CTCN Technical Assistance

Request Submission Form

Please fill in the form in the grey spaces, by following the instructions in italic.

Country:	*UGANDA*

Date	*20th October 2014*

Title	*FORMULATING GEOTHERMAL ENERGY POLICY, LEGAL AND REGULATORY FRAMEWORK*

Contact information:

Please fill in the table below with the requested information. The request proponent is the organization that the request originates from, if different from the National Designated Entity (NDE).

	National Designated Entity	**Request Proponent**
Contact person:	*Dr. Maxwell Otim Onapa*	*Vincent KATO*
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Geographical focus:

{Select below the most relevant geographical level for this request:}

☐ *Community-based*

☐ *Sub-national*

☒ *National*

☐ *Multi-country*

{If the request is related to the sub-national or multi-country level, please indicate here the areas concerned (provinces, states, countries, regions, etc.)}

Theme:

{Select below the most relevant theme(s) for this request:}

☐ *Adaptation to climate change*

☐ *Mitigation to climate change*

☒ *Combination of adaptation and mitigation to climate change*

Sectors: ENERGY (GEOTHERMAL)

{Please indicate here the main sectors related to the request. e.g. energy, industry, transport, waste, agriculture/fisheries, forestry, water, ecosystem/biodiversity, coastal zones, health, education, infrastructure/human settlement, tourism, businesses, early warning/disaster reduction, institutional design and mandates, cross-sectorial}

Problem statement *(up to one page):*

Economic activity and standards of living are underpinned by access to reliable, environmentally sound and competitively priced energy. Securing the supply of energy is therefore a top priority for Uganda's energy policy (2002). A secure and sustainable energy mix is one of the central challenges which Uganda faces as the world responds to the challenges of climate change, energy security and economic competiveness. Currently, Uganda mostly relies on hydropower with current generation capacity at 849.5 MW including 100MW from thermal (MEMD, Joint Sector Review Report, 2014). However, climate change impacts such as droughts and erratic rainfall have made hydro-power unreliable, reducing the country's adaptive capacity. Hydropower dams in Uganda have continuously produced less power than initially projected capacity (MEMD Joint Sector Review report 2014). Energy supply: The total installed capacity is now at 849.5MW and this includes 100MW of thermal that is on standby (Banabe. J. 2014). The total grid electricity supply increased by about 7.1% from 2,737.8GWh in 2012 TO 2,932.8 Gwh in 2013.

Uganda has an estimated 450MW of untapped geothermal energy (McNitt, 1982). Geothermal technology has a potential to provide affordable, efficient, low-emission, large scale, base load renewable power to the country. Geothermal development in Uganda is however still at its infancy and faces a number of challenges. While there is growing interest from the government, development partners and private companies to engage in geothermal energy development in Uganda, there are mainly four major barriers to address: (i) Resource development risk; (ii) Large up-front investment; (iv) Weak of institution and; (iii) Lack of legal and regulatory regime;
Please elaborate briefly on (i) and (ii) and then later concentrate on (iii) and (iv) as below

(i) Resource development risk

Geothermal exploration and development is an acknowledged high-risk investment. The risk in geothermal development is the uncertainty associated with a natural resource that cannot readily be observed or characterized without relatively large expenditures for drilling. The long time period typically required to move a project from preliminary exploration through to development is another factor to consider. Historically, many large (50 MWe or larger) geothermal projects have taken close to 10 years to develop. This is a long time to ‗tie up'capital for an investment with modest profit potential, with the added disincentive of high resource risk in the early phases of the project.

Many of the risks in geothermal projects are identical to those faced for any grid-connected power project. But additional factors, as discussed below, impact investors'willingness to accept the level of risk associated with geothermal projects and hence the availability of project funding. Risks include exploration risk, drilling risk and sustainability risks. Many of the risks of geothermal development are essentially the same as in any grid connected power generation project; completion or delay risks, off-take risks, market demand or price risk, operational risk and regulatory risk.

