0	0	U4 SC	Namboyera Annet	F	Dip. Sc.Tech.(Physics)
Senior Driller	1	1	0	0	U5 SC	Muzito Muhamad	M	Dip. Mech. Engineering
Asst. Geological Off.	2	0	2	0	U5 SC			
Driller	1	0	1	0	U6 Upp			
Geophysical Technician	2	1	1	0	U6 Upp	Nyago Joseph	M	Dip Science Technical - Physics
Pool Stenographer	1	1	0	0	U6 L	Namukasa Grace	F	Dip. in Secretarial studies
Assistant Driller	1	1	0	0	U7 Upp	Atwine Mark	M	Advanced Cert. Motor Vehicle Technician.
Drill hand	0	1	0	1	U8 Upp	Mulindwa Siraji	M	
MINES INSPECTION								
Assistant Commissioner (Mines)	1	0	1	0	U1E (SC)			
Princ Inspector of Mines	1	1	0	0	U2 SC	C.B. Rudigizah	M	Msc.Mine Eng., Bsc, Dip. Pet.Econ. plus certs.
Senior Inspector of Mines	2	2	0	0	U3 SC	Grace Deborah Nakku Nvule	F	Bsc. Eng
					U3 SC	Joseph Patrick Okedi	M	Bsc.(Hons) Mech. Eng, plus 2 certificates
Mining Engineer	2	2	0	0	U4 SC	Okewling John Kennedy	M	BSc. Eng
					U4 SC	Mayanja Jackson	M	Bsc Eng
Inspector of Mines	4	3	1	0	U4 SC	Sebagala David	M	BSc. Mining Eng

					U4 SC	Kobusheshe Joseph	M	Bsc. Civil Eng, Msc Eng, PhD
					U4SC	Tabaaro Muheirwe Morris	M	
Asst. Engineering Officer	1	1	0	0	U5 SC	Robert Mufuta	M	Dip. Civil Eng
Asst. Inspector of Mines	2	1	1	0	U5 SC	Mathias Mugere	M	Dip.Civil Eng
Senior Mines Warden	1	1	0	0	U5 SC	Nathan Mushetsya	M	Cert. Min.Tech
Mines Warden	2	2	0	0	U6 Upp	Eneku Gerald	M	Dip. Land Surveying
					U6 Upp	Amunyo Gideon	M	Dip. Architecture & Dip. In Cartograph
Pool Stenographer	1	0	1	0	U6 L			
GEOSCIENCE DATA DIVISION								
Asst Commissioner (G-SCI-DATA)	1	0	1	0	U1E (SC)			
Principal Documentation Officer	1	1	0	0	U2 SC	Grace Lubembe Nassuna	F	Bsc. (Hons.), Msc.(Geoinformatics), PGDip.Educ., No of Certs.
Principal Staff Cartographer	1	1	0	0	U2 SC	Agnes Alaba	F	BSc.(Hons.), Msc. plus 1 certificate
Sen. Documentation Officer	1	1	0	0	U3 SC	Nassaka Sylvia Grace	F	BSc, MSc
Sen. Staff Cartographer	1	1	0	0	U3 SC	Ngada Henry	M	BSc. (Hons). Geology & Chemistry, MSc
Documentation Officer	1	1	0	0	U4 SC	Naiga Erios	F	BSc. Geo. Res. Mgt
Staff Cartographer	1	1	0	0	U4 SC	Pule Stellah	F	BSc. Geo. Res. Mgt
Pool Stenographer	1	0	1	0	U6 L			
Cartographers	2	2	0	0	U5 L	Mubiru Yosia	M	Dip. Cartography,
					U5 L	Wegosasa Sarah	F	Dip. Cartography, Bsc. Survey

Library Attendant	1	1	0	0	U8 Upp	Namuli Dorothy	F	A-level
Dark Room Attendant/Photolitho	1	0	1	0	U8L			
LABORATORIES DIVISION								
Assistant Commissioner (Labs)	1	1	0	0	U1E (SC)	Godfery Bahati	M	BSc.(Hons.), Dip.Educ.,pluscertificates
Principal Mineral Dresser	1	1	0	0	U2 SC	Lubangakene Chris	M	Msc., BSc Chem
Principal Chemist	1	0	1	0	U2 SC			
Senior Mineral Dresser	1	0	1	0	U3 SC			
Senior Chemist	1	0	1	0	U3 SC			
Mineral Dresser	2	2	0	0	U4 SC	Esau Arinaitwe	M	BSc.(Hons), cert
					U4 SC	Nangoku Naomi Mumoita	F	BSc. Geo.
Chemist	2	2	0	0	U4 SC	Lajwe Grace	F	BSc.(Hons)., Dipl in Sci &Tech
					U4 SC	Onyege Henry	M	Bsc. Chem
Senior Lab Technician	1	1	0	0	U4 SC	Ruth Nasingwa	F	Dip.Indust.Ceramics
Lab. Technician	2	2	0	0	U5 SC	Godfrey Birabi	M	UACE
					U5 SC	Ajule Moses	M	Bsc, Dip in Lab Tech
Pool Stenographer	1	0	1	0	U6 L			
Lab. Attendant	2	1	1	0	U8 Upp	Kwezi Julius	M	UACE, Cert. Sci. Lab tech, part 1
S/TOTAL GSMD	102	79	22	1				
PETROLEUM SUPPLY DEPT								
POST	No. APV	No. FIL	No. VAC	Over Established	Salary Scale	NAME OF INCUMBENT	Sex	QUALIFICATIONS

