











Executive Summary

GET FiT Zambia is pleased to present the first Annual Report since the start of implementation in 2018. GET FiT Zambia is the official implementation programme of Zambia's Renewable Energy Feed-in Tariff Strategy – the Government of Zambia's strategy for promotion of private renewable energy investments. With GET FiT Zambia, the German and Zambian Governments join efforts to spur economic growth and lead Zambia on a climate friendly and sustainable development path. The Annual Report introduces the Programme and its theory of change, and reports on key developments and challenges during implementation

Improving the investment environment for independent power producers. GET FiT Zambia aims to improve the investment environment for private sector participation in on-grid, small-scale renewable energy development. The Programme's main vehicle for development is the support of public procurement of renewable energy power generation capacity, laying the basis for a favourable environment for such investments and a renewable future. The new power generation facilities will also directly benefit the Zambian population through a power mix that is more technically and geographically diversified, that will deliver clean, renewable energy and reduce the power system's vulnerability to climate variability.

Record-breaking results in Solar PV Tender. Since its start, GET FiT Zambia has already made significant progress. The Solar PV Tender set new benchmarks for solar energy in Africa, with the lowest prices ever reached in a public auction and also being the largest to date of its kind in Sub-Saharan Africa outside South Africa. In 2019, GET FiT awarded six 20 MW_{ac} Solar PV projects developed by three separate consortia. The projects and their promoters are presented in Chapter 4 of this report.

Diversification of hydropower resources through private investments. Meanwhile, expectations are built as GET FiT Zambia gears up for the procurement of small hydropower projects. In 2019, the Ministry of Energy, with the support of GET FiT, implemented efficient procedures for prequalifying companies to participate in the Small Hydro Tender. Prequalified companies applied and 22 entities were awarded rights to conduct Feasibility Studies for their selected sites in anticipation of the Request for Proposals for the first round of procurement. The Small Hydro Tender is expected to be launched in 2020 and award a total of 50 MW through several projects, each up to a maximum of 20 MW in capacity. Considering the current heavy dependence on large hydropower plants in the Southern regions of Zambia, a geographic diversification through privately owned hydropower plants will contribute to the country's energy security.

Efficient and transparent processes through standardised documentation and procedures. A key objective of the Programme is to establish standardised documentation for private power producers. GET FiT's support to the Ministry of Energy during the prequalification and process of issuing Feasibility Study Rights for prospective small hydropower projects have already given valuable experiences and contributions in the form of predictable, efficient and transparent procedures. Through the tenders, standardised legal and transaction documents are developed. Further to this, GET FiT initiated a cooperation with the EU-supported IAEREP (Improved Access to Electricity and Renewable Energy Programme) to review and improve the licensing framework for Independent Power Producers. This way GET FiT Zambia will leave tangible contributions to accommodate for development of future projects after the Programme has concluded.



A lasting impact through capacity building and sector cooperation. GET FiT Zambia's goal is to ensure that the experience gained through these procurement processes create a lasting and robust basis for continued renewable energy development. Close involvement of sector stakeholders in the process and capacity strengthening within engineering, financial, commercial and environmental and social fields are a must to achieve this. GET FiT Zambia integrates capacity building as part of the implementation support, and also provides for structured, targeted technical assistance to develop standardised processes and commercial frameworks. Equally important is improving the capacity for grid operations in a future with more renewable, diversified and partly variable energy sources. Particularly, the cooperation between GET FiT Zambia grid experts and ZESCO has created new insight into opportunities and limitations related to integrating renewable energy sources to the ZESCO grid.

An exciting year ahead. At the end of 2019, GET FiT Zambia is pleased to conclude that good progress has already been achieved. GET FiT Zambia has established a close and good working relationship with all the stakeholders, starting with the Ministry of Energy, its Department of Energy, the Energy Regulation Board and ZESCO. Similarly, a regular and open relationship is established with the representatives from the successful consortia in the Solar PV programme and prospective tenderers for the Small Hydro programme, with prospective providers of debt financing and risk mitigation instruments, as well as with development assistance partners supporting the development of the energy sector in Zambia. We feel assured that this creates a solid platform for continued progress of GET FiT Zambia in 2020. Strong efforts will go to supporting the Solar PV projects toward 'Financial close' and construction phase eyeing commissioning of 120 MW_{ac} of clean renewable solar power in 2021, implementing a competitive and efficient Small Hydro Tender, and continue working closely with all stakeholders for a renewable and green Zambian future.

Message from the Investment Committee

It is a great pleasure that we present you the first Annual Progress Report for the GET FiT Zambia Programme, which is being sponsored by the German Ministry for Economic Cooperation and Development (BMZ).

Behind us lies an exciting period of programme initiation and implementation and we were overwhelmed by the positive response from the private sector. This has been possible thanks to the strong commitment and ownership of the Government of Zambia. The good market perception of the GET FiT Zambia programme also proves that the combination of results based premium payments on the existing Renewable Energy Feed in Tariff with standardised, well-structured and bankable Power Purchase and Implementation Agreements as well as a liquidity risk mitigation facility from ATI have convinced international developers that Zambia's energy sector is a promising market and that well-targeted support can attract private sector investments into the energy sector in developing countries.

We have experienced an exciting and eventful year 2019, with a successful conclusion of the 120 MW_{ac} Solar PV Tender, where 6 promising projects were selected at an average tariff of 4.41 USDc per MWh. The winning bid of 3.99 USDc per KWh was even

the lowest bid achieved in any Solar PV procurement in sub-Sahara Africa outside South Africa. Besides the Solar PV Tender awards, the prequalification process for the first 50 MW Hydro window under GET FiT Zambia has been concluded followed by the issuance of exclusive Feasibility Study Rights by the Ministry of Energy to a total of 22 developers. The adjacent GET FiT tender process is expected to be launched during the first half of 2020.

On behalf of the German Ministry for Economic Cooperation and Development (BMZ), KfW is working together with all stakeholders to strive for financial close of the awarded 120 MW_{ac} Solar PV projects timely financial close and to support the further project development. We are delighted that we have sourced additional funding from the German Government and from the UK to continue with the second round of the Programme, a 50 MW Small Hydro window, and to also develop the Solar Microgeneration component, which aims for increased participation of Zambian Solar PV developers. Financing Agreements with the Government of Zambia are projected to be signed in 2020.

The Energy Regulation Board's long-awaited approval of a tariff increase at the end of 2019 is expected to contribute to an improved financial



Dr Thomas Duve
Chair of GET FiT Zambia
Investment Committee

sustainability of the sector, particularly ZESCO, the state- owned utility which acts as the central power off-taker for the GET FiT projects. This is one of several necessary actions to address the concerns of private developers and their financiers, and to pave the way for the implementation of awarded Solar PV projects.

Despite the challenging fiscal environment, the market interest in GET FiT Zambia remains high, which could be witnessed through the high number of developers interested in the upcoming 50 MW Small Hydro Tender as well as continued inquiries about the Programme by developers.

Nevertheless, to make the Programme a success in terms of implemented renewable generation capacity, it is critical that financiers will be able to build up a higher level of comfort – especially regarding the off-taker risk – to support the implementation of the individual projects that have and will be awarded under the GET Fit framework.

To that end, we encourage the Government of Zambia to continue seeking solutions to overcome the pertaining fiscal and energy sector related challenges to further establish and grow Zambia's reputation as a reliable basis for private sector investment.