(ii) Large-up front investment

Geothermal projects typically have high up-front investment costs due to the need to drill wells and construct power plants and relatively low operation costs. The elevated level of financing risk due to high up-front costs is common for renewable energies. The up-stream / exploration phase especially the test-drilling phase is the riskiest part of geothermal development. The test drilling phase is much more capital intensive than all previous phases, while still fraught with uncertainty. Significant investment is required before knowing whether the geothermal resource has enough potential to recover the costs.

Due to the high risks and costs associated with geothermal exploration, it is often difficult to attract sufficient funds from private sector equity investors. Therefore, the public sector usually plays an important role in financing exploration. This can take various forms, from exploration being entirely carried out by public institutions to grant subsidies. Geothermal projects are capital intensive with a mid-range estimate of investment costs close to US$ 4 million per MW which further increases risk since project returns become more sensitive to financing costs.

(iii) Weak of institution.

One of the non-technical barriers affecting geothermal development in Uganda is institutional barrier. In an effort to address the development of geothermal energy in Uganda, the government has embarked on the process of establishing a Geothermal Resources Department but geothermal exploration and development is being regulated by the Mining Act (2003) in order to have a stand-alone geothermal institution, a geothermal industry workforce with the skills and capacity necessary to enable the rapid development of the industry is needed in Uganda. A key element for successful geothermal development is an institution. The strength of the institution and its structural organization are important for successful geothermal development. There must be a dedicated national geothermal exploration and development organization or company, with a budget, and a skilled geothermal workforce staff to steer geothermal development. .

(iv) Lack of legal and regulatory regime

For geothermal to be deployed successfully in Uganda and for it to reach its full capacity and contribute to climate change mitigation it is necessary to address both technical and non-technical barriers using a wide range policy instruments. One of the non-technical barriers affecting geothermal development in Uganda is lack of a specific policy and law governing geothermal resources which are commonly considered as mining. Policies must be set to drive uptake of geothermal energy taking into account local demand and risk factors elucidated above (Ryback, 2010). Experience has shown that the relative success of geothermal development in particular countries is closely linked to their governments' policies, regulations, incentives and initiatives. Successful policies have taken into account the benefits of geothermal energy, such as its independence from weather conditions, and its suitability for base load power. Another important policy consideration is the opportunity to support the price of geothermal kWh through United Nations Clean Development Mechanism (CDM). Currently the geothermal exploration and development is being regulated by the Mining Act (2003). There must be supporting policies for attracting private investors. Governments around the world use a wide range of policy and regulatory instruments to support the deployment of renewable energies. There is need to establish and implement best practice legislation and regulation relevant to geothermal energy across all jurisdictions and, in doing so, harmonise the regulatory framework governing the industry across

There is need for a specific geothermal legislation and regulation to regulate geothermal activity in Uganda. Indeed, the lack of supporting legislative and regulatory regimes has constrained effective and

efficient permitting and licensing of geothermal exploration companies in Uganda. The lack of supportive policy to attract private investors is currently a major barrier. Although there is an existing set of policies and programs aimed at supporting the development of affordable and efficient low greenhouse gas emission and renewable energy technologies, they may also need to be reviewed.

Geothermal power generation technologies have some exclusive attributes such as direct use application, geothermal resources are site specific. These suggest the need to develop new policies rather than updating existing ones , to make them more successful in supporting development.

Government has put in place short, medium and long-term power sector development strategy to address the electrical power supply problems. Short term measures include; reduction of system technical and commercial losses, energy efficiency / demand side management and procurement of additional thermal generation capacity. Medium term measures include; renewable energy projects, use of solar photo voltaic and solar water heaters, use of biogas, improved stoves and other renewable energy initiatives, Bujagali HEP and Karuma HEP. Long term measures include; development of other large Hydropower sites, use of indigenous fossil fuel for thermal generation, interconnection of the regional Grid system, renewable energy development (including geothermal) and energy efficiency. Investing in geothermal energy (renewable energy) is country driven and of national priority. The Government is committed to make geothermal technology a viable option in solving the Nation's energy problems.