Commissioner	1	1	0	0	U1SE	Frank Justaf Tukwasibwe	M	B.Stat, MSc Comp. Science, MBA
Personal Secretary	1	0	1	0	U4 L	Nakyanzi Miriam	F	B. Sec. Studies
Pool Stenographer	1	1	0	0	U6 L	Batabeirwe Munono Maggie	F	Cert. Secretarial, Dip. Sec.
Office Attendant	1	1	0	0	U8 L	Nakato Moureen	F	UCE
Driver	1	1	0	0	U8 Upp	Sekate Robert	M	O-Level
S/Total	5	4	1	0				
NATIONAL PET. INFO. UNIT								
Prin Pet Officer	1	1	0	0	U2 SC	Elangot Joseph	M	B.Stat, PGD
Sen Pet Officer	1	1	0	0	U3 SC	Mitango Abubaker Ahmed	M	BSc Computer Science
Petroleum Officer	1	1	0	0	U4 SC	Ahimbisibwe Daudi	M	B. Infor Tech.
Assist Records Officer	1	0	1	0	U5 L			
S/Total	4	3	1	0				
PETROLEUM PIPELINE AND REFINERY UNIT								
Prin Pet Officer	1	1	0	0	U2 SC	Mwesigye Nuwamanya Edward	M	MA.EPP, PGD Computer Science PGD- ITA, BSc Economics
Sen Pet Officer	1	0	1	0	U3 SC			
Petroleum Officer	1	1	0	0	U4 SC	Odoch Robert	M	Bachelor of Eng. Automotive & Power Eng,
Asst Rec Officer	1	0	1	0	U5L			
S/Total	4	2	2	0				

PETROLEUM STANDARDS DIVISION								
Asst Commissioner	1	1	0	0	U1E (SC)	Habumugisha John Bosco	M	BSc. Eng, MSc. Eng, PGD Finance, CIPS, Msc. Pipeline
S/Total	1	1	0	0				
LICENSING SECTION								
Prin Pet Officer	1	1	0	0	U2 SC	Barisigara Stephen	M	Bsc. Econ, M.A.EDM, Dip Pet Policies & Mgt, Dip Env Mgt
Sen Pet Officer	1	1	0	0	U3 SC	Kiguli Disan	M	M.Sc. Stat, B.Stat.
Petroleum Officer	1	1	0	0	U4 SC	Byaruhanga Jane Mbabazi	F	MSc. Env.mgt, B.A. Env. Mgt
S/Total	3	3	0	0				
STANDARDS SECTION								
Prin Pet Officer	1	1	0	0	U2 SC	Rwakasanga Gershom	M	MSc, BSc Eng
Sen Petroleum Officer	1	1	0	0	U3 SC	Sherura Stephen Bainenama	M	Msc, BA.SS. Economics & Social Admin., Dip. NG/CBO Mgt & Rural Developmt
Petroleum Officer	1	1	0	0	U4 SC	Wilbrod Byamukama	M	Msc, Bsc.
S/Total	3	3	0	0				
LABORATORY SECTION								
Sen Pet Officer	1	1	0	0	U3 SC	Byokunda Sperato	M	Msc. Pharm, BSc. Chemistry & Biochemistry, PGDEduc, PGDMgt,
Petroleum Officer	2	2	0	0	U4 SC	Andrew Oboke	M	BSc. Technology
					U4 SC	Agaba Charles	M	BSc. Chemistry.

Laboratory Technician	6	6	0	0	U5 SC	Egangu Joseph	M	Dip. In Brewing and distiling, - Dip. In Sc. Techn. Chemistry / Biochemistry technique
					U5 SC	Karungi Betty	F	Dip. In Sc.Lab. Technology
					U5 SC	Mugabe Esau	M	Dip. Science. Technology/ Chemistry
					U5 SC	Kaganzi Daniel	M	Dip. Science. Technology/ Chemistry
					U5 SC	Kyambadde George	M	Dip. Science. Technology/ Chemistry
					U5 SC	Oketch Ogola Dominic	M	Dip. Science. Technology/ Chemistry
S/Total	9	9	0	0				
BUSINESS AND ECONOMIC SECTION								
Asst Commissioner	1	0	1	0	U1E	John Friday	M	B. Com, PGD Financial Management
ENFORCEMENT SECTION								
Prin Pet Officer	1	1	0	0	U2 SC	Banaga Baingi .G	M	B.Stat, M.Sc. Econ. Analysis & Policy, MBA, PGD Pet. Mgt.
Sen Pet Officer	2	2	0	0	U3 SC	Nakayiza Faridah Nsanja	F	MA, LLB, PGDL
					U3 SC	Ssenoga James	M	BBA, MBA
Petroleum Officer	2	2	0	0	U4 SC	Tinkansiime Peter	M	
					U4SC	Nyakahuma Joel	M	
S/Total	6	5	1	0				
INSPECTION AND MONITORING SECTION								
Prin Pet Officer	1	0	1	0	U2Upp			

Sen Petroleum Officer	2	2	0	0	U3Upp	Aguti Caroline	F	Msc. Environment and Natural Resources, B.A. Environment Managment
						Maali Nelson	M	MBA, B.A. SS, PGDEduc, Diploma in Business studies, Administrative Officers Law Certificate
Petroleum Officer	2	1	1	0	U4Upp			
					U4 Upp	Niwamanya Shallon	F	
S/Total	5	3	2					
NATIONAL PETROLEUM RESERVES								
Prin Pet Officer	1	0	1	0	U2 Upp			
Petroleum Officer	2	2	0	0	U4Upp	Wanakoli Julius Masera	M	BA Econ
					U4Upp	Bateebe Irene Pauline	F	Msc, BSc. Eng(Chem. Eng)
Accounts Assistant	1	0	1	0	U6Upp			
S/Total	4	2	2	0				
S/Total PSD	44	37	7	0				
MINISTRY TOTAL	350	297	66	13				

Appendix 3: Capacity Building

A- GSMD

i. Industrial Training

- Ten (10) Students from Makerere University, Kyambogo University, and Nkumba University, pursuing different qualifications in Industrial Chemistry, Environmental Engineering, Chemistry, and Mineral Resources, Oil and Gas Management, have been trained in sample handling and mineral processing techniques, chemical methods of analysis, and operation of scientific equipment as part of their annual industrial training.
- Two Makerere University Geoscientists (M. Tamuwa and A. Nanteza) and four (4) students (E. Male, D. Kiryamugonzi, A. Wambi and F. Muwanguzi) from the Institute of Surveying, Physical Planning and Land Management – Entebbe completed an introductory training in Principles and Applications of Geographic Information System (GIS).
- Ms. Mebra Tamuwa (Intern) from Makerere University underwent field training in geothermal exploration in Kibiro, Hoima District.
- Mr. Mwesigye Daniel Derrick and Mr. Batanda Noah, interns from Kyambogo University underwent in-house training in geothermal energy exploration using chemical methods.
- Ms. Resty Naddumba underwent training in collection of baseline data using Katwe-Kikorongo data on 25th to 27th September 2013.

ii. Long term training

a) Completed

- Mr. Vincent Kedi, Geologist completed an MSc degree course in Geotechnical Engineering and Engineering Geology at University of New South Wales, Sydney, Australia.
- Ms. Dorothy Namuli (Library Attendant) completed a Bachelor's Degree in Library and Information Science at Makerere University, Kampala.
- Mr. Joseph Okedi (Senior Inspector of Mines) completed a Master of Science in Mining Engineering at the University of New South Wales in Australia.

