

Renewable energy auctions: Uganda's GET FiT Solar Facility

EEG Energy Insight

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Introduction

In 2014, Uganda became the first Sub-Saharan African country outside of South Africa to embark on a renewable energy auction programme through competitive bidding: the Global Energy Transfer Feed-in Tariff (GET FiT) Solar Facility.

A combination of rigorous physical and financial prequalification criteria, combined with a robust institutional setup and governance structure, ensured the eventual successful development of two competitively procured solar photovoltaic (PV) projects. Although the two winning projects were relatively small by global standards (at 10 megawatts (MW) each), they attracted considerable interest¹ and became the largest solar PV installations in East Africa when they were commissioned in 2016 and 2017 (International Renewable Energy Association (IRENA, 2018).

The GET FiT Solar Facility helped to cement Uganda's reputation as one of Sub-Saharan Africa's leading destinations for private power investment, and important lessons regarding the design and implementation of renewable energy auctions can be learned from a closer examination of the process.

In particular, the weakness of the planning–procurement nexus in the Ugandan electricity system constrained some of the positive impacts of the GET FiT Solar Facility, and threatens to undermine many of the gains from the country's power sector reform.

The auction was also hampered by ambiguities, assumptions, and seemingly 'minor' omissions in its setup and design, supporting the assertion that 'details really matter' for this useful, but at times inflexible, procurement method.

In this Energy Insight, we discuss some of the issues surrounding the auction design and management, as well as the institutional setup and governance structure implemented. We also highlight lessons learned, in the hope that these might inform future initiatives.

The Ugandan context

Uganda, a landlocked country in East Africa, is home to more than 42 million people. Modern Uganda is largely the product of a three-decade-long reform project led by President Yoweri Museveni, who came to power in 1986. While Uganda is still one of the poorest nations on our planet (with nominal GDP per capita of US\$ 690), over the last 30 years, economic stability and investment have increased, underpinned by responsible fiscal policy, prudent monetary management, a sound banking sector, and substantial donor support.

Before Museveni came to power, much of the country's social, political, and economic infrastructure had been devastated by colonial exploitation and the regimes led by Milton Obote and Idi Amin. In the 20 years after Uganda's independence (achieved in 1961), more than 66% (90 MW) of the country's installed power generation capacity was lost (leaving just 60 MW of

installed hydropower), with transmission and distribution losses estimated at more than 40%.

In an effort to ensure a reliable electricity supply – crucial for Uganda's social and economic recovery – Museveni agreed to the package of macroeconomic reforms that were the condition for receiving funding from the International Monetary Fund in 1987. This was supported by the World Bank and its member countries.

By 1998, Uganda was ready to embark on Sub-Saharan Africa's most ambitious power sector reform programme. The reforms were based on a suite of robust legislation and policies that clearly defined the roles and responsibilities of all institutions in the sector, and that specifically aimed to attract private sector investors (Kapika and Eberhard, 2013; Meyer *et al.*, 2018).

Uganda was the first country in the Sub-Saharan region to fully unbundle its electricity generation and distribution sectors. Building on the 1993 Public Enterprises Reform and Divestiture Act, the Electricity Act of 1999 allowed for the unbundling

¹ Over 60 companies expressed interest and attended the initial briefing meeting in early 2014.

of the Uganda Electricity Board into three separate entities:

- the Uganda Electricity Generation Company Limited (UEGCL);
- the Uganda Electricity Transmission Company Limited (UETCL); and
- the Uganda Electricity Distribution Company Limited (UEDCL).

The Act also established the Electricity Regulatory Authority (ERA) and the Rural Electrification Board, with the day-to-day business of the latter being handled by the Rural Electrification Authority. Uganda's generation and distribution facilities have subsequently been leased to private companies, Eskom and Umeme. Umeme has since become Uganda's main electricity distribution company.

Through the Act, Uganda committed itself to a reform path that promised to deliver improvements

in installed generation capacity, supply security, and utility performance, together with a sustainable price path. While some difficulties and a perceived lack of delivery on key outcomes have been encountered², after almost two decades of reforms, substantial improvements have been made across Uganda's small but progressive electricity sector.

By 2012, financial close had been reached on 11 independent power projects (IPPs), and between 1986 and late 2018, installed generation capacity had increased six times, rising to above 900 MW, with over 40% of this supplied by the private sector. Furthermore, Uganda is one of very few Sub-Saharan African countries that has cost-reflective electricity tariffs. Other improvements include expanded electricity access, albeit from a very low base (from 4.3% in 1994 to 26.7% in 2017); reduced transmission and distribution losses (from 40% in 2005 to 21% in 2017); and improved billing collection (from 80% in 2005 to 98% in 2017).

Uganda's GET FiT Solar Facility

The GET FiT programme was designed by the Deutsche Bank's Climate Change Advisors in 2010 in response to a request from the UN secretary-general's Advisory Group on Energy and Climate Change. The request centred on the need for new concepts to drive renewable energy investment in low- to middle-income countries.