2019 has marked the successful start of the GET FiT Zambia Programme implementation, but still a lot of work lies ahead of all stakeholders involved.

At KfW we remain committed to ensuring quality and progress of the Programme.

Dr Thomas Duve

Thomas

Chair of GET FiT Zambia Investment Committee

Message from Ministry of Energy

The Government of Zambia aims to establish itself as a true market leader in Africa, when it comes to pursuing a clean energy development path through the Energy Sector Vision: "Universal access to clean, reliable and affordable energy at the lowest total economic, financial, social and environmental cost as highlighted in the Seventh National Development Plan (7NDP) and Vision 2030". In its pursuit of this vision, the Renewable feed-In tariff (REFiT) Strategy was developed and approved by the Cabinet in 2017, and the Ministry of Energy in partnership with KfW launched GET FiT Zambia as the implementation programme for the REFiT Strategy. The objective of the Strategy is to diversify the generation mix, and increase access to clean energy sources, through accelerating private sector investment in small- and medium sized renewable energy projects of up to 20 MW.

As Minister of Energy, I am pleased to note that GET FiT made noteworthy progress in 2019. The successful conclusion of the Solar PV Tender was, at the time, the largest single Solar PV Tender implemented in Sub-Saharan Africa (SSA), outside of South Africa, and it achieved some of the lowest per kWh prices ever achieved in the market. To take advantage of these low prices the Ministry increased the programme size to 120 MW_{ac}.

We also have high expectations of contributing to increased access from the Small Hydro programme. The prequalification process completed in 2019 saw widespread interest and resulted in thirty (30) prequalified local and international entities. The programme is expected to unlock small to medium scale generation across various provinces of Zambia and further contribute towards the Government objectives of having a dispersed and diversified power generation mix that provides flexibility to cope with the impacts of climate change.

The cost-effective grid integration of all these projects will be made possible through a Grid Facility that will also be provided under the GET FiT Zambia Programme. We believe this will allow these projects to act as catalyst for the expansion of the grid and increased electrification rates, stimulating economic growth and job creation.

During 2019, the Government has been actively working towards creating an investor friendly and sustainable sector, aiming at alleviating the fiscal and financial sustainability concerns raised by investors which has also impacted the programme progress. The progressive sector reform agenda promoted through these efforts culminated in the revised Electricity and Energy Regulation



Matthew Nkhuwa, MP Minister of Energy

Bills, which were approved by Parliament in 2019. The upward tariff adjustments approved by the Energy Regulator is another bold but necessary step towards our goal of cost reflectivity. This together with the Cost of Services Study, launched in December 2019, is expected to ensure a transparent and fair process for determining the correct tariff levels for Zambia and in turn contribute to a more sustainable sector.

Ultimately, GET FiT Zambia's success will be measured by the completion of these solar and hydro projects and their contribution to a diversified energy mix, increased access to electricity and a more climate resilient Zambia. The Government is looking forward to cooperating with Government of Germany through its Federal Ministry of Economic Cooperation and Development ("BMZ") and KfW on the GET FiT Zambia programme in 2020 and beyond to ensure progress towards financial close and commercial operation for the whole portfolio.

Matthew Nkhuwa, MP Minister of Energy

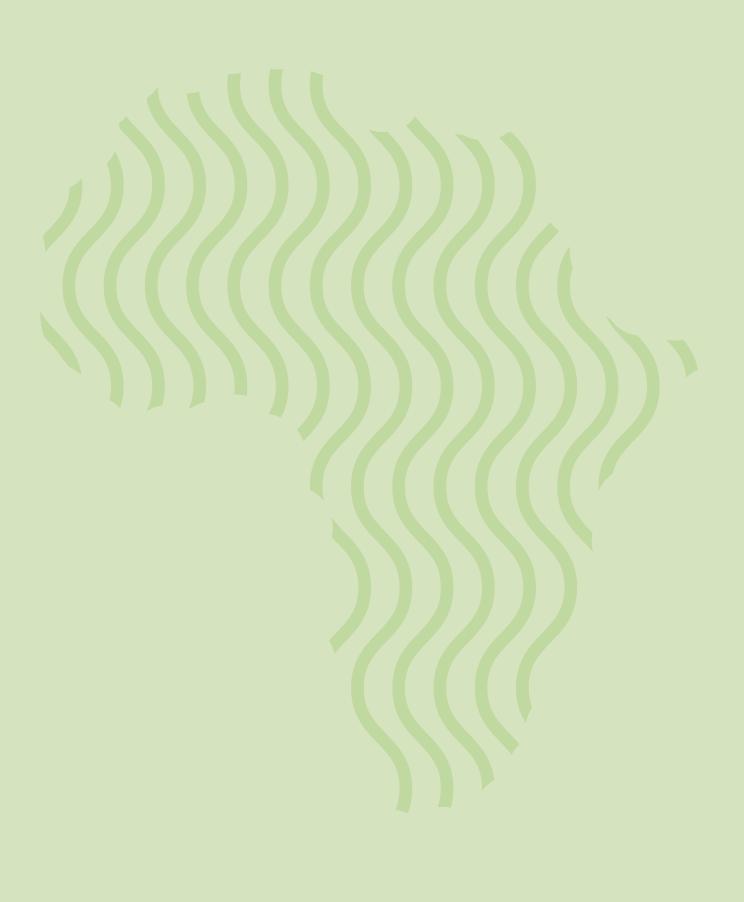


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Contributing to a climate-friendly development path and sustainable growth in Zambia

Impact Statement



About GET FiT Zambia

GET FiT Zambia is the official implementation programme of the Government of Zambia's Renewable Energy Feed-in Tariff (REFiT) Strategy, that seeks to contribute to a climate-friendly development path and sustainable growth in Zambia.

The German-funded GET FiT (Global Energy Transfer Feed-in Tariff) programme is motivated by the acknowledgement of the wide range of positive sustainable effects that the development of Renewable Energy (RE) projects can have for economic and social development and the strong potential for such projects in Zambia. Procurement and support of up to 205 MW of renewable energy capacity are at the heart of the Zambian REFiT strategy. Additionally, GET FiT Zambia aims to boost institutional capacity and improve the investment framework for private sector participation in the Zambian power sector. It seeks to ensure transparency in regulatory and commercial processes and strengthen power grid operations as a basis for integration of even more renewable energy into the future.

The Zambian Ministry of Energy, in close cooperation with KfW, acting as the implementation agent, is responsible for the implementation of GET FiT Zambia. Within the Ministry of Energy, the Department of Energy, has been designated to overseeing the Programme and coordinate with ZESCO Limited as the off-taker and the Energy Regulation Board as the issuer of the generation licenses.

GET FiT Zambia is the second roll-out of the GET FiT concept, successfully piloted in Uganda where it achieved approximately 160 MW of installed renewable energy capacity via 17 projects. This

way GET FiT Uganda established a track-record for private sector participation and helped transform the Ugandan energy regulator into a role-model in Africa. GET FiT Zambia has been designed based on a variety of lessons learned and on-the-ground experience in Uganda – while considering the country-specific circumstances and barriers for private sector involvement.