- Ms. Sylvia G. Nassaka (Senior Documentation Officer) completed a post graduate diploma in Public Administration and Management from Uganda Management Institute, Kampala, Uganda.
- Grace Lajwe (Chemist) completed a six month specialized geothermal training at UNU, Reykjavik-Iceland.
- Joseph Nyago, Geophysical Technician successfully completed his one-year postgraduate studies leading to the award of Master of Disaster Management Policy from National Graduate Institute for Policy Studies (GRIPS), Tokyo and a Postgraduate Diploma in Seismology from the International Institute of Seismology and Earthquake Engineering (IISEE) of the Building Research Institute (BRI) in Tsukuba, Japan. The officer has already returned and reported on duty.

b) Ongoing:

- Mr. Esau Arinaitwe (Mineral Dresser) continues to pursue a PhD at the University of British Columbia in Vancouver, Canada.
- Mr. Andrew Katumwehe, Senior Geophysicist is currently on a four year Doctorate of Philosophy (PhD) in Exploration Geophysics at Oklahoma State University, United States of America.
- Ms. Grace Lajwe (Ag. Senior Chemist) is pursuing a Master's degree in chemistry from Makerere University, Kampala.
- Mr. Julius Kwezi (Laboratory Attendant) is pursuing a Bachelor's degree in chemistry from Makerere University, Kampala

iii. Conferences and workshops

- DGSM staff attended a seminar that was conducted by Vincent Kato on how to prepare and present a good seminar on the 15th January, 2013.
- Mr. Zachary Baguma (Ag. Assistant Commissioner/Geology) and Mrs. Grace Nakku Matovu (Ag. Senior inspector of Mines) were part of the MEMD team which attended a Movement Retreat Caucus meeting at Kyankawazi on 15th and 16th January 2013, where the President inquired on the status of Sukulu and he was informed that Nilefos still awaits the Government to compensate the landowners and the Prime Minister was also waiting for the opinion of the Attorney General.
- Mr. Vincent Kato (Project Coordinator/ Geothermal) attended an Intergovernmental Committee of experts meeting for the mineral sector at Speke Resort Hotel-Munyonyo from 18th – 22nd January, 2013.

- Mr. Zachary Baguma (Ag. Assistant Commissioner/Geology) on the 25th January, 2013 represented the Ag. Commissioner on the inauguration of the 9MW Buseruka Hydropower Station held in Buseruka, Hoima district. The dam was later named Kabalega Hydropower Station.
- Mr. Edwards Katto (Ag. Commissioner), Ms. Agnes Alaba (Ag. Assistant Commissioner-Geodata), Dr. Fred Tugume (Principal Geophysicist), Mr. Gabriel Data (Senior Geologist) and Mr. Isaiah Tumwikirize (Geophysicist) participated in Mining 2013 Indaba Conference from 4th to 7th February, 2013.
- Mr. Vincent Kato (Project Coordinator/ Geothermal) attended a training and capacity building workshop on contract management for user departments at Hotel Africana from on 21st to 22nd March, 2013.
- Mr. Zachary Baguma (Ag. Assistant Commissioner/Geology) participated in the workshop to prepare a Draft Report on East African Community Mineral Value Addition which was held from 18th to 21st March, 2013 in Bujumbura-Burundi. The report was compiled and circulated for comments.
- Mr. Fred Kigereigu (Senior Geologist), Ms. Stella Pule (Staff Cartographer), and Ms Grace Sylvia Nassaka (Senior Documentation Officer) undertook field training in geothermal field mapping techniques in April 2013.
- Mr. Zachary Baguma (Ag. Assistant Commissioner/Geology) and Mr. Vincent Kedi (Geologist, Mapping) participated in a three (3) day retreat for the review of the Interim Report for the Preparatory Survey of Ayago Hydropower Project from 2nd to 5th of April 2013 at Jinja Nile Resort Hotel. It is proposed that Ayago Hydropower Project is going to have six tunnels and will be developed in phases beginning with the first tunnel to generate 100MW. The issue of future development effecting the ready established dam and turbines was raised.
- Mr. Chris Lubangakene (Principal Mineral Dresser) participated in an International Atomic Energy Agency (IAEA) organized Interregional Training Course on Uranium Exploration Strategy, Mining and Processing Techniques in Jamshedpur, India, from 8th to 12th April, 2013. The workshop was organized in conjunction with the Uranium Corporation of India Limited (UCIL).
- Dr. Fred Tugume (Principal Geophysicist) and Mr. Isaiah Tumwikirize (Geophysicist) attended a workshop on Seismic hazard assessment workshop organized by the Geological Survey Department, Zambia from 6th to 12th April, 2013.