Uganda's deep commitment to sectoral reform, and low levels of electricity access, made the country an obvious candidate for the GET FiT programme, offering the country an opportunity to address some of its supply-side problems (see Figure 1) through a package of support interventions (see Figure 2). The programme was enthusiastically championed by ERA's CEO Benon Mutambi, who was acutely aware of Uganda's looming electricity supply gap, and the fact that that Uganda already had a feed-in tariff programme with the potential to address the supply gap through small and medium-

sized projects (for a range of reasons, the programme had failed to deliver).

The initial programme combined technical assistance (including developing standardised and bankable documentation), viability gap funding (in the form of premium payments on top of the existing feed-in tariffs), and project de-risking (through the provision of liquidity and termination support, for example). Together, these initiatives aimed to create a more enabling environment for private renewable energy projects in Uganda.

Launching the programme required development finance, and in 2011, Germany's development bank KfW agreed to partner with the Deutsche Bank to conduct a feasibility study. Thereafter, KfW and ERA were tasked with running the programme in Uganda. Donors – including the Department for International Development and the Department of Energy and Climate Change in the UK, the governments of Norway and Germany, and the

² For example, the Government has expressed disappointment with the slow pace at which Umeme has attempted to improve its performance, stating that the company has not done enough to extend electricity access, and there have been calls by the President that average electricity tariffs be significantly reduced to US¢ 5–0.6/kilowatts per hour (kWh) from US¢ 17/kWh. The Bujagali project, taking over 13 years to reach financial close in 2007, was almost derailed by allegations of corruption, and required a complex arrangement of guarantees and other support measures before it was commissioned. By 2010, Bujagali had become the costliest IPP in Africa (Meyer *et al.*, 2018).

European Commission’s Africa Infrastructure Trust Fund – committed about US\$ 90 million to finance top-up payments.

Building on Uganda’s ongoing commitment to private-sector generation outlined in the 1999 Electricity Act and the 2002 Energy Policy, as well as the prioritisation of small- and medium-scale renewable energy projects in its 2007 Renewable

Energy Policy, the intention was for the programme to help facilitate the procurement of 125 MW (later increased to 170 MW) via 10 to 15 IPPs, using small hydro and bagasse or biomass (GET FiT Uganda, 2015, 2016; Kreibiehl and Miltner, 2013; MEMD, 2007).

Figure 1: Generation capacity versus peak-demand projections, Uganda, 2012–2030

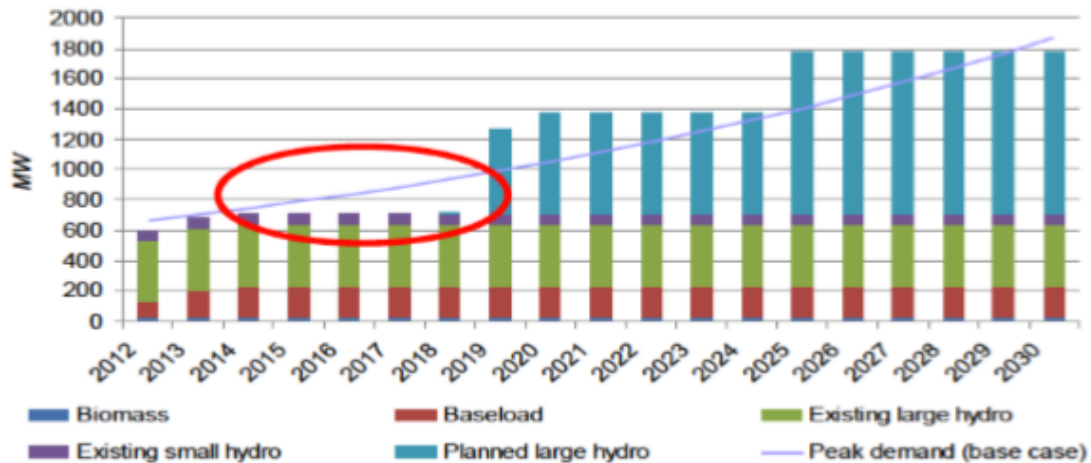
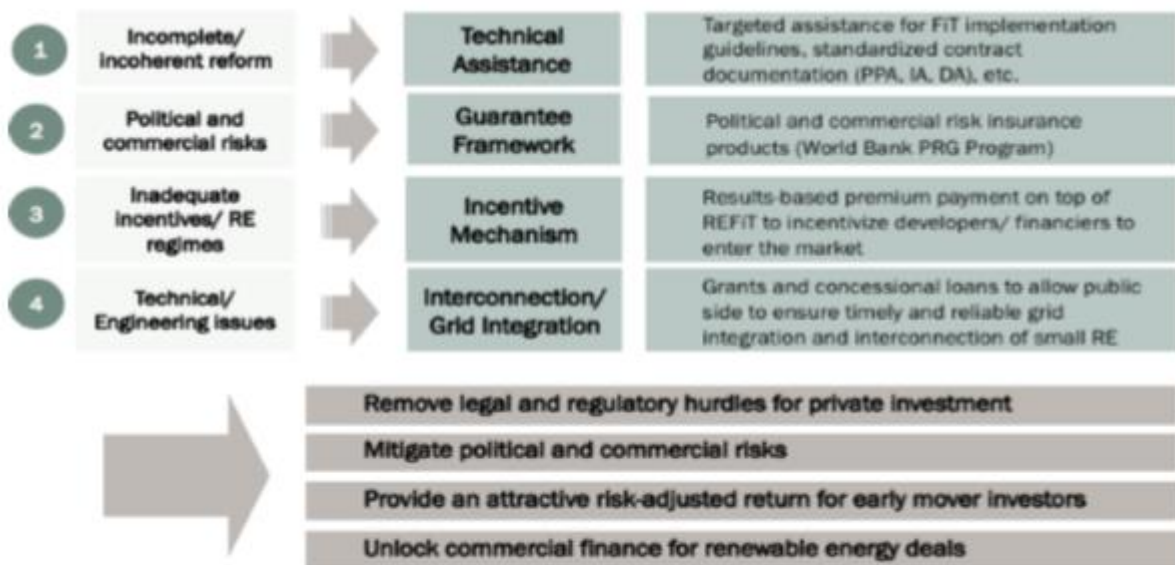