The objectives of GET FiT Zambia are:

- Procurement of up to 205 MW of renewable energy capacity, as GET FiT Zambia has become the official implementation programme for the Zambian REFiT strategy
- Contribution to diversify Zambia's power mix while ensuring cost-effective and environmentally and socially sustainable projects to maximize value for Zambian end users
- Introduction of standardised legal documentation for Independent Power Producers (IPPs) in Zambia and improving regulatory & licensing procedures
- Successful integration of the procured renewable energy into the national grid
- Promotion of competition and private sector participation in the Zambian power sector

Addressing Challenges in the Zambian Power Sector

GET FiT is designed to address challenges and priorities of Zambia's power sector to establish a conducive investment framework for small-scale renewables.

The Zambian power sector is currently facing a variety of challenges, including load shedding after recurrent droughts in recent years weigh on the economic development, and the financial sustainability of the sector, especially with the national electricity utility ZESCO as single off-taker. The energy sector reforms introduced at the end of the year, with the introduction of a revised Electricty Act and Energy Regulation Act, is expected to increase the sector efficiency and improve the overall financial viablility. Commitment to ensure the effective and expidient implementation of the new legislation together with continued private sector engagement is however needed to move the sector forward. Any lack of predictability and transparency in how the sector finanical viability will be addressed will contribute to an already challenging situation in the sector and may discourage potential private investors and lenders.

The figure on the following page illustrates how GET FiT Zambia specifically aims to assist the Government of Zambia's efforts to address the

challenges and priorities in the power sector context and enable the sector to respond to the country's urgent needs for more, sustainable, power.

A robust results framework for GET FiT Zambia has been developed to ensure focus on the programme objectives and effectively respond to the challenges in the sector. The results framework illustrates the linkages from inputs and activities to the intended outputs, outcomes and impact of the Programme. Aiming at improving the framework conditions for private investments in on-grid renewable energies, the Programme goes beyond the implementation of 205 MW. Through establishing a track record of successful projects and targeted Technical Assistance (TA) activities that will facilitate processes at key institutions for future IPPs, GET FiT Zambia shall contribute to a strong and enabling investment environment, and ultimately achieve the intended impact: contribute to climate-friendly development and sustainable growth in Zambia.

Zambian Context and Priorities

GET FITContribution

Diversified generation mix

Heavily dependent on large hydro on Zambezi. Land-locked with limited options.



205 MWs & functioning IPP framework

Solar and small run-of-river. Tested framework to benefit country for years to come.

Low cost generation expansion

Politically charged sector policy environment. Lack of IRP and uncertain expansion path.



Solar and hydro a part of least cost mix

Reverse auction for solar PV and fair pricing for small hydro through REFiT levels.

Decentralised power system

Large and dispersed country.

Expansion to benefit from dispersed generation.



Geographically dispersed portfolio

Up to 15 projects to be implementation of the portfolio. A framework and competence for the future.

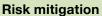
Consistent long-term planning

Avoid cyclical investment planning that can lead to repeated power shortages.



Gradual improvement and long-term benefits

Several years for implementation of the portfolio. A framework and competence for the future.



A need to diversity current and planned new sources. Future developments uncertain.

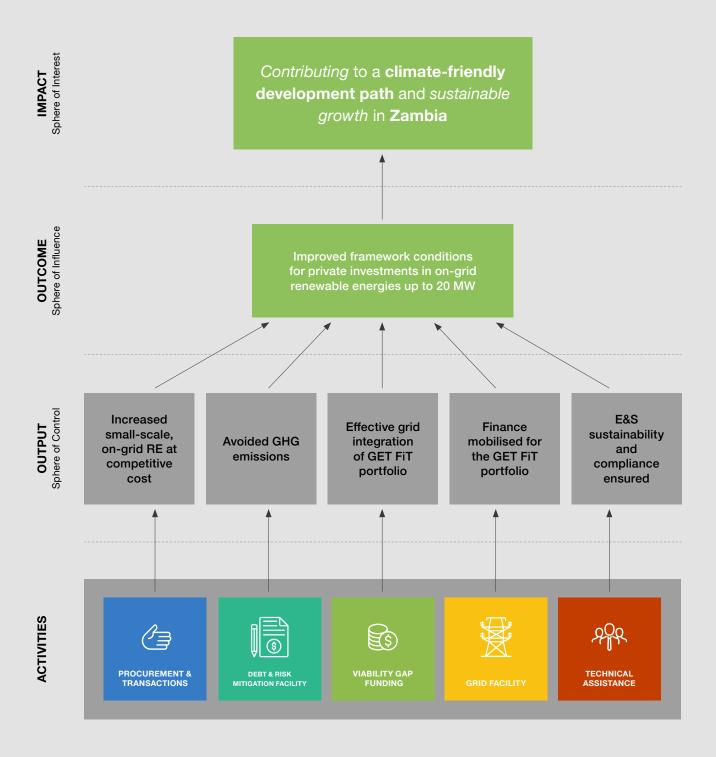


A small portfolio with large potential

Alternatives to risky large-scale hydro. Small-scale IPP programs can be rapidly scaled-up or down.

Approach to Results

GET FiT aims to contribute to positive national development by improving the conditions for private investments in renewable energies.



Addressing Barriers for Private Investments

GET FiT's "Toolbox" is developed with the intended outcome of improved conditions for private investments in mind.

To ensure successful implementation of the 205 MW renewable energy portfolio – and achieve the objectives of the Programme – GET FiT has designed a set of tools (in the results framework referred to as activities) to address the barriers for private sector involvement. Some of the key barriers are highlighted in the following section, followed by a description of the tools designed to address them.

Lack of transparent and credible procurement efforts amongst investors

The Zambian power sector has limited experience in procuring generation capacity that involves private actors. The ability of the main power off-taker ZESCO – to enter into long-term power purchase agreement is also seen as an uncertainty for potential early movers in this largely untested market. Through transparent and efficient procurement processes, GET FiT will establish a strong portfolio of privately financed renewable energy projects, and build a track record of successful IPPs in Zambia to increase confidence in the market.

Inability of individual small projects to mobilize financial resources

Going through the process of due diligence and obtaining financing for a small project in a new market can be a difficult undertaking, particularly considering the financial situation of the energy off-taker. GET FiT provides support in the dialogue with lenders and facilitates risk mitigation instruments to link available financing with bankable projects.

High cost of capital for renewable transition and a new and untested REFiT regime

In a new market with significant perceived risks, the cost of capital is high. REFiTs have been implemented but are still untested and there is uncertainty as to whether the tariffs will satisfy developers' required rate of return. GET FiT's Viability Gap Funding for small hydro projects targets this uncertainty. Through awarding projects based on developers' bids, GET FiT introduces a competitive element in the Viability Gap Funding. Developers' individual required subsidy levels will be a criterion in the project evaluation.

Capacity constraints for integration and operation of decentralised intermittent RE

ZESCO has limited experience with the integration of intermittent renewable energy. In addition, the connection of the GET FiT projects to the grid will require additional financing beyond ZESCO's means. GET FiT provides technical assistance to ZESCO to ensure a successful integration of the portfolio through the GET FiT Grid Facility, which also reserves funds to close eventual funding gaps for grid connections.

Skills gaps and capacity constraints in becoming a credible counterpart to investors

Without standardised practices, documents or procedures in place, IPPs lack oversight and predictability of the development processes. GET FiT works closely together with the authorities to establish clear and transparent processes and standardised IPP documentation, and provides structured capacity building and technical assistance for key stakeholders.

The GET FiT Toolbox

GET FiT Zambia's tools are tailored towards current barriers in the Zambian power sector.