- Mr. Isa Lugaizi (Geologist, Mapping) attended a two-day residential workshop on capacity building for Disaster Risk Reduction at the Lake Victoria Serena Hotel from 29th to 30th April 2013. The workshop was organised by the World Bank and the Office of the Prime Minister (OPM).
- Mr. Vincent Kato (Project Coordinator/ Geothermal) attended Rocks for crops workshop in Pocos de Cladas in Brazil in May, 2013.
- Ms. Agnes Alaba (Ag. Assistant Commissioner-Geodata), Mr. Chris Lubangakene (Principal Mineral Dresser), Mr. Gabriel Data (Senior Geologist) and Mr. James Francis Natukunda (Senior Geologist) participated in the Uganda COMESA Oil, Gas and Mining Summit 2013, which was held on the 9th and 10th May 2013 at Speke Resort Munyonyo, Kampala. The summit was organized by Oliver Kinross in partnership with the Government of Uganda and the Uganda Chamber of Mines and Petroleum. Ms. Agnes Alaba presented a paper on Uganda's Mineral sector outlook.
- Mr. Vincent Kato (Project Coordinator/ Geothermal) attended Uganda Mining and Energy Conference (UMEC) Conference in Serena Hotel, Kampala from 28th - 30th May 2013.
- Ms. A. Alaba (Ag. AC-Geodata) participated in Uganda Mining and Energy Conference (UMEC) from 28th - 30th May 2013 at Serena Hotel, Kampala where she presented a paper on GMIS and MCRS system of Uganda.
- Mr. Isaiah Tumwikirize (Geophysicist) attended a 4 week workshop on National Data Center (NDC) capacity from 6th to 31st May 2013 in Vienna, Austria. The workshop was organized by the International Data Center, a division of the Comprehensive Nuclear Test Ban Treaty Organization (CTBTO).
- Mr. Chris Lubangakene (Principal Mineral Dresser), participated in an International Atomic Energy Agency (IAEA) organized Regional Training Course on Uranium Mining and Ore Processing Tailings Management in Lusaka, Zambia from 13th to 17th May, 2013. The workshop was organized in conjunction with the Office of the Director of Mines and Department of Mine Safety, both of the Ministry of Mines, Energy and Water Development of Zambia.
- Mr. Chris Lubangakene (Principal Mineral Dresser), participated in a half day stakeholders' engagement with executives and regulators, on Friday, 24th May, 2013, at Silver Springs Hotel, Kampala. The stakeholders' engagement was organized by the Uganda Revenue Authority (URA) in partnership with the Uganda Chamber of Mines and Petroleum.

- Mr. Chris Lubangakene (Principal Mineral Dresser) and Mr. Edward Isabirye Mugaddu (Senior Geologist – Industrial Minerals) participated in a workshop on Development of Technology for Production of Porcelain Insulators from Ceramic Minerals in Uganda on 6th June, 2013 at the College of Engineering, Design, Art and Technology of Makerere University, Kampala. The workshop was organized by the Department of Mechanical Engineering.
- Mr. Zachary Baguma (Ag. Assistant Commissioner/Geology) participated in a five (5) day retreat for the review of the Environmental and Social Impact Assessment Reports (EIA & SIA) and the Resettlement Action Plan (RAP) Report for the proposed Isimba Hydropower Plant from 10th to 14th of June 2013 at the Source of the Nile Hotel, Jinja. Key issues noted were the effect of rafters at Kalaga falls and construction material coming as far as 50km from the site.
- A. Alaba (Ag. AC-Geodata), S.G. Nassaka (Senior Documentation Officer) & Erios Naiga (Documentation Officer) participated in a workshop on service delivery standards that was held in Hotel Africana on 21st June 2013. Ms. A. Alaba, gave a presentation on the Delivery Standards for the proposed Directorate of Geological Survey & Mines.
- Mr. Zachary Baguma (Ag. Assistant Commissioner-Geology) and A. Alaba (Ag. Assistant Commissioner-Geodata) participated in a training workshop of Natural Resources Officers of Moroto, Abim, Nakapirit and Amudat from 25th -27th June 2013. Ms. A. Alaba presented a paper on online geoinformation systems and licensing at DGSM while Mr. Z. Baguma presented a paper on mineral potential of Karamoja.
- Mr. Edwards Katto (Ag. Commissioner) and Eng. Joseph P. O. Okedi (Acting Principal Inspector of Mines) attended a validation workshop from 11th - 12th June 2013 in Naivasha, Kenya on “Mapping of non Wood Forest Products (NWFPS) and Minerals Appropriate for Artisanal Mining for Development in the Arid and Semi Arid Areas (ASALs) of the IGAD region”. The duo made a presentation titled "The Status Update of Artisanal and Small Scale Mining in Uganda's ASALs" focusing on Karamoja region.
- Mr. Chris Lubangakene (Principal Mineral Dresser) and Ms. Naomi M. Nangoku (Mineral Dresser) attended a one day sensitization workshop on Results Oriented Management (ROM) and Performance Management on 25th June, 2013 at Hotel Africana. The workshop was organized by the Finance and Administration Department of the Ministry and facilitated by personnel from the Ministry of Public Service.
- Mr. Vincent Kato (Project Coordinator/ Geothermal) attended a workshop on Ceramics at Makerere University, College of Technology on 6th June 2013.
- Mr. Vincent Kato (Project Coordinator/ Geothermal) attended the 8th International Trade Facilitation Expo 2013, at Lugogo Main Exhibition Hall on 2/4th July 2013.

- Ms. Agnes Alaba (Ag. Assistant Commissioner/Geodata) participated in Geoscience Information in Africa (GIRAF) Conference in Accra, Ghana from 22-27th September, 2013. She presented a paper on the Uganda's Mining Cadastre and Registry System.
- Over 10 DGSM staff participated in the Mineral Wealth Conference 1st to 3rd October, 2013 at Sheraton Kampala Hotel, Kampala.
- Mr. Zachary Baguma (Ag. Assistant Commissioner/Geology), from 9th to 11th October 2013, participated in the workshop titled "Review of the Commonwealth Secretariat Consultants Final Report on the EAC Mineral Resources Potential and Legal and Regulatory Frameworks for Mineral Extractive Industries and Mineral Value Addition in EAC Region" in Bujumbura, Burundi. At the end of the project, the Experts recommended that a Multi-Sectoral Committee on Industrialization, Environment and Natural Resources and a Special Task Force to coordinate formulation of a regional MVA Policy and Strategy with focus on the identified priority minerals for MVA be formed. This will result in commissioning of a prefeasibility study to assess the viability of establishing an integrated iron & steel industry taking into account the findings of the EAC-COMSEC Study.
- Mr. Isaiah Tumwikirize (Geophysicist) and Mr. Joseph Nyago (Geophysical Technician) participated in a one-week Eastern and Southern Africa Region Seismology Working Group (ESARSWG) workshop on compilation of a seismological bulletin that was hosted at the Eritrean Institute of Technology in Asmara, Eritrea from 13th to 18th October, 2013.
- Over 10 senior staff of DGSM participated in the Joint Sector Review under the Theme "Transforming Uganda through Sustainable Management & Utilization of Energy and Mineral Resources" at Hotel Africana from 11th – 12th November, 2013.
- Dr. Fred Tugume (Principal Geophysicist) participated in a conference on Active Volcanism and Continental Rifting in Gisenyi, Rwanda from 12th to 14th November, 2013.
- Mr. Zachary Baguma (Ag. Assistant Commissioner/Geology), from 25th to 30th November 2013, attended a Regional Workshop on "Uranium exploration Resources in Africa: Challenges and opportunities" in Lilongwe, Malawi.
- Ms. A. Alaba (Ag. Assistant Commissioner-Geodata), Mr. Chris Rudigizah (Ag. Assistant Commissioner-Mines), Mr. Bahati Godfrey (Assistant Commissioner-Laboratories), Gabriel Data (PC/Karamoja) and Kato Vincent (PC/ Geothermal) participated in the mineral retreat workshop with H.E. the President of the Republic of Uganda at State house, Entebbe on the 16th December, 2013.