Figure 2: The GET FiT assistance programme as envisaged by KfW and Deutsche Bank



Source: KfW (2016)

Launched in May 2013, Uganda’s GET FiT programme initially procured 15 projects in three rounds – mostly small hydro, but also bagasse and biomass. Late in 2013, ERA indicated that it would also like to see solar PV projects supported through the GET FiT programme, due to the technology’s

plummeting costs, short lead times, and the fact that solar plants can be built close to demand centres³.

Accordingly, the GET FiT Solar PV Facility was launched in January 2014, with the aim of procuring 20 MW of electricity via solar PV projects (4 x 5 MW). Funding of €15 million was made available by the Africa Infrastructure Trust Fund for the solar facility's premium payments, with the level of premium payment determined through competition on price. The hybrid nature of the procurement mechanism made the programme particularly attractive to investors. It was an important departure for the GET FiT programme, which, until that point, had provided administratively set tariffs to projects by excluding price from the evaluation criteria.

Later in 2014, two solar projects – Soroti I and II (2 x 5 MW) and Tororo North and South (2 x 5 MW) –

were procured through this competitive bid process, reaching financial close and commercial operation in record time.

The contracts hold the plants to strict performance standards regarding plant availability and generation. The technical performance of both plants (including construction timelines) has been satisfactory and in line with expectations. Both projects have also attempted to build relationships with local stakeholders – this being a 'silent expectation' of development finance institutions. For example, the Soroti project has provided more than a hundred solar lights to a local teacher's village, and the Tororo project has helped fund the building of a local school and has provided it with textbooks.

By late 2018, Uganda's GET FiT portfolio had 17 projects spread throughout the country (see Figure 3).

³ Until this point, the Ugandan Government had considered the use of solar PV only for isolated mini-grid interventions in remote locations with relatively high levelised costs of supply (Meyer *et al*, 2015).

Figure 3: An overview of GET FiT projects in Uganda



The planning–procurement nexus

The GET FiT Solar PV Facility confirms the importance of dynamic, least-cost procurement planning within the context of a national energy plan.

Uganda's power sector had no such plan when the auction for the GET FiT Solar PV Facility took place. In 2011, ERA developed a Power Sector Investment Plan for 2009 to 2030. However, although the plan was approved by the Energy Ministry in 2011, it has no formal legal or regulatory standing, and does not seem to be used when investment decisions are being made. Similarly, in 2013, ERA produced an update to the plan – the Least-Cost Generation Plan, 2016–2030 (ERA, 2016). This time, the plan was not formally approved by the Energy Ministry. Meanwhile, in 2015, UETCL produced its own Grid Development Plan, 2015–2030. In addition, Umeme and ERA both produce annual investment plans.

None of these planning processes appear to be coordinated by either ERA or the Energy Ministry.

The lack of a clear, legally mandated and integrated planning framework means that the GET FiT programme has contracted projects (including the Solar PV Facility) that are not part of any 'official' investment plan. Indeed, the rationale for the GET FiT programme in Uganda was based on little more than a short- to medium-term supply gap and some optimistic demand projections⁴.

Furthermore, while the bid process for the GET FiT Solar PV Facility was underway, President Museveni decided to award two large hydropower projects to Chinese funders and contractors. Power demand has since not materialised as the President had hoped, leaving the country with a potentially costly oversupply of electricity. In the context of this

⁴ An independent evaluation of the programme (see Castalia, 2016) was particularly critical of this, noting that the programme failed to observe a 'duty of care', and might end up costing the country more than it has bargained for.

oversupply, no further auction rounds are planned. This means that both the tariff reductions and the further entrenchment of renewables that were likely to have resulted from follow-up rounds now seem unlikely. For this reason, Uganda has not been able to fully realise the promise that the auction programme held when it was initiated.