Barriers

Lack of credibility amongst investors that procurement efforts will result in execution

Individual small projects unable to attract appropriate financing and assosiated DD

High cost of capital for renewable transition and new REFiTs yet untested

Capacity constraints for integration and operation of decentralised intermittent RE

Skills gaps and capacity constraints in becoming credible counterpart to investors

GET FIT Tools



PROCUREMENT & TRANSACTION

The GET FiT Programme is tasked with the procurement of new renewable generation capacity. The Solar PV Tender successfully concluded in April 2019 with award of a total of 120 MW, while a tender for small hydropower projects is planned for 2020.



DEBT & RISK MITIGATION FACILITY

The Risk Mitigation Facility will be implemented in close collaboration with African Trade Insurance (ATI) as an option for developers and financiers. It combines ATI's existing Termination Guarantee insurance with a new short-term liquidity product (Regional Liquidity Support Facility) which was jointly developed by ATI and KfW.



VIABILITY GAP FUNDING

GET FiT offers performance-based tariff support for a limited portfolio of qualifying REFiT projects. In effect, Viability Gap Funding facilitates the entry of early movers from the private sector into the nascent renewable energy market in Zambia. GET FiT Zambia has not applied Viability Gap Funding toward solar PV projects.



GRID FACILITY

The Grid Integration Component of the GET FiT Program consists of two different elements. GET FiT has provided advisory support to ZESCO regarding grid integration of solar PV into Zambia's national grid. GET FiT will also provide financing for grid integration for select technologies, such as hydro.



TECHNICAL ASSISTANCE

GET FiT is providing capacity building programmes for key sector stakeholders as part of the Technical Assistance facility. Particular focus points of these programmes are project support for the small hydro portfolio, as well as grid integration of renewable energy into the Zambian grid.

Solar PV Tender

At the time of award of six Solar PV projects with a combined 120 MW_{ac} capacity, in April 2019, the GET FiT Zambia Solar PV Tender was the largest single Solar Photovoltaic (PV) tender implemented in Sub-Saharan Africa (SSA) outside of South Africa, and the first public tender in SSA to achieve a tariff below 4 USDc/kWh.

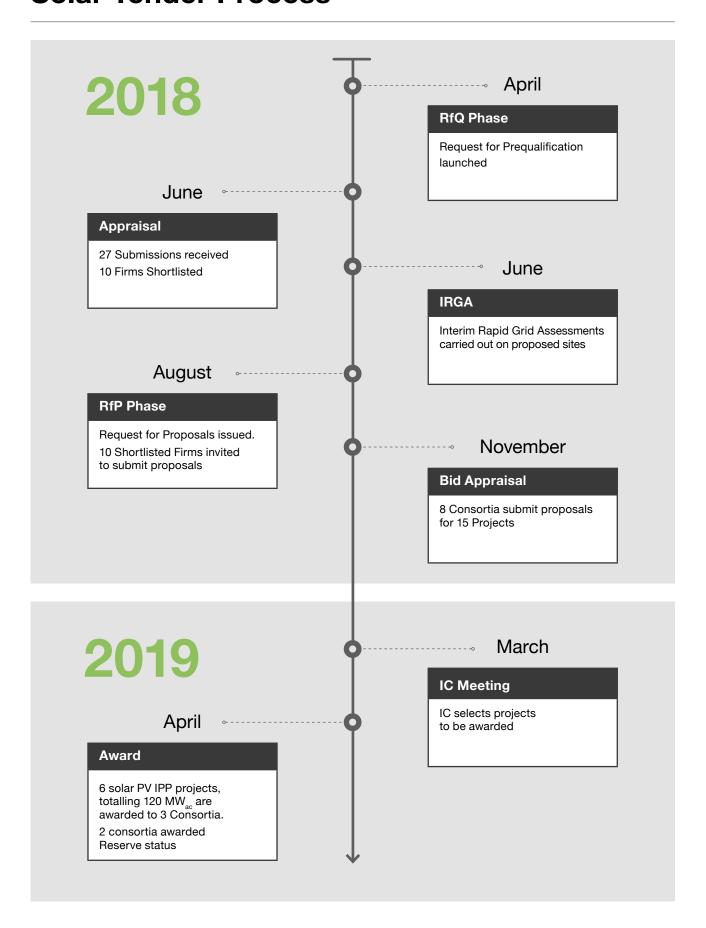
The procurement of Solar PV projects was the first stage of implementation of the REFiT Strategy. The Solar PV Tender aimed at procuring up to 100 MW_{ac} of grid-connected solar PV at competitive prices and with acceptable technical standards. Successful completion of this procurement would create a valuable precedent for procurement of new renewable investments under the REFiT Strategy and make a timely contribution to meeting growing energy demand in Zambia. Developers and investors were allowed to participate in the tender with a maximum of two projects, each with a maximum size of 20 MW_{ac}.

The Solar PV Tender was designed to deliver leastcost electricity for Zambian consumers while contributing to the diversification of Zambia's power mix and ensuring cost-reflective tariffs for Zambian end users. It was run as a reverse bid auction with ZESCO as the off-taker, selecting projects based on price competition among technically sound projects.

The tender had a target outcome of a total of $100 \, \mathrm{MW_{ac}}$, but due to the favourable results and the GET FiT Investment Committee's (IC) recommendation, the Government of Zambia (GRZ) allowed an additional 20 $\, \mathrm{MW_{ac}}$. At a press briefing in Lusaka on 5th April 2019, the Ministry of Energy's Permanent Secretary thus announced the award of six Solar PV IPPs projects, totalling 120 $\, \mathrm{MW_{ac}}$ under the GET FiT Zambia Solar PV Tender.



Solar Tender Process





The MoE Permanent Secretary announcing the results for the solar tender during a press conference held to announce the results. In attendance was the German Ambassador, the KfW Country Director, Journalists and representatives of the consortia that had submitted bids.

Record-Setting Results

A range of factors contributed to the record-setting GET FiT Zambia Solar PV Tender, the first to achieve a tariff below 4 USDc in SSA.

Competitive Tender Process

The Solar PV Tender was run as an international, competitive bidding procedure pursuant to KfW Guidelines for Procurement of Goods, Works and Associated Services in Financial Cooperation with Partner Countries (August 2016).

The effectively run tender process commenced with a Request for Qualification (RfQ). Following 23 RfQ submissions, the GET FiT Secretariat assessed the qualifications and conducted preliminary Interim Rapid Grid Assessments (IRGA). 10 consortia were invited to submit up to two project proposals at the Request for Proposal (RfP) stage. 8 consortia delivered proposals for 15 projects.

All 15 project submissions were subject to detailed evaluation, including site visits, to confirm high technical standards. 11 of the 15 submissions passed all minimum technical criteria. Both the technical and financial scoring were presented to the GET FiT Zambia Investment Committee, consisting of 5 independent regional experts.

Through the efficient implementation of the tender, ensuring a timely process, full transparency and high level of predictability for bidders, GET FiT reduced the cost and risk for participation – which translated into record-breaking prices that will benefit the sector and Zambian stakeholders. The lowest successful bid came in at 3.999 USDc/kWh with the weighted average of all six successful projects at 4.41 USDc/kWh.

High Standard of Projects and Consortia

An important aspect of the tender design was to ensure compliance with technical requirements and the International Finance Corporation (IFC) Environmental and Social (E&S) Performance Standards. Bidders were also required to propose capacity building programmes for knowledge transfer. These elements were included in the technical evaluation criteria and ensured a high standard of projects and developers with strong implementation capacity.