There are a variety of policies Uganda can implement in order to deploy geothermal power. First, utility mandates and standards, involving renewables, encourage Ugandans to diversify in their energy use and looks to decrease national demand for foreign oil. Direct cash incentives constitute an additional option, Tax incentives, including property tax and sales tax incentives, as well as tax credits, can stimulate development in a regulated fashion. The government, through direct loans or loan guarantees, can also aid in financing. Finally, a legislative method of incentivizing could focus on outreach, training, or technology by developing programs to train workers or provide technical research and assistance. More than 90% of energy consumed in Uganda is biomass. The standard stock is estimated at 286.0million tons (Ndawula, 2014). This excessive dependence on biomass has resulted in land degradation and has led to a decrease in forest and vegetation cover (Kayanja and Byarugaba, 2001), with impacts on climate regulation and on the carbon sequestration capacity. The limited use of energy alternatives adds more pressure on biomass. It is projected that the status quo will persist and remain a nation-wide challenge, since over 90 percent of national energy demand is derived from biomass. It is also estimated that trees will still contribute as much as 75 percent of the energy demands by 2015 (MFPED, 2004).

Geothermal has a higher capacity factor (a measure of the amount of real time during which a facility is used) than many other power sources. Unlike wind and solar resources, which are more dependent upon weather fluctuations and climate changes, geothermal resources are available 24 hours a day, 7 days a week. While the carrier medium for geothermal electricity (water) must be properly managed, the source of geothermal energy, the Earth's heat, will be available indefinitely.

{Please describe here the difficulties and specific gaps of the country in relation to climate change, for which the country is seeking support from the CTCN. Please only provide information directly relevant to this request, and that justifies the need for CTCN technical assistance.}

Past and ongoing efforts *(up to half a page):*

A number of efforts have been initiated and are ongoing for promoting geothermal energy development

in Uganda, notably:

- Uganda is a UNEP-GEF ARGeo member country and is in the process of receiving support for additional surface assessments at Kibiro to locate drilling sites. UNEP-ARGeo has supported Uganda with a Consultant who reviewed data and identified data gaps which are a focus of future exploration program. UNEP also organized a workshop on Kibiro Geothermal Prospect to technically review what has been done, what worked, what did not work and the way forward for Kibiro Project. The Consultant helped in preparation of a Kibiro Project Proposal.
- UNEP ARGeo has supported the establishment of ARGeo Geothermal Inventory Database (AGID) to promote geothermal development by disseminating information and creating awareness.
- UNEP ARGeo has supported creating awareness in decision and policy making.
- Eastern Africa Regional Study on geothermal legislation and related institutions and policies" prepared by UNEP through the ARGeo project , Regional Office for Africa (2013).
- The USAID, African Infrastructure Programme prepared "Recommendation for Uganda Geothermal Resources Development (2011)"
- The EU Energy Initiative Partnership Dialogue Facility Energy for Development (EUEI PDF) prepared Scoping Mission Report on EUEI PDF Scoping Mission for Geothermal Initiative (2012) and Geothermal Policy support initiative East Africa Guidelines for Instituting Harmonized Geothermal Policy, Legislative, Regulatory and Institutional Mechanism by AUC, Regional Geothermal Programme (AUC-RGP) 2011is in place
- Rules, Regulations and standards for drilling are being developed by BGR and AUC.
- Drafting of the Geothermal Industry Development Framework for Uganda on going.

{Please describe here past and on-going processes, projects and initiatives implemented in the country to tackle the difficulties and gaps explained above. Explain why CTCN technical assistance is needed to complement these efforts, and how the assistance can link or build on this previous work.}

Assistance requested *(up to one page):*

Uganda wishes to develop policy, legal and regulatory framework for geothermal energy. Under the Uganda's geothermal of the ministry of energy and mineral developmment

Purpose of the request

The purpose of the request is to solicit technical assistance and expertise for formulating the country's geothermal energy policy, legal and regulatory frameworks.