Auction design

The auction was designed as a stand-alone, sealed-bid, pay-as-bid procurement programme using a two-stage bidding process. The first stage involved an initial prequalification (or expression of interest, EOI) and the second was a request for proposals (RfP) that was issued two months later. Timelines for the programme were generally considered tight, with qualified bidders given three months to prepare their final bids after the RfP was launched.

The project tariff was made up of two parts. In essence, winning projects were given a guarantee that they would receive US¢ 11/kWh as a feed-in tariff (set and announced by ERA prior to bidding, and based on an estimate of what UETCL could pay without impacting average supply costs⁵). The second part of the project tariff was an additional premium payment (US¢ 5.37/kWh). Bidders were basically guaranteed US¢ 11/kWh, and were therefore competing for the lowest premium payment portion on top of this tariff. The donor-funded top-up payment was front-loaded in the five years after financial close, providing bidders and lenders with additional security.

Successful bidders were offered a standardised 20-year power purchase agreement (PPA) with UETCL, an implementation agreement with the Ugandan Government, and a five-year development finance agreement/ premium payment contract with KfW. This means that winning bidders signed two payment contracts for the purpose of selling the same power.

To a large degree, the lack of procurement planning previously mentioned limited the cost-reducing and pipeline-creating impact of the auction process by precluding the possibility of a predictable schedule of auction rounds. Thus, the way in which the

A good planning framework is of critical importance to the successful development of an auction programme; without this, there can be little clarity on whether and when subsequent auction rounds will occur (and how much will be procured).

auction volume was determined for the solar facility became one of the programme's weaker areas. A 20 MW cap was set for the procurement of new solar PV projects based on an estimate of how far the (premium payment) grant funding allocated to the Solar PV Facility would go. Therefore, no guarantee could be given that the procured volume would actually amount to 20 MW. If bid prices were higher than anticipated, this would lower the capacity that could be procured. In other words, rather than being determined by an overall procurement strategy, the auction volume for the Solar PV Facility came down to concerns about grid stability and the availability of donor funding.

Bidders were invited to submit bids of up to 5 MW capacity per solar PV project, and could submit a maximum of two bids worth a total of 10 MW.

Bidders were informed that if they won and their projects underperformed by delivering less than 90% of the expected energy in the first year of operation, they would forfeit the entire subsidy (premium payment). In addition, if the achieved capacity was less than 70% of the contracted capacity, the PPA could be terminated immediately.

Economies of scale (including the costs involved in project financing) dictated that all bidders that were deemed to be technically qualified ended up bidding for two adjacent projects totalling 10 MW. The authorities were concerned that if they offered only one 20 MW project, fewer bidders would expect to have a chance of securing the project, and so fewer would participate in the process, thereby reducing competition. While this might have been true, a predictable schedule of auction rounds would probably have done more to increase competition, as well as offering developers (and

⁵ This was not based on ERA's assessment of the levelised cost of producing electricity from solar PV; instead, the regulator was working primarily with feasibility factors in mind, trying to balance a complex set of institutional, economic, and political risks (IRENA, 2018).

Uganda) the opportunity to exploit the economies of scale associated with a larger (20 MW) plant. However, without an official least-cost plan, translated into competitive procurement processes, there could be no certainty about what the Ugandan Government would procure, from whom, or by when. Investors therefore had little incentive to spend money developing project pipelines, and the 'market understanding' that has been essential in reducing tariffs in auction programmes in other countries was unlikely to be replicated.