The awarded consortia all consist of reputable companies with Solar PV track record in Africa with each of the successful consortia having passed in the highly competitive pre-qualification process of which they were among ten shortlisted consortia that were invited to submit comprehensive technical and financial proposals.

In addition to the successful bidders, two consortia which had also submitted bids for two projects with a total of 40 MW_{ac} each were awarded "Reserve Bidder" status. These consortia can be called upon to develop their projects should any of the awarded consortia not be able to meet the requirements for the post-award stage.

Project Site Selection

In the GET FiT Solar PV Tender, bidders were free to select project sites that were presented at the RfP stage. The self-selection of project sites gave bidders an opportunity to choose sites which they determined had the best factors that they could optimise to obtain more energy as well as reduce their initial investment and operation costs.

Expected Outcomes & Benefits

Contributing to Affordable Clean Power in **Zambia**

The GET FiT Zambia Solar PV project portfolio will, once realised, support the ambitions of the Zambian Government's Vision 2030, making a valuable contribution to the efforts of expanding access to affordable, reliable and clean power, while also diversifying the power generation mix. The GET FiT Solar PV projects will especially represent a cheap source of energy for ZESCO and contribute to narrowing their revenue gap.

Combined with the Scaling Solar projects, the GET FiT Zambia Solar PV Tender results solidify Zambia as a true market leader in Africa when it comes to pursuing a clean energy development path.

Local Capacity Building and Training

All the successful bidders in the Solar PV Tender have committed to local capacity building pro-

grammes in the field of solar PV project development and plant operations and maintenance. Developers will develop and run training programmes for Zambian graduates and will host a series of training workshops with local universities. They will also be required to train unskilled workers from villages/settlements near the Project Site in O&M of solar PV projects.

Where are we now?

All projects in the Solar project portfolio are required to comply with requirements that were given to the consortia. The post-award requirements and milestones have been laid out for the process toward construction start, aiming at the completion of all projects in 2021. The portfolio section of this report provides more information on the projects in the GET FiT Zambia Solar PV portfolio.





Small Hydro Tender

After the successful Solar PV Tender, the second procurement round of GET FiT Zambia, the Small Hydro Tender, will target development of hydropower projects up to 20 MW.

The Small Hydro Tender is prepared in close collaboration with the Ministry of Energy (MoE). Similar to the Solar PV Tender, the small hydro component will also be implemented through public tender processes, but instead of the price being determined through a reverse auction it will be based on the REFiTs determined by the Zambia Energy Regulation Board and the bidders' required tariff top-up.

Through successive RfP windows in 2020 and 2021, GET FiT aims to award successful bidders the right to develop projects and to access GET FiT Viability Gap Funding support and Shallow Grid Connection compensation. Through the realisation of these projects, GET FiT will contribute further to diversifying Zambia's power generation portfolio; reduced hydrological vulnerability through geographical decentralisation of plants; leveraging private finance into the hydropower sector; and ultimately provide affordable, clean and reliable energy to the population.

Standardisation of Documentation

The REFiT Strategy is envisaged to expand the renewable energy deployment by creating a platform to remove barriers and provide effective processes for licensing and technology-based standardised PPAs to increase private sector involvement in power generation. GET FiT Zambia is thus designed to be the pioneer in realising a first group of renewable IPPs. One of the means for achieving this is by the development of standard-

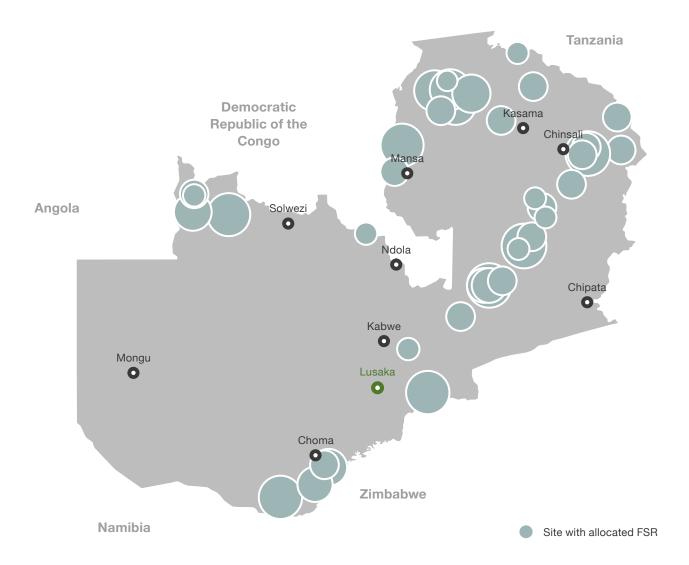
ised transaction documents and standardised processes.

Prequalification

The initial step in the Small Hydro Tender process was the prequalification procedure, which was launched in January 2019 with a submission deadline in February 2019. 30 entities were prequalified on the basis of passing minimum technical and financial criteria. Successful prequalified developers were thereafter eligible to apply for Feasibility Study Rights (FSR) from MoE. If granted FSR by the MoE, the FSR would form the basis for the entities to subsequently participate in the GET FiT Zambia Small Hydro Tender RfP. Additional prequalification rounds may be implemented as required.

Feasibility Study Rights Process

As with the Solar PV Tender, prequalified developers were expected to find their own sites. Prequalified developers require FSR to carry out studies to determine the capacity of the project that can be developed at their chosen site, the project area that will be required, and the optimal technology design that will best suit the location. All these elements are essential to support the developers in determining the expected project costs, as well as determining the hydrological potential and resource availability to determine if the project would be feasible.



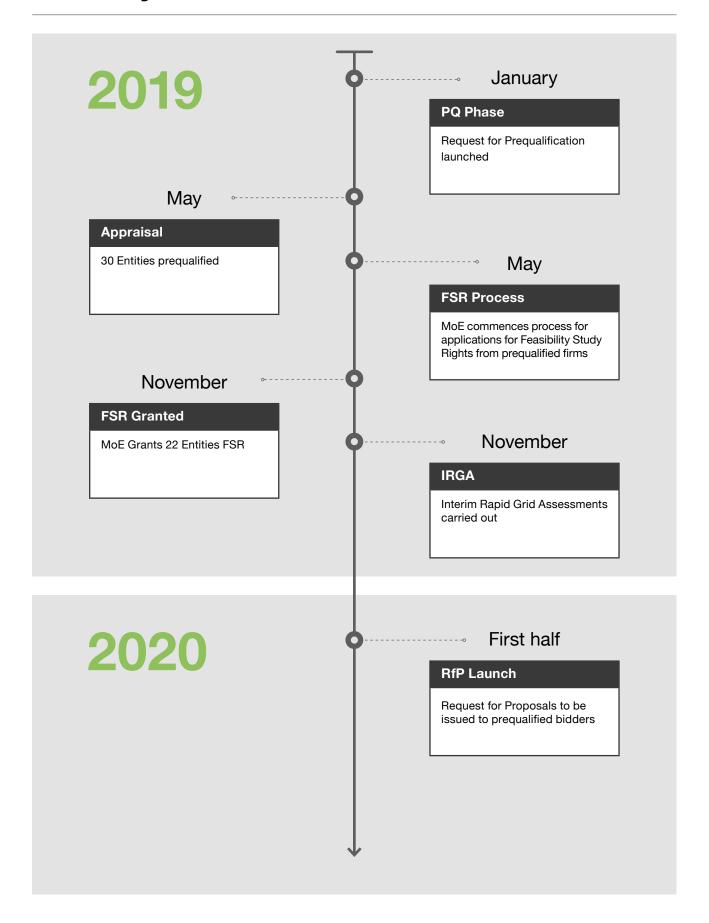
The MoE put a Moratorium for Feasibility Study Rights (FSR) for Small Hydropower Projects (SHP) of up to 20 MW in September 2018. This was done to ensure that as the REFiT Strategy is being implemented, SHP of up to 20 MW would thereafter follow a standardised process with standardised documentation.