1. Specific areas
2. ***Geothermal energy policy formulation:***

   The assistance will address geothermal energy formulation through the following proposed tasks:

- Task 1: Stakeholders analysis and Issue / Challenge Identification (Assess the local industry and resource potential, review historical activity of geothermal industry, characterize resource potential, Identify stakeholders and issues, identify challenges, stakeholders concern, regulatory hurdles, competitive markets, evaluate current energy policy, consider policy options, Determine interrelationship between stakeholders, Develop issue paper and disseminate to stakeholders)
- Task 2: Stakeholders engagements (Conduct focus group workshops, stakeholders consultations and call for submissions),

- Task 3: Analysis, evaluate current energy policy, consider policy options and reporting
- Task 4: Review and finalize the report

3. Drafting geothermal Energy law: The following tasks will be undertaken during the process of drafting the geothermal energy bill

- Task 1: Prepare white paper on issues to be covered in geothermal law, regulation and standard contracts.
- Task-2: Legal drafting of core and revisions to other laws, Shepard process.
- Task-3: Draft specific sub-sector provisions e.g. safety health, environment law, fiscal regime, direct uses.

4. Drafting of implementation plan and regulations (regulatory framework)

- Task 1: Prepare white paper on issues to be covered in geothermal law, regulation and standard contracts.
- Task 2: Legal drafting of core and revisions to other laws, Shepard process.
- Task 3: Draft specific sub-sector provisions e.g. safety health, environment law, fiscal regime, direct uses.
- Task 4: Review and re-draft standard contracts / agreements.

{Please describe here the scope and nature of the technical assistance requested from the CTCN and how this could help address the problem stated above and add value vis-à-vis the past and on-going efforts. Please note that the CTCN facilitates technical assistance and is not a project financing mechanism.}

Expected benefits *(up to half a page):*

The following are the expected benefits of the geothermal policy, legal and regulatory regime:

- Once approved and operationalized, the geothermal energy policy will facilitate the incorporation of the geothermal resource development into the Long term Least Cost National Power Development Master Plan (LTLCNPD). This in turn will reduce barriers and result in deployment opportunities of geothermal energy in Uganda's energy mix thereby supporting development.
- Choosing and implementing the right policies will help move it towards geothermal power generation goals. The policy will address legal and regulatory challenges as well as Uganda geothermal resources development barriers.
- The assistance will promote and facilitate geothermal energy deployment in Ugandan market support low carbon development (a developed geothermal industry could make a substantial contribution to reduction carbon pollution emissions)
- Geothermal resources department will be strengthened and organized
- An enabling environment for investment to deploy geothermal power in Uganda (notably supportive policies for attracting private investors for geothermal energy development) will be created. This will in turn enhance the contribution of enhance the contribution of geothermal energy to the country's energy mix and security
- Consistent, effective and efficient regulatory framework for geothermal energy

{Please outline here the medium and long-term impacts that will result from the CTCN technical assistance, including how the assistance will contribute to mitigate and/or adapt to climate change.}