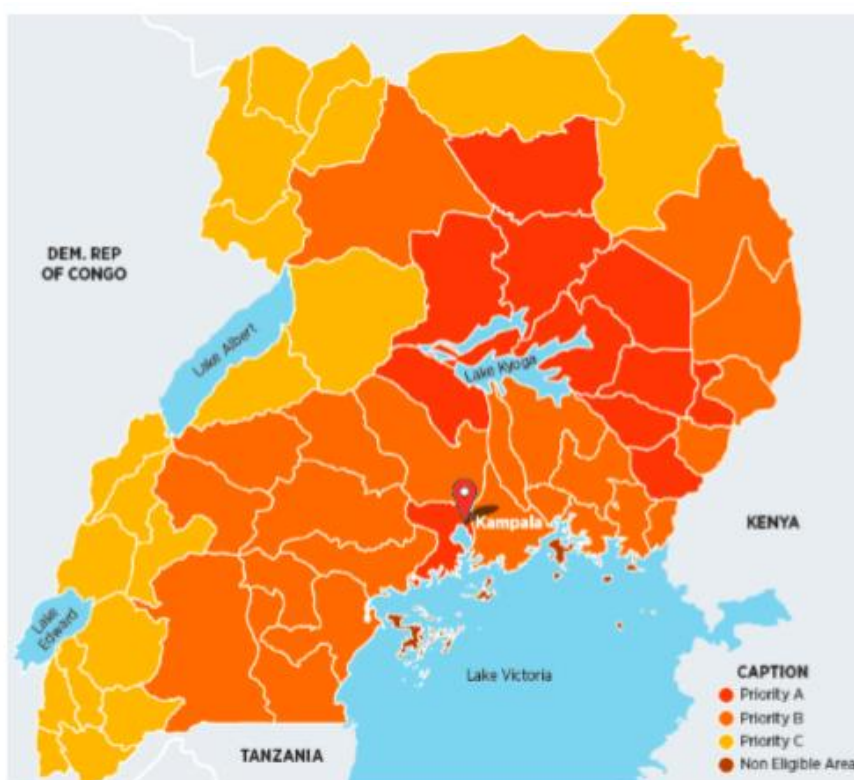
Site selection

The programme signalled to bidders that it was important to site projects where they were needed most. It took a proactive approach to project siting, seeking to balance the strengths of private sector bidders with the interests of the public sector in finding optimal sites. Most African countries need to incorporate this notion in their bidding

programmes; we are sure to see further permutations of this approach in the future.

Bidders could choose their own project site, provided they met certain conditions. At the EOI stage, projects were required to be located preferably within 3 km of the grid. If they chose a site more than 3 km from a transmission line, bidders had to make provision to cover all additional interconnection infrastructure and associated costs, and include these in the bid tariffs (Meyer *et al.*, 2015). Bidders were also required to submit evidence of contractual land arrangements at the EOI stage. However, the RfP documents went further, identifying priority zones close to load centres and sufficient grid capacity (see Figure 4). The zones were determined by ERA and UETCL's technical teams, which analysed the capacities of existing power lines and substations, as well as the simulated operational impact of solar-based generation at various locations.

Figure 4: Priority zones identified for Uganda's GET FiT Solar PV Facility



Source: Get Fit Uganda (2017)

Projects located inside priority zones received additional points in bid evaluations, thus encouraging bidders to locate projects as close as possible to load centres. This became the subject of some contention since it had not been mentioned at the EOI stage, and some bidders selected project sites outside of the priority zones without realising that this would have an impact on their bids⁶.

Furthermore, bidders were required to conduct their own feasibility and grid-stability studies, as well as to propose interconnection facilities during the EOI stage. Conducting these studies became a major cost for bidders, as UETCL provided very little information.

Prequalification criteria

Stringent prequalification criteria were set. During the EOI stage, ERA/GET FiT staff evaluated bidders' general experience and technical capability with solar PV projects, as well as their financial standing.

From 23 EOIs received, only nine bidders reached the 70-point threshold and were given the RfP documents. The prequalification rules had stated that only the top 10 interested bidders would receive an RfP. This was an attempt to limit the (financial and time) costs involved in evaluating a large number of bids. As things turned out, this limited competition to even fewer than 10 because only seven of the nine prequalified bidders opted to bid.

After being invited to submit a full proposal, bidders were required to register a special purpose vehicle in Uganda. Bids submitted by prequalified bidders were evaluated via a two-stage process, with the technical aspects evaluated first and the financial aspects thereafter. Bids had to achieve a threshold score of 70 to advance to the financial evaluation stage, and bids that scored less than 50% in any of the technical categories were automatically disqualified. Four bidders passed the technical qualification stage (representing eight projects). They were then ranked based on a 70:30 financial to technical evaluation weighting basis.

Technical compliance

Prequalified bids were scored for qualification purposes against more than 300 technical criteria, but not all of these were made explicit in the RfP documentation.

Bidders considered the technical qualification framework to be stringent and restrictive. For example, the RfP contained strict and detailed equipment specifications, down to the level of the cabling to be used in the plant. All mechanical components in the project build had to comply with the International Electrotechnical Commission and International Organisation for Standardization. All local standards and norms also applied, particularly the grid code set out by UETCL.

As far as the solar PV components were concerned, all were expected to be state-of-the-art technologies, suited to local meteorological and soil conditions, and expected to last 25 years. All PV modules had to be of the same type and from a manufacturer with at least a five-year track record. Furthermore, bidders had to provide evidence that the modules were already in use in at least five other projects with a minimum capacity of 3 MW per project. Any deviations from the RfP's general framework had to be noted and explained in the final bid submissions.

Bidders were given some flexibility in designing their inverter setup, choosing between central inverters, decentralised units, or a combination with an exchangeable unit. However, the RfP required bidders to ensure that spare inverter modules would be kept on site and be exchangeable by a local electrician, and that they would provide all the necessary training to selected operations personnel. Bidders were also required to submit all documents necessary for a full understanding of the plant's technical concept. This included general documents relating to the plant layout, a description of the installation, as well as a datasheet listing all installation manuals and components. Similar documentation also had to be provided for all electrical and mechanical aspects of the solar PV plant. Bidders were not required to have a generation licence at the time of bid submission;

⁶ Bidders were allowed to change site location in the period between the RfP and their bid submission; this was communicated to bidders at a bidder briefing.

instead, a fully compliant bid proposal served as a licence application⁷.