In May 2019, the Moratorium was lifted and entities that had pre-qualified for the GET FiT Zambia Small Hydro Tender were invited to apply for FSR. All prequalified developers including those that already held FSR issued by MoE, were expected to resubmit an FSR application for their preferred project site(s), in order to be issued with revised standardised documents This process ensured that all developers that intended to participate in the GFZ

Small Hydro Tender were issued with the same standardised FSR Approval Letter and terms and conditions by the MoE. Through this process, the MoE and the GET FiT Zambia Secretariat have collaborated to establish standardised, transparent and efficient procedures which will be adapted for future FSR processes. It should be noted that the FSR process for projects up to 20 MW does not apply only for the GET FiT Zambia SHP participants. The GET FiT process will pioneer the new standardised FSR process and documentation and contribute to establish processes that will be required under the new Electricity Act.

In September 2019, 24 entities applied for FSR, and the MoE allocated FSR for 39 sites to 22 successful entities.

Small Hydro Tender Process



Interim Rapid Grid Assessments (IRGA)

One of the key conclusions from the from the GET FiT Zambia Solar PV Tender was the importance of carrying out Interim Rapid Grid Assessment (IRGA).

The IRGA is an important tool to ensure that projects that have been selected can be integrated into the ZESCO grid and that the power generated can be economically evacuated, in some instances, from remote locations which require long connections to the grid. The IRGAs are high-level screenings carried out for all project sites to assess and identify the obvious limitations in the grid that may prevent safe integration of the various projects due to their site location and the grid availability. In August 2019, the GET FiT Zambia Secretariat, in close cooperation with ZESCO Transmission and Distribution staff, carried out an IRGA on the project sites that were granted FSR by the MoE.

The key output of the IRGA is to provide developers with information on the feasibility of connecting their projects to the ZESCO grid, based on the relevant minimum technical and grid code requirements for the connection. This includes a high-level economic viability assessment taking into account the potential costs and line losses given the project site distance from the grid. The IRGA will thus enable developers to decide whether it is recommendable to proceed with the development of their projects from a grid connection viewpoint.

GET FiT Zambia Small Hydro Tendering Process Structure and Design

The first hydropower RfP round will be referred to as RfP 1 which will have a total combined capacity of up to 50 MW. RfP 1 shall comprise two separate Tender Pools which will be referred to as 'Tender Pool 1' and 'Tender Pool 2'. GET FiT Zambia will allocate a combined installed capacity of up

to 5 MW for Tender Pool 1 and up to 45 MW for Tender Pool 2. Bidders will be allowed to submit only one (1) Proposal for either Tender Pool 1 or Tender Pool 2.

Unlike the Solar PV Tender, tariffs for the hydro tender have already been established. The REFiTs for small hydro projects were developed by ERB with support from Power Africa's Southern Africa Energy Programme and GET FiT Zambia. These REFiTs will be the base tariff used in PPAs for projects supported under the GET FiT Small Hydro Tender.

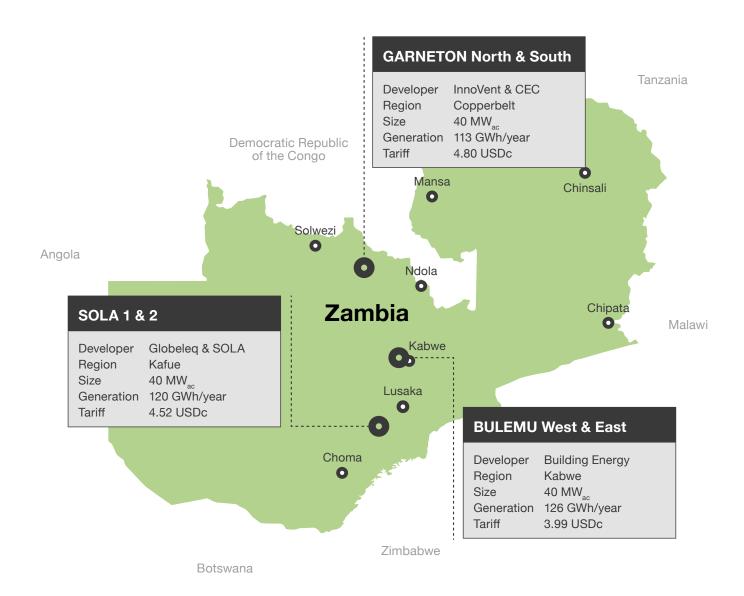
GET FiT Zambia will provide premium payments covering eventual gaps between the REFIT and the computed generation tariff. The premium payments are referred to as the Viability Gap Funding.

All the submitted project proposals will be required to comply with minimum Technical and E&S Requirements, including both national and IFC Performance Standards. The selection of projects will be subject to a comprehensive assessment of technical, environmental and social and financial viability, and will be considered by the GET FiT Investment Committee which consists of four independent experts. GET FiT will continue to follow the project development process post award, with a special focus on continued environmental and social compliance.

GET FiT will continue to follow up the portfolio of awarded projects to ensure compliance with post award requirements and milestones laid out for the process toward financial close and construction start. Through active portfolio management and effective implementation processes, the ambition is to achieve completion of all projects by 2023–2024.

Awarded Project Portfolio

In 2019, GET FiT Zambia awarded six Solar PV projects to three consortia who were awarded two projects of 20 MW_{ac} each, representing a total of 120 MW_{ac} . These projects will contribute to geographical and technological diversification in the Zambian energy mix, and are presented in this section.



Building Energy & PGE:

Bulemu West & East

Record-low solar PV tariff of 3.999 USDc/kWh achieved through a public tender in Sub-Saharan Africa.



REGION	Kabwe
CAPACITY (in MW _{ac})	40
PLANNED GENERATION (in GWh/year)	126
TARIFF (in USDc)	3.99

The Project is promoted by Building Energy South Africa (Pty) and Pele Green Energy (Pty) Ltd through their respective subsidiaries. The Bulemu West and Bulemu East Solar PV Projects will be located near the Bulemu Village in the Chisamba District, Central Province. The Project site is 130 hectares (ha) of customary land and falls under the ownership of Bulemu Village. An option to lease has been signed between Building Energy (the "Bidder") and the local Chief.

The envisioned projects are two 20 MW $_{\rm ac}$ (28.6 MWp) solar PV plants, with an estimated annual generation of 126 GWh. The projects will utilize high power bifacial modules mounted on a horizontal single axis tracking solution. The power will be evacuated via a 1.5 km, 88kV transmission line feeding to the Kabwe substation.

The project site currently contains a few households and agricultural fields and thus the developers are working with authorities to ensure that the impact of displacement is minimised and in line with local regulations and IFC performance standards. The scheduled commercial operation will be realised six (6) Months after the Effective Date of the PPA.