Post-technical assistance plans *(up to half a page):*

- *A number of mechanisms will be available to assist in development of geothermal energy in Uganda.*
- *A broad based price on carbon emission, if appropriated priced, would be of significant benefit to all low carbon emission suppliers.*
- *Market based incentives will be in place like geothermal feed-in tariffs, flexible price adjustment mechanism, targeted venture capital,*
- *Cost subsidies will be in place like on drilling rig, increased subsidies, direct subsidies, tax incentives, government purchase of drilling rig or lease, loans or loan guarantees will be available.*
- *Geothermal Projects will be demonstrated*
- *Conducive environment for private geothermal developers will be created by developing Clear and Coherent geothermal policy, laws, institutional and regulatory framework.*
- *Both public and private entities will be involved in geothermal resource exploration and development that will contribute to generation mix as a base load.*
- Uganda and Kenya signed a Memorandum of Understanding for Kenya to assist Uganda expedite development of its geothermal resources. After the technical assistance, Geothermal Development Company (GDC) of Kenya will assist in studies to advance geothermal exploration, proof-of-concept, demonstration, development and deployment methods and technologies.
- AAE Systems Inc. of US has acquired concessions in Katwe and Toyota Tsusho of Japan has expressed interest in acquiring concession in Uganda. With the policy and regulatory framework in place, interest of Private Companies such as AAE Systems will stimulated.
- Geothermal Resources Department; cooperating to develop, collect, improve and disseminate geothermal-related information using grant from Geothermal Risk Mitigation Facility (GRMF) and ARGeo;
- Geothermal Resources Department; identifying opportunities to facilitate the efficient advancement of geothermal energy projects;
- Geothermal Resources Department; disseminating information on geothermal energy to decision makers, financiers, researchers and the general public e.g. outreach; and
- Geothermal Resources Department; in a cooperative manner, be the point of contact for Uganda's membership in international fora and facilitate engagement with the international geothermal community

{Please describe here how the results of the CTCN technical assistance will be concretely used by the applicant and national stakeholders, to pursue their efforts of resolving the problems stated above after the completion of the CTCN intervention (list specific follow-up actions that will be undertaken).}

Key stakeholders:

{Please list in the table below the main stakeholders who will be involved in the implementation of the requested CTCN technical assistance, and what their role will be in supporting the assistance (for example, government agencies and ministries, academic institutions and universities, private sector, community organizations, civil society, etc.). Please indicate what organization(s) will be the main/lead counterpart(s) of CTCN experts at national level, in addition to the NDE.}

Stakeholder	Role to support the implementation of the assistance
Ministry of Energy and	*Take lead in the process of developing the policy, law*

Mineral Development (lead Agency)	*and regulation* *Mobilizing stakeholders* *Participating in workshops* *Working with the CTCN expert* *Provide backup to the expert* *Ensure approval of the policy* *Presentation of bill to parliament* *(www.energyandminerals.go.ug)*
Ministry of Justice and constitutional Affairs (First parliamentary counsel)	*Take lead in drafting the bill* *Take lead in drafting the regulation*
National Environment Management Authority	*Provide input that will address environmental issues,* *Identify environment issues, propose policy objectives and strategy* *(www.nemaug.org)*
Directorate of Water Resources	*Identify water issues, propose policy objectives and strategy* *Managing water resources(www.mwe.go.ug)*
Uganda Investment Authority	*Identify investment issues, propose policy objectives and strategy* *Drive national economic growth (www.ugandainvest.go.ug)*
Uganda Wildlife Authority	*Identify conservation issues, propose policy objectives and strategy*
National Forest Authority	*Identify forest issues, propose policy objectives and strategy*
Uganda Revenue Authority	*Identify fiscal issues, public finance issues, subsidies, guarantees, tax write offs, incentives, propose policy objectives and strategy.*
Private Sector / Civil Society	*Identify market and economic barriers, capital risk insurance, up-front exploration costs, higher initial drilling costs, feed in tariffs, geothermal pricing,* *Work with government in the development of sound legislation and regulation*
Regulators (Electricity Regulatory Authority)	*Identify key regulatory issues and challenges, propose policy objectives and actions (www.era.or.ug)*
Electricity Disputes Tribunal	*Identify key issues and challenges affecting the sector, propose policy objectives and strategic actions*
Rural Electrification Agency	*Identify key issues and challenges affecting rural electrification, propose policy interventions and*