Financial qualifications

Equity and finance providers had to provide letters of support indicating they accepted the provisions and risk allocations in the PPA, IA, and DA; that they had performed the required due diligence; and (in the case of lenders) that they had credit approval⁸. Also required was a detailed submission regarding bidders' financial models, including sensitivity analyses not only of foreign-exchange movements but also funding terms, capital expenditure, operational expenditure, and annual energy-yield inflation indices, as well as a detailed breakdown of all sources and uses of finance.

Environmental and social sustainability

The RfP required all bidders to comply with the eight Performance Standards on Environmental and Social Sustainability set out by the International Finance Corporation (IFC). These are considered the gold standard for social and environmental impact assessment and mitigation for infrastructure investments and development, with many lenders and investors requiring compliance with the standards even in the absence of IFC funding (Meyer *et al.* 2015). The standards are generally viewed as both stringent and important in terms of securing local support for projects and ensuring long-term sustainability.

Bidder compliance with these standards was scored for both qualification and evaluation purposes. Complying with the standards imposed considerable costs on developers – especially given the bidding timeframe – and, in the end, three of the seven solar project bidders were disqualified during the evaluation stage for failing to meet them. However, apart from the IFC standards, the solar PV bid process did not impose any other requirements around local content or local community development investment.

While price played a determining role in the rankings, the IFC standards played an equally – if not more – decisive role in the sense that these

appear to have been the main barrier to qualification.

Bidder ranking and winner selection

Two bidders, each proposing two adjacent 5 MW projects, were ranked highest and were awarded the projects. Soroti I and II was developed by a consortium including Access Power (a Dubai-based IPP developer) and Total Eren (a French investor with 450 MW of renewable energy assets in operation or under construction at the time of the bid).

The proposal for Tororo North and South was submitted by a special purpose vehicle that was initially jointly owned by the Simba Group (one of Uganda's largest corporations, active in agriculture, the hospitality industry, telecommunications, and waste treatment) and Building Energy (a global renewable energy project developer founded in Italy), with each holding a 50% share. A delay in reaching financial close, combined with competing financial opportunities, meant that the Simba Group opted to exit the project once the construction stage began. By late 2018, Building Energy was the majority shareholder in Tororo North and South, holding 96% of the equity.

Debt to the Soroti and Tororo projects was provided by two development finance institutions that actively financed many of Uganda's earlier GET FiT projects. FMO, the Dutch development bank, coordinated the loans to both projects as mandated lead arranger, and provided 50% of the debt financing. The remaining portion of debt was provided by the Emerging Africa Infrastructure Fund (EAIF), which is funded by the governments of the UK, the Netherlands, Switzerland, and Sweden. It forms part of the Private Infrastructure Development Group, which in turn is funded by the UK, Switzerland, Australia, Norway, Sweden, Netherlands, Germany, and the World Bank Group. EAIF is managed by Investec Asset Management. In total, more than US\$ 25 million in debt was provided to both projects, for a period of 17 years.

⁷ This complied with Section 33 of the Electricity Act of Uganda, 1999, as well as Regulations 7 and 8 of the 2007 Electricity Regulations (which cover permit applications, licences, and tariff reviews).

⁸ Bidders had to have at least first-stage credit-committee approval but bids were not required to be 'financial close ready'. This helped reduce bidding costs relative to similar bid programmes, such as South Africa's REIPPPP.

UETCL is the only buyer of electricity in Uganda, and is therefore the official signatory to the PPA and the off-taker of power from the solar projects. UETCL has a good payment record and receives regular and timely payments from its biggest 'client', Umeme. Thus, while there is still an off-taker risk in the Ugandan power sector – especially given the Government's announcement that it wants to decrease retail tariffs – the off-taker has generally been supportive of private-sector investment.

Institutional setup, governance structure, and capacity building

Ensuring that the tender process led to the timely initiation and operation of the GET FiT Solar PV Facility required sustained effort from a range of stakeholders. The implementation partners – both international and local – therefore committed significant financial and human resources to the project over a sustained period. The implementing structures in Uganda aimed to achieve a range of objectives, including coordination between government departments and funders, transparency and credibility in the evaluation and awarding of projects, capacity building in the relevant Ugandan institutions, and local and international accountability.

Ultimately, the resources allocated – both human and financial – proved necessary and worthwhile. Parties reported that the governance structure had promoted transparency and effectiveness.

Prompted by the corruption controversies that surrounded some of the country's big hydro projects, the GET FiT programme focused on ensuring that the procurement process was credible and seen as transparent by all parties. Several developers remarked that they were initially sceptical, given their experiences with similar initiatives where awarding decisions ultimately came down to political connections and other opaque determinants. The GET FiT programme went to great lengths to implement a process that was seen by both the public and private sector as rulebound, transparent, and effective.