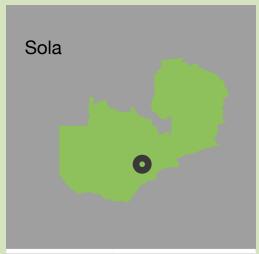
Building Energy S.p.A. is an independent power producer that develops and invests into renewable energy generation projects globally with the majority of operational assets being located in the home market and the US. Through its South Africa subsidiary Building Energy South Africa (Pty) Ltd., Building Energy has a growing portfolio in Sub-Saharan Africa including operational wind and solar PV projects in South Africa and Uganda and projects in late planning stages in Mali and Cameroon.

South African Pele Green Energy (Pty) Ltd is an independent power producer with an operational solar PV project with $36~\mathrm{MW}_{\mathrm{ac}}$ installed capacity in South Africa and a small number of projects with less than $5~\mathrm{MW}_{\mathrm{ac}}$ capacity.

Globeleq & SOLA:

Sola 1 & 2

Maximizing solar yield gain through bifacial modules.



REGION	Kafue
CAPACITY (in MW _{ac})	40
PLANNED GENERATION (in GWh/year)	120
TARIFF (in USDc)	4.52

The Project is promoted by a Consortium consisting of Globeleq Africa Holdings Ltd, through its subsidiary Globeleq Holdings Zambia Ltd, with a 51% ownership and SOLA Assets (Pty) Ltd. (previously Aurora Power Solutions (Pty) Ltd, and part of the SOLA Group) with 49% ownership of the consortium.

The Sola One and Sola Two Solar PV Plants are located 5 km north-west of Kafue Town in Kafue District of Zambia's Lusaka Province, approximately 40 km south-west of Lusaka. The project feasibility area covers a total area of 246 hectares (ha) of which up to 140 ha will be required. The Project consists of 2 x 20 MW solar PV Plants, with a combined estimated annual generation of 120 GWh. A 4 km long 33 kV power evacuation line will connect the Project site to the ZESCO-owned Kafue Town Substation.

Globeleq is an IPP that develops, owns and operates power plants utilising various technologies across the African continent. Globeleq's portfolio consists of 13 operational projects in 5 different African countries totaling more than 1400 MW, and more than 2000 MW in the development pipeline

SOLA Assets is the utility-scale solar development arm of the SOLA Group, and was one of the first solar PV developers in South Africa in 2008 when they were established as Aurora Power Solutions. SOLA Assets has successfully developed more than 313 MW of solar PV projects, and is also active in the corporate PPA market.

The Consortium has secured its rights to the under a full Lease Option Agreement between the landowner and the Bidder. The site is flat and with good geotechnical conditions. The site has been leasehold land for a number of years and the area consists of a few open areas alternating with woodland, used occasionally for livestock grazing by the landowner. The proposed substation enables the generated solar power to be supplied to the main north-south high-voltage backbone of the Zambian grid.

The scheduled commercial operation will be realised seven months after the Effective Date of the PPA.

InnoVent & CEC:

Garneton North & South

50 MWp of Solar PV squeezing into a long and narrow wayleave corridor.



REGION	Copperbelt
CAPACITY (in MW _{ac})	40
PLANNED GENERATION (in GWh/year)	113
TARIFF (in USDc)	4.80

The Garneton Projects are promoted by a Consortium consisting of InnoVent Renewable Energy Zambia Ltd. and Copperbelt Energy Corporation Ltd (CEC). The two projects under development, Garneton North Solar and Garneton South Solar, are located near Kitwe in the Copperbelt province, Zambia. The projects will each be rated for 20 MW_{ac} and will consist of 25 MWp of state-of-the-art bifacial PV modules mounted on a single-axis tracking system. The projects will have an estimated combined annual generation of 113 GWh and the energy will be evacuated via a 10 km 33 kV powerline connected to the ZESCO grid. The project sites are located within a long and thin wayleave corridor with a North-South orientation, a rather novel layout exemplifying the adaptability of the technology.

InnoVent SAS, the mother company of InnoVent Renewable Energy Zambia Ltd, is a French developer of wind and solar projects. Currently, the group has operational power plants in France and Africa with a total capacity of 516 MW.

The Copperbelt Energy Corporation Plc is a Zambian incorporated power transmission, generation and distribution company and a developer of energy infrastructure. The company owns, operates and maintains power transmission, generation (total 80 MW energy power generation capacity) and distribution assets servicing customers in Zambia and the Democratic Republic of Congo.

Since CEC is the owner of the land, it is leasing the portion of land to the SPVs. Land Lease Agreements have been signed between the Bidders and the Owner. The project sites cover a total area of 105 hectares (ha). Despite this pre-existing land ownership, parts of the land have still been used by locals for subsistence crop farming, and InnoVent-CEC has been working with authorities to ensure that effects on these people are minimised and in line with local regulations and IFC performance standards. The scheduled commercial operation will be realised seven (7) Months after the Effective Date of the PPA.





Stakeholders

In partnering with Zambian stakeholders, GET FiT Zambia also strives to boost institutional capacity and strengthen the policy and regulatory framework for renewable energy IPPs in Zambia.

The GET FiT Zambia Programme is implemented by the German Government through KfW, and the MOE as Executing Agency. Funding of the Programme is provided by the German government. In addition, a multitude of Zambian stakeholders such as the Energy Regulation Board (ERB), ZESCO and Office for Promoting Private

Power Investment (OPPPI) under the MoE are involved in the Programme as well as other cooperating international organisations including the African Trade Insurance Agency (ATI). The main stakeholders of the Programme are presented on the following page.













Role of Main Stakeholders



MINISTRY OF ENERGY

GET FiT Zambia is a partnership between the Government of the Republic of Zambia and the Federal Republic of Germany. The MoE is responsible for executing the Programme on behalf of the Government of Zambia. The Department of Energy plays a key role in working with the GET FiT Secretariat and facilitates stakeholder engagement.



KFW

KfW's funding to the Zambian energy sector aims to expand and improve infrastructure for electricity generation. KfW has been helping the German Federal Government to achieve its goals in development policy and international development cooperation for more than 50 years. Strengthening the development capacity of African states, and mitigating climate change worldwide, are both priorities for German Development Cooperation. KfW in close cooperation with the Zambian Ministry of Energy, is responsible for the implementation of GET FiT Zambia.



GERMAN COOPERATION

The German Federal Government, and primarily the Federal Ministry for Economic Cooperation and Development (BMZ), facilitate programmes and projects in developing countries and emerging economies – from their conception and execution to monitoring their success. Many of these programmes and projects are financed and supported through KfW. The BMZ is currently supporting projects in 42 partner countries that are designed to disseminate renewable energies.



ENERGY REGULATION BOARD

ERB has the responsibility to ensure that utilities earn a reasonable rate of return on their investments that is necessary to provide a quality service at affordable prices to the consumer. In order to carry out this role, the ERB, among other functions, ensures that all energy utilities in the sector are licensed, monitors levels and structures of competition, investigates and remedies consumer complaints. The ERB was tasked with the responsibility to determine REFiTs to be used in the Programme and is responsible for issuing of the generation licenses.



ZESCO

ZESCO Limited is a vertically integrated electricity utility, which generates, transmits, distributes and supplies electricity in Zambia. It is a public utility, with the Government of the Republic of Zambia being a sole shareholder. ZESCO will be the main off-taker of energy delivered from GET FiT Zambia projects.