	strategic actions (www.rea.or.ug)
Uganda Electricity Transmission Company Limited	*Identify key issues and challenges affecting electricity transmission in Uganda, propose policy interventions and strategic plans* *System Operator and owns transmission lines above 33kv (www.uetc.com)*
Uganda electricity distribution company limited	*Identify key issues and challenges affecting electricity distribution in Uganda, propose policy interventions and strategic actions. Owner of the electricity distribution network (www.uedcl.co.ug)*
Uganda Electricity generation company limited	*Identify key issues and challenges affecting electricity generation in Uganda, propose policy objectives and actions Owns Kira and Nalubale HEP*
Uganda National Bureau of Standards	*Identify key issues and challenges affecting standards in Uganda; propose policy objectives and strategic actions. Formulate and promote national standards(www.unbs.ug)*
NGO	*Identify key issues and challenges concerning information and awareness, propose policy objectives and strategic action;* *Training, awareness and education* *Link between community and government* *Information dissemination* *Working directly with community* *Institution building*
Geothermal Energy Developers	*Identify key issues and challenges in the geothermal industry, propose policy objectives and strategic actions;* *Principal participants in Strategy* *Recommend policy issues*
Universities Educational institutions (Makerere University, Kyambogo University…..)	*Academia, identify training issues and challenges, propose policy objectives and strategic actions*
Civil Society *(Environmental Advocacy Groups….)*	*Identify key issues and challenges concerning information and awareness, propose policy objectives and strategic action;* *Training and education* *Link between community and government* *Information dissemination* *Working directly with community* *Institution building* *Sustainable management of resources taking into consideration environment issues.*
Well drilling Companies	*Identify drilling issues, propose policy objectives and strategies. Service providers*

Local Governments	*Identify environment and social impact issues, land-use issues, propose policy objectives and strategies. Regulators at local level*
Power Generation Experts	*Recommend supportive policies*

Alignment with national priorities *(up to half a page):*

Uganda has one of the lowest electricity consumption per capita in the world. It was estimated at 58 kWh per capita in 2012 (*Source CIA World Fact Book*). It compares poorly with countries like Kenya (133 kWh per capita), Tanzania (73 kWh per capita), Ghana (246 kWh per capita) and Zambia (551 kWh per capita). In North Africa, Egypt's consumption is over twenty two times higher than that of Uganda at 1,304 kWh while South Africa's is seventy five times higher. By the end of 2012, energy consumption was estimated at 80kWh which is significantly lower than Africa's average of 578kWh per capita and the world's average of 2472kWh per capita.

Accordingly, 92% of the population depends on traditional biomass for cooking, 7% depends on fossil fuels and only 1 per cent depends on electricity. Most of the biomass energy is from wood, which is consumed in the form of charcoal and firewood. This exploitation pattern is not sustainable because it heavily relies on non-renewable energy that is costly, untimely, limited and has serious environmental effects. The low level of access to electricity, high tariff and low generation capacity explain why the majority of Ugandans use woody biomass energy as a source of fuel.

The limited access and use of energy significantly slows down economic and social-transformation. The low energy consumption per capita in Uganda has largely contributed to the slow economic transformation by limiting industrialization as well as value addition. It is one major factor that has negatively impacted on the country's competitiveness over the last decade. The energy exploitation and consumption patterns reflect that the country is still in infancy stages of energy application in production processes. The energy subsector comprises of the Power, Atomic/Nuclear, New and Renewable Energy and Energy Efficiency and Conservation programmes;

The Government of Uganda has put in place short, medium and long-term strategies to address the power supply problems. One of the long-term measures is to develop the renewable energy resources including small hydros, biomass, peat, and geothermal energy to meet the energy needs of the country.

Uganda has considerable unexploited renewable energy resources for energy production and provision of energy services. These resources include biomass, geothermal, wind and solar energy. Other new sources of energy include; Charcoal Briquettes, Biogas, Bio-fuels, Cogeneration, Gasification, Improved Cooking stoves, and Kilns and Ovens. The renewable energy potential of Uganda is shown in Table 6.

Table The New and Renewable Energy Power Potential

Energy Source	Estimated Electrical Potential (MW)
Solar	200
Biomass	1,650
Geothermal	450
Peat	800
Wind	-
Total	**5,300**

Source: *The Renewable Energy Policy for Uganda, November 2007*

Since FY 2011/12 Government of Uganda has committed public funds toward the development of its geothermal resources. A nationwide assessment of geothermal energy has been undertaken and detailed focused studies are being undertaken at Katwe, Buranga, Kibiro and Panyimur. An Institution, Geothermal Resources Department has been established to spearhead development of geothermal resources in Uganda starting FY 2014/15.