Underpinning the entire process was the authority that the Ugandan Government delegated to KfW regarding all aspects of programme implementation. Essentially, KfW was able to run

the tender process, and sign the required agreements, while managing funding commitments and disbursements from development partners. Two committees – the Steering Committee and the Investment Committee – were given responsibility for the governance of the process, with the Steering Committee having ultimate authority. The day-to-day management was carried out by the GET FiT Secretariat.

Steering Committee

The GET FiT Steering Committee provided policy guidance. This included setting out operational guidelines for the GET FiT mechanism, approving members of the Investment Committee, and accepting terms of reference for the implementation consultant and the monitoring and evaluation consultant, as well as ensuring the effectiveness and visibility of financing activities.

Politically, the Steering Committee played a key role, ensuring that the Solar PV Facility had the support of key government departments and providing a dedicated channel of communication between the funding partners and the host government.

Investment Committee

The Investment Committee was appointed by the Steering Committee and was made up of seven independent international experts on the financing of renewable energy. It was responsible for the ultimate appraisal and selection of successful projects, as well as the disbursement of GET FiT top-up funds. It was also able to review appraisal criteria and, if deemed appropriate, make recommendations to the Steering Committee.

Decisions made by the Investment Committee were based on majority rule. The Investment Committee's decisions on the awarding of projects were informed by recommendations made by the Secretariat and then submitted to the Steering Committee for final approval.

The Investment Committee added an important layer of transparency and trust to the project evaluation process, assuring bidders and investors that the auction was indeed fair and predictable. Its role (supported by the Secretariat) was essential in establishing trust in the programme's outcomes, thereby ensuring stronger competition in the bidding process.

GET FiT Secretariat and implementation consultant

The Secretariat oversaw the general day-to-day operation of the programme and played a particularly important role in coordinating various institutions and processes, offering developers and investors a well-capacitated and clearly mandated central point of engagement. It was set up, staffed, and assisted by an implementation consultant (Multiconsult)⁹.

The Secretariat was based at ERA – a decision made in light of the role played by ERA (and in particular its CEO) in championing the establishment of the programme, as well as the strategic importance and the relatively strong professional capacities in Uganda.

The Secretariat supported both the Investment Committee and the Steering Committee to ensure effective organisation of the RfPs, the bid process, the organisation of meetings, and the production of annual reports. It also supported KfW in negotiating financial agreements with developers. Other duties included organising a system for evaluating and reporting on progress made by qualifying bidders, undertaking statistical analyses, and overseeing media coverage. The Secretariat also played a key role in coordinating various approvals, licences, and negotiation processes required for the projects.

In many ways, the Secretariat was the Solar Facility's focal point and adopted a strong problem-solving approach with developers, government officials, and others to ensure its timely and effective implementation.

The Secretariat remains involved in the implementation of the programme (although no further procurement is envisaged), monitoring project performance against environmental and

social commitments, and offering legal and other advice where necessary.

All stakeholders in the GET FiT Solar PV Facility consistently mentioned the governance and day-to-day management of the programme as one of its key strengths. Deadlines were met, queries responded to, and assistance was provided where needed.

Capacity building

The combination of adequate resources, valued expertise, and political support was critical in securing investor interest and moving the projects to completion. Unfortunately, most of this capacity was dedicated to establishing the Solar PV Facility, and has not been extended to the other state institutions responsible for energy provision in Uganda.

The design of the GET FiT programme envisages the development of local capacity, yet in this instance the emphasis was more on 'adding to' rather than 'building' local capacity. This is particularly clear in the extraordinary authority given to KfW by the Ugandan Government to set up and run the procurement process for these projects. The locally hosted elements of the implementation structure – primarily the Secretariat – were also staffed mostly by foreign consultants. It is therefore not surprising that, despite having hosted the GET FiT Secretariat for several years, ERA still does not feel that it has the capacity to run a similar procurement programme. ERA was not involved in the detailed design of the auction programme, or in the evaluation of bids. And with no new funding available for further GET FiT roll-out, the role of the implementation consultant has also been rolled back considerably. The GET FiT programme was always conceived as a 'pilot' programme; the fact that it was not institutionalised locally represents an important lost opportunity.

Conclusion: lessons and recommendations

Uganda should be lauded for the real improvements it has achieved in its electricity sector (including increased installed generation capacity, decreased transmission and distribution losses, cost-reflective

tariffs, supply security, utility performance, and a sustainable price path). New legislation and improvements in institutional capacity (such as the establishment of ERA) have created an enabling

⁹ Multiconsult undertook technical, legal, economic, and financial appraisals of projects, and supervised construction. It also assisted KfW in managing disbursement and cash balances, and provided regular reports on programme implementation. Multiconsult will remain involved until 2023, when the final top-up payments are expected to be disbursed.

environment that is attractive to the private sector, and Uganda now has one of Sub-Saharan Africa's most successful IPP procurement programmes.

The GET FiT programme has been particularly instrumental in this regard. Each project that has been transparently procured, reached financial close, and been successfully constructed, with contracts and payments honoured, has boosted investor confidence, lowered perceptions of risk, and provided a tangible, working asset for the country.