- Mr. Isaiah Tumwikirize (Geophysicist) participated in CTBTO-NDC Development Workshop in Africa on the Use of IMS data and IDC products from 16th to 19th December, 2013 in Ouagadougou, Burkina Faso.

iv. Short term training

- Ms. Ruth Nassingwa (Senior Laboratory Technician), and Ms. Naomi M. Nangoku (Mineral Dresser), attended a Spearhead Network for Innovative, Clean and Safe Cement and Concrete Technologies (SPIN) meeting from 28th to 30th January, 2013 at the University of Witwatersrand, Johannesburg, South Africa. The meeting was to mark the end of the SPIN project and carrying out an evaluation of the project.
- Mr. Chris Lubangakene (Principal Mineral Dresser), participated in an International Atomic Energy Agency (IAEA) organized Interregional Training Course on Performance Optimization in Uranium and Rare Earth Elements (REE) Production from Phosphate Rocks in Tunis, Tunisia, from 11th to 15th February, 2013. The workshop was organized in conjunction with Groupe ChimiqueTunisien (GCT) and National Center for Nuclear Sciences and Technologies (CNSTN), both of Tunisia.
- Mr. Keith Tunde (Geologist) was attached to Goldspy Africa Limited where he carried out augering, soil sampling, sample drying, and sample preparation programme in the areas covered by TN 1450 from 20th February to 10th March, 2013. He also participated in preparing pellets and analysis using portable X-Ray Fluorescence (XRF).
- DGSM staff participated in a training seminar organized by West Jec Consultants on 16th October, 2013. Topics covered included geochemistry application in geothermal exploration, GIS and satellite images application in geothermal exploration.
- Ms. Sarah Wegosasa (Cartographer) and Mr. Sudan Birungi (Geologist) participated in a GIS, Remote Sensing and Mineral exploration short course from 31st March to 27th April 2013 in South Korea.
- Mr. Deus Katomi Muhwezi (Geochemist) and Ms Annet Nambojera (Senior Assistant Geological Officer) were attached to Greenstone Resources Limited to participate in evaluation of Tiira gold deposits in Busia district in April 2013.
- Dr. Fred Tugume (Principal Geophysicist) attended a one week technical training for station operators/Managers with Guralp equipment, from 13th to 17th May 2013, Vienna Austria. The training was organized by the International Monitoring System (IMS) Division of the comprehensive Nuclear Test Ban Treaty Organization.

- Ms. G. L. Nassuna (Principal Documentation Officer) attended and participated in the Short courses on use of ArcGIS and made a paper presentation on Geodata and information Management in Uganda at Freiberg Research Conference, Germany from 16th to 27th June, 2013.
- Mr. H. Ngada (Ag. Principal Staff Cartographer) participated in a Geothermal Resources Exploration training from 25th - 27th September, 2013 in the geothermal fields of Bundibugyo, Ntoroko, Kabarole and Kasese Districts.
- Mr. H. Ngada (Ag. Principal Staff Cartographer) participated in the 3rd Ministry of Energy and Mineral Development Joint Sector Review at Hotel Africana – Kampala, Uganda from November 11th - 12th 2013.
- Ms. Sarah Wegosasa (Cartographer) participated in a one month GIS, Remote Sensing and Mineral exploration short course in South Korea from March – April 2013.
- Mr. H. Ngada (Ag. Principal Staff Cartographer), Ms. S. Pule (Staff Cartographer) and Ms. Sarah Wegosasa (Cartographer) participated in Half day in-house Geothermal and Karamoja – Mineral Potential workshops at Geological Survey and Mines Department Entebbe on 15th August 2013.
- Ms. Nassaka Sylvia (Senior Documentation Officer) visited the British Geological Survey (BGS), Nottingham, United Kingdom on geoinformation sharing and exchange from 27th August to 22nd September, 2013.
- Mr. Muheirwe Morris Tabaaro (Inspector of Mines) was attached to Rakai Resources Limited from 16th September, 2013 to 27th September, 2013 to undertake a first pass stream sediment survey at their concessions in Abim district, Karamoja sub region.
- Mr. Vincent Kato (Project Coordinator/ Geothermal) attended a short course in “*Project Planning and Management*” at UMI, Kampala from 9th to 20th September, 2013.
- Mr. Henry Ngada (Ag. Principal Staff Cartographer), Mr. Paul Lugoko (Geologist) and Mr. Denis Mwesigye underwent field training in geothermal mapping techniques in Buranga and Katwe from 25th to 27th September, 2013.
- Ms. Jacqueline Nakirijja (Geologist) attended a short course on exploration of geothermal resources in Naivasha from October to November 2013.
- Mr. Vincent Kato (Project Coordinator/ Geothermal) attended and gave a lecture during a short course on exploration of geothermal resources at Sopa Lodges in Naivasha from November to December 2013.

B- PEPD CAPACITY BUILDING

NO	NAME	DESIGNATION	COURSE
1.	Mugyerwa Naboth	Geophysicist	MSc in Pipeline Engineering, Cranfield University, UK.
2.	Nyombi Alex	Geophysicist	MSc in Petroleum & Mineral Law and Policy, University of Dundee, UK
3.	Ayaa Anthony	Geophysicist	MSc in Petroleum Geophysics, Imperial College – London, UK
4.	Ariko Denis	Geologist	MSc in Petroleum Geoscience, Heriot-Watt University, UK
5.	Byaruhanga Jane	Petroleum Officer	MSc in Environment Management (Natural Resources), The University of Queensland, Australia
6.	Nagawa Lilian	Process Engineer	MSc in Petroleum Refining Systems Engineering, University of Surrey, UK
7.	Bayiringisa John	Health, Safety and Environment officer	MSc in Oil and Gas Engineering, Robert Gordon University, UK
8.	Nakamya Emilly	Economist	MSc in Petroleum Energy Economics & Finance, Aberdeen University, UK
9.	Byona Susan	Geophysical Technician	MSc in Exploration Geophysics, Leeds University, UK

C -ERD: Capacity Building, Workshops and Conferences

- Mr. Baguma Sabbiti participated in the 24th AFRA Technical Working Group Meeting (TWGM) and Meeting of National Liaison Officers and AFRA National Coordinators in Arusha, Tanzania from 24th -28th June 2013.
- Ms. Sarah Nafuna participated in JICA Training and Dialogue Program on Energy Policy from 02nd – 22nd June 2013 in Tokyo, Japan and the International Ministerial Conference on Nuclear Power in the 21st Century from 27th – 29th June, 2013 in St. Petersburg, Russian Federation.