The Government's primary mechanism for stimulating investment in the renewable energy include:

(i) Renewable energy policy (2007) that specifically promotes the development of renewable energy including geothermal energy. The overall Government Policy Vision for the role of renewable energy in the national economy is to make modern renewable energy – *such as Geothermal Energy* - a substantial part of the national energy consumption. In pursuit of that vision, the goal of Uganda's Renewable Energy policy is to increase the use of modern renewable energy from the current 4% to 61% of the total energy consumption by the year 2017 (www.era.or.ug)

(ii) The energy policy (2002) -changes are being made in the current energy policy aimed at supporting the deployment of affordable, efficient, low emission and renewable energy technologies and reducing Uganda greenhouse gas emissions.

(iii) The Power Sector Investment Plan targets 99% of Renewable Energy by 2030.The Uganda Vision 2040 is a long term plan containing aspirations of Ugandans to operationalize the country's vision which is "a transformed Ugandan Society from a peasant to a modern and Prosperous Country within 30 years". This will be achieved through opportunities in the fundamentals which include infrastructure (energy, transport, water, oil, gas, ICT) (www.npa.ug). The Uganda Vision 2040 implementation is a responsibility of every citizen of Uganda in government, private sector, civil society, political organizations and any other institutions. Its implementation will be largely private sector led. Implementation of the Vision 2040 will be through a 10-year and six 5 year national development plans, Sector Investment Plans (SIPs); local Government Development Plans (LGDPs), annual work plans and annual budgets.

Key priorities in the power sub-sector in Uganda include;

- To increase electricity generation capacity and transmission network;
- To increase access to modern energy services through rural electrification and renewable energy development;
- To promote efficient utilization of energy and reduction of power losses.

{Please demonstrate here that the technical assistance requested is consistent with documented national priorities (examples of relevant national priorities include: national development plans, poverty reduction plans, technology needs assessments (TNAs), LEDS, NAMAs, TAPs, NAPs, sectorial strategies and plans, etc.). For each document mentioned, please indicate where the priorities specifically relevant to this request can be found (chapter, page number, etc.).}

Development of the request *(up to half a page):*

This request has been developed by the Energy and Minerals Development SectorWorking Group (Energy Stakeholders and Development Partners) which includes development partners and other stakeholders, and the MEMD. During the their monthly meetings, these partners collectively decided on the fast-tracking of geothermal development in Uganda,. Uganda needs an institution with a policy, legal and regulatory framework. The Ministry of Energy and Mineral Development has been restructured and a Department of Geothermal Resources has been established. To operationalize this department, the geothermal policy, and a legal and regulatory framework need to be developed.

N initial draft proposal for assistance was made and shared with the NDE for Uganda for his input and

guidance. Following the review by the NDE, an improved version was re-submitted and later refined based on the comments and inputs he made. The final proposal was later discussed by the geothermal energy team and the MEMD management before it was submitted to the NDE for onward transmission to CTCN. The process of generating this proposal was therefore collaborative and iterative…..

{Please explain here how the request was developed at the national level and the process used by the NDE to approve the request before submitting it (who initiated the process, who were the stakeholders involved and what were their roles, and describe any consultations or other meetings that took place to develop and select this request, etc.)}

Expected timeframe: 12 months

{Please propose here a duration period for the assistance requested.}

Background documents:

Policy and Legal Framework of the Power Sub-sector

a) Principal policy and legal framework

In 1997, the government of Uganda formulated a comprehensive plan for transforming the energy sector into a financially viable industry. This has resulted into significant policy and legislative reforms indicated below;

The Electricity Act, 1999; this aimed at bringing about an enabling environment for the transformation of the electricity sector. The main objective of the Act was to provide a framework for regulation of the generation, transmission, distribution, sale, export, import of electrical energy in Uganda.