Uganda now has a set of contract documents (related to PPAs, IAs, DAs, etc) that are bankable and of acceptable quality to international lenders and investors. The country's regulatory and legal regimes have been tested and improved, showing that they are ready to deal with private investment and a range of renewable (variable and dispatchable) technologies.

The GET FiT programme went to great lengths to ensure the success of the auction and its outcomes. It aimed to ensure that bidders could deliver what they promised by asking them to include evidence of their track records and net assets in their bid documents. The programme also focused on ensuring that bidders were sufficiently incentivised to deliver, by providing a robust set of financial commitments. These included bid and performance bonds as well as penalty regimes in the PPA and investment agreement. GET FiT also increased the chances of this solar PV project's success through offering bankable documentation, an attractive payment profile (such as front-loaded premium payments), and a range of risk mitigation and credit enhancement instruments.

We believe the auction owed much of its success to its rigorous prequalification criteria. However, the bid evaluation process is an area that could be improved. In particular, more detailed guidance should have been provided to bidders on the technical evaluation criteria and process. The technical plant design requirements were also so detailed (down to the level of wiring) that this left relatively little room for developers to optimise their systems. Given the fact that bidders are fully dependent on a plant's technical performance over the lifetime of a PPA to repay their debt and recover equity investments (and that both the PPA and development finance agreement included substantial penalty regimes for underperformance),

it might have made more sense to merely require that major equipment items comply with international standards.

The robust institutional setup and governance structure was effective in ensuring the transparency and credibility of the procurement process, as well as in navigating the various Ugandan laws and regulations. This is in large part thanks to the fact that adequate and dedicated resources and capacity were provided for the establishment of a centralised project implementation unit (the GET FiT Secretariat). This unit was located in a powerful institution (ERA), supported by an independent body of respected experts (the Investment Committee), and guided by a powerful political committee (the Steering Committee).

However, where the implementation structure fell short was in ensuring that this capacity was institutionalised in Uganda. While some capacity improvements have occurred within the country's electricity sector institutions, whether they are now able to run competitive procurement processes on their own has not yet been established.

Instead of progressively extending the roles and capacity of ERA staff (and other local legal, financial, and technical experts) in ways that ensured they learned to manage such procurement processes, a growing roster of international consultants and specialists were imported to handle the work. This means that when the GET FiT programme's procurement came to an end with the solar facility, capacity in Uganda remained insufficient to run future auctions as, for example, South Africa's IPP office has done. This partly explains why Uganda is falling back on feed-in-tariffs even though further auctions could deliver lower prices.

The absence of an official, integrated, dynamic least-cost generation plan, with legal standing, is also a threat to many of the gains achieved. In particular, the ongoing contracting and licensing of additional generation projects under the FiT programme, coupled with the commissioning of large Chinese hydro plants, is likely to lead to a costly oversupply of electrical power. The threat of oversupply is prompting UETCL to replace 'take or pay' clauses in the PPA with 'take and pay' provisions, meaning that it will pay for electricity only as and when needed. This has undermined the fundamental bankability of various projects, and Uganda now has a substantial pipeline of generation projects (that it

might or might not need) that are unable to reach financial close. The President has refuted any claims of an impending oversupply problem, instead directing ERA and UETCL to provide licences and off-take agreements to these projects. Yet, without a rational, mandated planning framework, the developments threaten to undermine many of the gains of the reform process, including the independence of the regulator and the use of transparent procurement practices.

The GET FiT Solar PV Facility has not fully achieved its intended purpose, which was to lower the generation costs of these kinds of projects. As the market matured, and both developers and investors grew more comfortable with the programme, subsequent auction rounds would almost certainly have achieved lower prices. Although it was set up as a pilot project, by running just a single auction round, the GET FiT Solar PV Facility turned into little more than a fairly expensive proof of concept. Had it been linked to an integrated, dynamic, and approved least-cost generation plan that was translated into competitive procurement rounds in a timely manner it might well have been able to show the way forward to a country that is perfectly

placed to benefit from the rapidly decreasing cost of renewable energy installations.

Where the programme might also have fallen short was in determining the auction volume and project size. The relatively small project size meant limited economies of scale, and resulted in higher prices. Projects this small also fall outside the range of interest of bigger project developers that would have been able to increase competition while bringing their considerable experience, procurement volumes, and balance sheets to bear on the eventual outcomes.

Uganda has emerged as a (perhaps unlikely) power-sector-reform champion in Sub-Saharan Africa. By sticking with its reform path through some painful years, Uganda seems to finally be reaping many of the benefits – including an improved investment environment for IPPs. Its successful experiences in IPP procurement – first via feed-in tariffs and then via an auction – have shown the way forward for others in the region. Those wanting to learn from Uganda would do well not only to note the important steps taken to improve investor confidence and create a credible procurement mechanism, but also to heed its costly lack of procurement planning.

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