- Ms. Sarah Nafuna and Mr. Thomas Ocilaje participated in the Country Programme Framework meeting in Vienna Austria, 22nd – 26th July 2013.
- Both Mr. Denis Tusiime Tungotyo and Mr. Baguma Sabbiti participated in the Interregional Training on Engineering Procurement and Construction (EPC) Contracting and Nuclear Power Programme Construction for Phase 2 Countries from 23rd – 28th September 2013, Beijing, China.
- Mr Baguma Sabbiti attended the International School of Nuclear Law, Montpellier, France from 26th August to 06th September 2013.
- Ms. Nafuna Sarah, Mr. Emmanuel Wamala and Mr Denis Tungotyo Tusiime participated in the 57th General Conference in Vienna Austria, 16th -20th September 2013.
- Mr. Thomas Ocilaje participated in a Regional Workshop on Requirements for Developing Feasibility for Nuclear Power Programme (Strategic plans, Roadmaps and Feasibility), Abuja, Nigeria from 28th October – 01st November 2013.
- Mr. Denis Tusiime Tungotyo participated in a KOICA-KAERI-IAEA training course on Nuclear Energy Policy, Planning and project Management in Daejong, South Korea from 31st October – 23rd November 2013.
- Mr. Emmanuel Wamala participated in a Technical Meeting on Strategic Supply Chains and National Industrial Involvement for Nuclear Power, Beaune (in Burgundy) and Monthieux (near Bugey Nuclear Power Station), France from 04th – 08th November, 2013.
- Mr. Amos Tamusuza – Senior Energy Officer, New and Renewable Sources of Energy and Ms. Keissy Irene Atim – Energy Officer, New and Renewable Sources of Energy, attended training on Renewable Energy Technology held in Cairo, Egypt (11th – 22nd November, 2013).
- Mr. Hatimu Muyanja – Energy Officer, New and Renewable Sources of Energy, participated in the Energy Conservation, Emission Reduction and Climate Change conference held in Beijing, China.

Electricity Sector Development Project (ESDP) Capacity Building and Training

#	Name	Designation	Course	Location
Planning Unit				
1.	Mr. Ajutu Emmanuel	Principal Economist/Head Sector Planning Unit	Monitoring and Evaluation of Energy Projects	DTI- Swaziland
2.	Mr. Isaac Baziwe	Senior Economist	Research Methods and Feasibility Studies	DTI- Swaziland

3.	Mr. Ian Kiwasuzi	Statistician	Data collection and survey management	DTI- Swaziland
4.	Mr. Edmond Sekimwany	Senior Statistician	Data management and statistical analysis	DTI- Swaziland
5.	Mr. Paul Basudde	Economist	Gender Analysis and Energy Planning	FIDA-Mbabane, Swaziland
Electric Power Division				
6.	Mr. Emmanuel Nsubuga	Energy Officer	Feasibility Study Analysis	ESAMI -Arusha, Tanzania
7.	Mr. Edward Ssekulima	Energy Officer	Energy Management and Planning	RCTD-Cape Town, South Africa
8.	Ms. Bridget Nnabagereka	Electrical Engineer	Feasibility Study Analysis	ESAMI -Arusha, Tanzania
Electricity Sector Development Project				
9.	Mr. Martin Mutabingwa	Electrical Engineer	Advanced Issues In Regulating Electric Utilities And Energy Networks	RCTD-Cape Town, South Africa
10.	Mr. Ibrahim Mukeera	Electrical Engineer	Energy Management and Planning	RCTD, Cape Town, South Africa
11.	Ms. Brenda Achao	Socio-Economist	Management and Implementation of Development Projects	RCTD- South Africa
12.	Mr. Zion Okama	Socio-Economist	Monitoring and Evaluation of Development Projects	RCTD, South Africa
13.	Mr. Sam Oketayot	Project Accountant	Regional ICT based Financial Management & Disbursement Course for Heads of Accounting Units of Government & World Bank Funded Projects	Kenya School of Government- E-Learning and Development - Nairobi, Kenya
14.	Ms. Assiya Nagula	Procurement Assistant	Public Procurement Processes and Management	ESAMI (Blantyre, Malawi)
15.	Ms. Sherifa Atugonza	Accounts Assistant	Regional ICT based Fin Mgt & Disbursement Course for Heads of Accounting Units of Government & World Bank Funded Projects	Kenya School of Government- E-Learning and Development - Nairobi, Kenya

D- PETROLEUM SUPPLY DEPARTMENT

No	Name	Designation	Course
1	Byamukama Wilbrod	Petroleum Officer	MSc. In Petroleum Engineering, Curtin University, Australia
2	Faridah Nakayiza	Senior Petroleum Officer	Master of Law in Oil and Gas, University of Melbourne, Australia
3	Mitango Abubaker	Senior Petroleum Officer	MSc. in Computer Science, Makerere University, Uganda
4	Sherura Stephen	Senior Petroleum Officer	MSc. Energy Economics, Curtin University, Australia

Appendix 4: Energy and Environment Results

#	Milestones	Quantity	Units of measure
System construction			
1.	Biogas plant construction	2,085	[plants]
Energy			
1.	Energy production	9,591	[MWh]
2.	Power installed	2,671	[kW]
Environment			
1.	GHG emission reduction	8,340	[t CO ₂ eq]
2.	Deforestation reduction	688	[ha of forest]
3.	Soil nutrification	5,630	[t(DM) bio-slurry]
Fuel substitution			
1.	Biomass	8,569	[t biomass]
2.	Fossil fuel	63	[t]
Socio-economic			
1.	Persons reached	12,510	[persons]
2.	Workload reduction (women & children)	174	[person years]
3.	Exposure to indoor air pollution reduced	10,425	[women & children]
4.	Bio-Toilets attached	813	[toilets]
5.	Productive slurry use	2,085	[households]
6.	Employment generation (direct)	146	[person years]
Training			
1.	User training	2,919	[person]
2.	Professional training	893	[person]