The Energy Policy for Uganda (2002), which guides plans of the energy sub-sector. Its main policy goal is to meet the energy needs of the Ugandan population for social and economic development in an environmentally sustainable manner.

Renewable Energy Policy for Uganda, 2007: The overall goal of the Renewable Energy Policy (the "REP") is to increase the use of modern renewable energy, so that its proportionate use increases from the current 3.8% to 61% of the total energy consumption by the year 2016.

b) Related legal and Policy frameworks

- The Uganda National Climate Change Policy adopted in 2013 complements the above policies and aims in the Power Sub-sector, to promote diversify the energy sources by using clean energy resources and technologies in order to reduce GHG emissions. For that, strategic interventions such as development of hydroelectric and geothermal power systems have been identified and integrated into the East African Power Pool in the medium term. The interventions also seek to determine the potential impacts of Climate change on the country's power supply chain.
- "Eastern Africa Regional Study on geothermal legislation and related institutions and policies" prepared by UNEP, Regional Office for Africa (2013).
- "Recommendation for Uganda Geothermal Resources Development" prepared by USAID, African Infrastructure Programme (2011).
- Scoping Mission Report on EUEI PDF Scoping Mission for Geothermal Initiative prepared by

EU Energy Initiative Partnership Dialogue Facility Energy for Development. (2012)

- Geothermal Policy support initiative East Africa, prepared by EU Energy Initiative Partnership Dialogue Facility Energy for Development.
- Guidelines for Instituting Harmonized Geothermal Policy, Legislative, Regulatory and Institutional Mechanism by AUC, Regional Geothermal Programme (AUC-RGP) 2011
- Energy Policy (2002) http://webcache.googleusercontent.com/search?q=cache:NARXPeongZQJ:rea.or.ug/index.php/policies-and-legislation%3Fdownload%3D41:the-energy-policy-for-uganda+&cd=2&hl=en&ct=clnk
- Renewable energy policy http://webcache.googleusercontent.com/search?q=cache:6qq2XaV-Z88J:www.rea.or.ug/index.php/policies-and-legislation%3Fdownload%3D42:the-renewable-energy-policy-for-uganda+&cd=2&hl=en&ct=clnk,
- Vision 2040- http://webcache.googleusercontent.com/search?q=cache:p82EGJAmtXEJ:npa.ug/wp-content/themes/npatheme/documents/vision2040.pdf+&cd=3&hl=en&ct=clnk
- *The National Development Plan (NDP) emphasizes among the strategic objectives under climate change, the need to promote the low carbon development pathway for the country and climate-proof Uganda's national development.* http://npa.ug/development-plans/ndp-201011-201415/

Please list here relevant documents that will help the CTCN understand the context of the request and national priorities. For each document, provide weblinks if available, to attach to the submission form while submitting the request. Please note that all documents listed/provided should be mentioned in this request in the relevant question(s), and that their linkages with the request should be clearly indicated.}

Monitoring and impact of the assistance:

{Read carefully and tick the boxes below.}

☒ By signing this request, I affirm that processes are in place in the country to monitor and evaluate the assistance provided by the CTCN. I understand that these processes will be explicitly identified in the Response Plan in collaboration with the CTC, and that they will be used in the country to monitor the implementation of the CTCN assistance.

☒ I understand that, after the completion of the requested assistance, I shall support CTCN efforts to measure the success and effects of the support provided, including its short, medium and long-term impacts in the country.

Signature:

NDE name:	Maxwell Otim Onapa
Date:	16th January 2015
Signature:	

THE COMPLETED FORM SHALL BE SENT TO THE CTCN@UNEP.ORG
Need help? The CTCN team is available to answer questions and guide you through the process of submitting a request. The CTCN team welcomes suggestions to improve this form.
>>> Contact the CTCN team at ctcn@unep.org

References

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