Appendix 5: List of artisans who participated in the training on Biolatrine Construction

#	Name of Artisan	Position	Contact	District/ Institution	No. of systems constructed
1.	Emmanuel Kasirivu	Mason - Renewable Energy Options (U) Limited	0772 629720/ 0754 629720	Buikwe	56
2.	Henry Ojambo Sikala	Mason at SEA	0775 427537/ 0757 507588 ojambohenrys@gmail.com	Busia	21
3.	Ben Joseph Olemun	Director at EA	0785 255254/ 0750 933877 olemunbenjoseph@gmail.com	Mbale	28
4.	Herbert Bogezi	Asst. Program Coordinator	0782 302826/ 0752 302826 PETSD2000@yahoo.com	PETSD	2
5.	Emmanuel Magala	Senior Mason at PSEM Africa	0787 239052/ 0752 933618 magalaemmanuel@gmail.com	PSEM Africa	70
6.	John Ewidu	Managing Director	0758 525911/ 0774 416372 ewidujohn@gmail.com	MEPOD Ent. Soroti	33
7.	Namulawa Nasimu	Mason at Renewable Energy Options (U) Limited	0757 463480/ 0776 463480 reauganda@gmail.com	Kasubi – Kampala	10
8.	Kalyango Kintu	Technical Manager at REED	0752 999998/ 0702 836866 kalyakintu@gmail.com	Mukono	6
9.	Laston Oloo	Director at Mbale Renewable Energy Centre (MREC)	0706 032458/0776 532458 mrec.org@gmail.com	Mbale	34
10.	Muhammed Ngobi	Mason	0775 828201	Jinja	3
11.	Ssebunya Sande Byansi	Mason at SEA company	0777 084789	Mukono	20
12.	Phiona Najjemba Lutaya	Nkumba University	0703 761900/0712 140510 phionaester@gmail.com	Kampala – Entebbe	–

Appendix 6: Siting Working Group (SWG) Members

S/N	Name	Designation
1.	Baanabe James	Ag. Commissioner Energy Resources Department
2.	Mr. Amos Olweny	Assistant Commissioner of Police Ministry of Internal Affairs
3.	Mr. Galende Johnson	Statistician Uganda Bureau of Statistics
4.	Dr. Fred Tugume	Principal Geophysicist Department of Geological Survey and Mines
5.	Ms. Agnes Alaba	Principal Staff Cartographer Department of Geological Survey and Mines
6.	Mr. Vincent Kato	Principal Geologist (Exploration) Department of Geological Survey and Mines
7.	Mr. Benon Zaake	Directorate of Water Resources Management
8.	Ms. Mukwaya Christine	Senior Water Officer Directorate of Water Resources Management
9.	Mr. Emmanuel Ongora	Physical Planner National Planning Authority
10.	Major. J. R Tagaswire	Nuclear Security Professional and Toxicologist Ministry of Defense
11.	Major Charles Nuwakuma	Ministry of Defense
12.	Ms. Nalwoga Susan	Communications Officer Ministry of Energy and Mineral Development
13.	Mr. Baguma Sabbiti	Nuclear Safety Engineer Ministry of Energy and Mineral Development
14.	Mr. Ocilaje Thomas	Nuclear Engineer Ministry of Energy and Mineral Development

15	Mr. Nsubuga Wamala	Energy Officer Ministry of Energy and Mineral Development
16	Ms. Abbo Damalie Ofumbi	Nuclear Engineer Ministry of Energy and Mineral Development
17.	Mr. Baziwe Isaac	Senior Economist Ministry of Energy and Mineral Development
18.	Ms. Aguti Carol	Environmental Officer, Ministry of Energy and Mineral Development
19.	Ms. Karungi Anne	GIS Officer Ministry of Energy and Mineral Development
20.	Mr. Kagwisa James	Senior Physical Planner Ministry of Lands, Housing and Urban Development
21	Mr. Muguruma Adam	Physical Planner Ministry of Lands, Housing and Urban Development
22.	Mr. Winyi Alex Kiiza	Environment Impact Officer National Environment Management Agency

Appendix 7: List of Exhibitors for Energy Week Exhibition 2013

	NAME/ COMPANY	ITEMS TO EXHIBIT	CONTACT PERSON	Telephone	EMAIL
BIOMASS TECHNOLOGY					
1.	CREEEC	Services in Bio energy, Solar PV, Pico hydro, Energy Management	Rehema Namukose	0752 150 285/ 0414 532 008	info@creeec.or.ug
2.	Living Earth Uganda	Briquettes and Energy Efficient Stoves	Swithern Tumwie		swithernt@gmail.com
3.	ECOGROUP	EcoStove systems	Asiimwe Diane	0774 723 110	diane.mariane@yahoo.com
4.	GOOD FIRE Ltd	Branded Briquettes	Kazungu Fred	0703 883 270	fredkzng@yahoo.com
5.	UGASTOVE	Energy Saving Stove, Gasifiers, Baking Ovens, Rockets, Barbeque	Kuteesa Ruth	0772 642 275	kuteesa-rth@yahoo.com

	NAME/ COMPANY	ITEMS TO EXHIBIT	CONTACT PERSON	Telephone	EMAIL
6.	MASUPA Enterprises	Briquettes, Energy Saving Stoves, Energy Production Training	Kyamulabi Margaret	0772 402 359	masupaent@gmail.com
7.	Prime Equipment & Contractors	Charcoal/ Firewood Cook Stoves	Joseph Ssemaganda Yiga	0772 460 384/ 0772 403 785	peco-ltd@yahoo.co.uk
8.	Green Heat Uganda	Biogas Digester, Briquettes	Okello Gabriel	0772 828 690	g_okello@greenheatinternational.com
9.	Green BioEnergy	Briquettes	David Gerard	0779 152 992	david.gerard@greenbioenergy.org
10.	Heifer International	Biogas system	George Mugerwa		
11.	PAMOJA Energy	Biomass Gassification Plants	Diana Ninsiima	0702 482 273 0784 498 658	Diana@pamojacleantech.com
12.	Impact Carbon	Energy saving stoves and briquettes			
13.	Energy Uganda Foundation	Energy saving charcoal and Rocket Stoves, Improved Baking Ovens	Busulwa Abdu	0712 202 424 0776 707 474	energyugf@yahoo.co.uk
14.	Energy Network Uganda				
15.	Awamu Biomass Energy Ltd				
16.	Promoters of Efficient Technologies for Sustainable Development	Charcoal and Firewood Stove, ovens, barbeque, crop dryer, water heater, charcoal briquettes, fireless cook	Prossy Ssebunya	0772 466 205	petsd2000@yahoo.com
17.	Uganda Green Fire Ltd	David Ojangole	Energy saving stoves and charcoal briquettes	0704 222 225	uganda.green.fire5@gmail.com
18.	Kyebando Energy and Environment Project				
19.	Humura Investments				
20.	Kookin Bag Uganda				
21.	Crestanks Uganda Limited				
22.	Renewable energy options				
23.	E.A Energy Technology Development Centre	Biogas, Solar, Cook Stoves, Energy Access	Takeeto James	0752 612 249	info@energynetworkuganda.org
ENERGY EFFICIENCY AND LIGHTING					

	NAME/ COMPANY	ITEMS TO EXHIBIT	CONTACT PERSON	Telephone	EMAIL
24.	BRAZAFRIC Enterprises Uganda	Instant Water Heaters, Solar Lamps	Mugisha Moses	0700 671 082	sales-ug@brazafric.com
25.	POWER OPTIMISA EAST AFRICA LTD	LED Lights, Voltage Power Optimization	Nives Johnson	0712 347 868 0312 518 222	nana@poweroptimisa.com
SOLAR ENERGY					
26.	SolarNow	Solar PV	Kabale Francis	0782 868 200	kabale@solarnow.eu
27.	Solar sense	Solar Products	Musooka Kiwanuka Achellis	0772 581 178 0776 875 287	solarsense@gmail.com
28.	ERKON Solar Ltd	Solar Panels, batteri, solar home kits, solar invertors, regutors, DC bulbs	Luzinda Henry	0790 910 793	info@ekornsolar.com
29.	SANYIFEIDA Electronics	Soalr Panels, Solar Systems, LED BAILB, Solar Camping Lantern, Battery, Inverters	Sunny Ma	0776 599 888	sunnyfocus2013@gmail.com
30.	ASE Solar	Mono Panel, Poly Panel, Solar Kit, Solar Lantern	Owen	0775 102 368	owenhuang@topraysolar.com
31.	Joint Energy and Environment Project	Solar Products	Ruth Kiwanuka	0414 578 316 0701 929 974	
32.	FENIX International	ReadySet Solar Charger	Calvin Kaumi	0776 113 002 0312 202 765	ckaumi@fenixintl.com
33.	BAREFOOT Power Ltd	Solar PV	Hamid Brahan	0701 405 066	hamidb@barefootpower.com
34.	Trans Africa Supply Services/ Village Power Uganda.	Solar PV	Rev. Phillip Fred Kato	0755 064 040	villagepower5@gmail.com
35.	ULTRATEC	Solar PV	Magala Ronald	0753 674 699	ultratecug@usa.net
36.	SMALL SOLUTIONS		RONALD BUKENYA	0703 604 952	bukronnie@yahoo.com
37.	SBM Solar	Solar PV	Sam Mugenyi	<u>0773001016/</u> <u>0778750630</u>	
38.	Davis and Shirtliff	Solar Pumps, Solar Water Heaters	Abdallah Sekitoleko	0414 346 337/ 0712 926 011	abdallah@dayliff@ug.daylif.com
39.	M- KOPA Solar	Solar PV	Anthony Weremaka	0772 382 361/ 0703 382 361	anthony.weremaka@m-kopa.com
40.	Legacy Finder	Solar Safe water system			

	NAME/ COMPANY	ITEMS TO EXHIBIT	CONTACT PERSON	Telephone	EMAIL
41.	G- TECH	Training Programs for Electricians	Emma Ddamulira	0772 434 179/ 0702 501 535	
42.	G- TECK	Solar Products	John Peter Gaustad	0705 001 660	jp@g-teck.com
LPG PRODUCTS					
43.	Oil Libya	LPG		0776 788 991	
44.	Hashi Energy Ltd	LPG	Ochen	0755 754 103	
45.	RAMCO International (U) Ltd	LPG	Ndagire Justine	0312 261 369	justine@ramcgas.com
46.	Oryx Oil (U) Ltd	LPG	Daphne Nassur	0312 262 120 0776 821 205	daphne.nassur@oryxenergies.com
47.	Wana energy solutions	LPG	Dr. Emmy Wasirwa		ewasirwa@waesol.com
48.	Total Uganda Ltd	LPG	Michael Lule	0752 793 040 0414 231 331	michael.lule@total.ug
REGULATORY BODIES AND ENERGY SERVICES					
49.	Ministry of Energy and Mineral Development	Awareness Materials	David Birimumaso	0776 836984	d.birimumaso@energy.go.ug
50.	UMEME	Information Materials	Robert Kisubi	0772 221 207	robert.kisubi@umeme.co.ug
51.	ESKOM Uganda		Caroline Namyalo	0772 705 856	caroline.namyalo@eskom.co.ug
52.	Electricity Regulatory Authority	Information Materials	Julius Wandera Catherine Nabongo	0794 801 000 0757 341 647	j.j.wandera@era.co.ug c.w.nabongo@era.or.ug
53.	Rural Electrification Agency	Information Materials	Cynthia Kamukama	0705 126 266	ckamukama@rea.or.ug
54.	UETCL	Information Materials			
55.	UEGCL	Information Materials	Cissy Nawatene	0782 387 768	cnawatene@uegcl.co.ug
56.	Uganda Energy Credit Capitalization Company	Information Materials	Lubwama Festo	0703 860 673	flubwama@ueccc.or.ug
57.	Uganda Coalition for Sustainable Development	Information Materials	Mwayafu Mujasi David	0752 521 230 0414 269 461	dmwayafu@ugandacoalition.or.ug