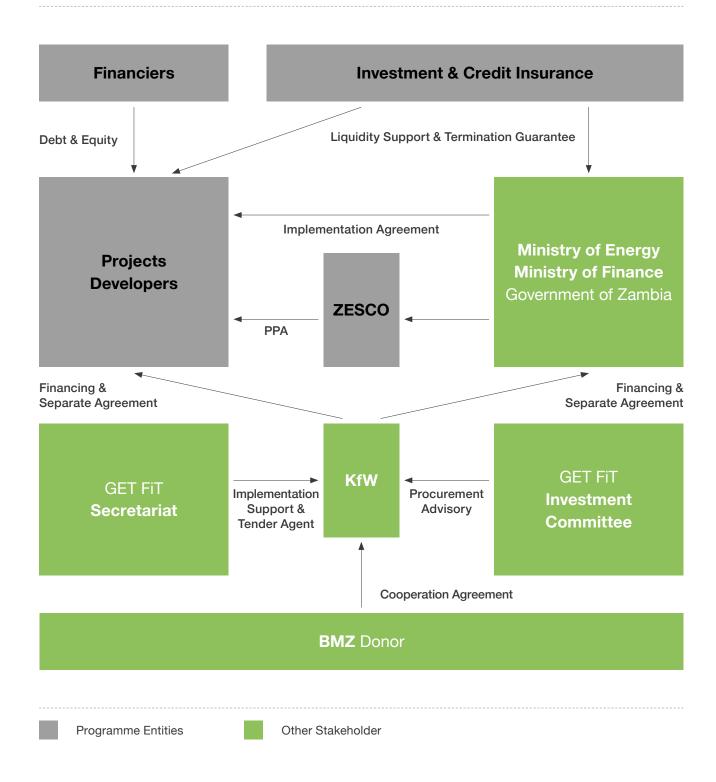


AFRICAN TRADE INSURANCE AGENCY

With the support of KfW, ATI developed the Regional Liquidity Support Facility (RLSF). The RLSF is designed to help IPPs developing renewable energy projects in Africa to obtain the liquidity they need in the event that their off-taker delays payment.

Programme Governance

GET FiT Zambia is managed by the GET FiT Secretariat in Lusaka, guided by an Investment Committee and overseen by the German and Zambian Government.





The Secretariat Office at ERB's facilities in Lusaka.

GET FiT Investment Committee

The GET FiT Zambia Investment Committee (IC) guided the implementation of the Solar PV Tender, and an IC has also been appointed for the implementation of the Small Hydropower tender.

The purpose and role of the members of the Investment Committee is to appraise the proposals for GET FiT projects that are submitted under the GET FiT Zambia tenders in accordance with the applicable guidelines. The IC also assists the GET FiT Secretariat from time to time by providing general policy guidance to programme stakeholders, including preparation of the tender documentation and design of evaluation criteria for the programme's tenders.

In accordance with the GFZ Operational Guidelines, the IC is comprised of five independent experts with backgrounds in renewable energy and project finance in Sub-Sahara Africa.

The GET FiT Zambia Secretariat

The GET FiT Secretariat is responsible for the dayto-day operations of the GET FiT process. The Secretariat is located at the ERB's facilities in Lusaka, and managed by the GET FiT Zambia Programme Implementation Consultant, Multiconsult Norge AS.

The Secretariat ensures timely and efficient implementation of the Programme, serving as the main point of contact for all stakeholders. The Secretariat provides comprehensive commercial, technical and administrative support in the effort to realize GET FiT's portfolio of small-to-medium scale renewable projects. A range of capacity building activities are undertaken as an integrated part of the Secretariat's activities, in addition to the management of the Technical Assistance Facility. Two full-time employees are in charge of the dayto-day Secretariat management, supported by the Programme Implementation Consultant's broad team of experts. The Secretariat works closely with the Department of Energy in the execution of its activities.

6

A Sector-Wide Approach

With the objective of improving the investment framework for private sector investments in small renewable energy at large, GET FiT Zambia is more than a renewable energy promotion programme.

GET FiT has a strong focus on activities that go beyond the implementation of the tender, aiming at leaving capacity to continue on the climate friendly path toward a sustainable energy future. GET FiT works closely with stakeholders across the sector to identify opportunities for improvement of capac-

ity and procedures, synergies with other activities and to spread knowledge about best practice in renewable energy procurement. Some of the sector wide activities of GET FiT Zambia are highlighted below.

Strengthening capacity for Renewable Energy Development

The GET FiT Zambia Technical Assistance Facility provides for targeted capacity building designed to support GRZ and other Zambian GET FiT stakeholders in the operationalisation of the regulatory and administrative environment for private sector investment in small scale renewables and to ramp up required technical skills. A central topic for the Technical Assistance Facility is effective grid integration to ensure efficient power system operations. The Secretariat's close cooperation with ZESCO in planning for grid integration of GET FiT projects combined with various studies and other technical assistance will ensure future efficient management of a power generation portfolio characterised by an increasing number of small, independent renewable energy power producers.

Capacity building is provided as an integrated part of the Programme Implementation Consultant's daily activities. Various experts within engineering, finance, procurement and other fields relevant for renewable energy development that are involved in the implementation, work closely with Programme stakeholders to ensure that the GET FiT process is safely embedded among capable and knowledgeable actors and leaves a trail of replicable and standardised processes for future renewable energy development.

Furthermore, the Secretariat also manages Programme funds for Technical Assistance, identifying relevant topics for assignments and studies to be outsourced to specialized experts.

E&S Capacity Building

GET FiT Zambia places strong emphasis on environmental and social sustainability and compliance of projects with IFC Performance Standards. The experience from GET FiT Uganda has shown that early interventions to support developers and strengthen E&S capacity has positive effect on project compliance throughout development and implementation of the projects. Observed benefits include reduced project implementation timelines and improved prospects for reaching financial close.

In November 2018, more than 100 participants attended a workshop hosted by the GET FiT Secretariat on compliance to IFC Performance Standards. The positive turnout to this event underscores a high level of awareness around this topic and the market's interest in GET FiT and its capacity building programmes.

Improving the Zambian IPP Licensing Framework – Partnership With IAREP

GRZ with the support of the European Union (EU) is implementing the "Increased Access to Electricity and Renewable Energy Production" project (IAEREP TA1) whose overall objective is to

increase access to clean, reliable and affordable energy and promote renewable energy production and energy efficiency across Zambia. GET FiT Zambia and IAREP have identified areas of synergy given some of their common objectives, and in early 2019 agreed to cooperate to support GRZ in its endeavour to strengthen the IPP licensing framework, including recommending revisions to and greater alignment between existing regulatory licensing and permitting processes.

Based on consultations with developers, financiers and development institutions as well as desk studies on regional licensing best practices, the team of consultants have collected inputs, concerns and recommendations for an initial analysis of the existing regulatory process. The IPP Framework will also take into account the Electricity Act No 11 of 2019 and Energy Regulation Act No 12 of 2019, approved by Parliament in December and effected into law in early 2020.

Workshops with government stakeholders were held in December to present and discuss the consultants' recommendations, for improvements to the ERB's regulatory licensing process as well as OPPPI's Power Sector Development Framework/



EU, ERB, MoE, IAREP and GET FiT Zambia representatives after workshops with government stakeholders were held in December to discuss consultants' recommendations for improvements to the ERB's regulatory licensing process.

IPP Framework. The outcome should be more streamlined and bankable licensing processes and appropriate guidance to private sector entities

seeking to invest in the power sector in Zambia on all the required regulatory and legislative process to follow.

GET FiT Zambia Knowledge Sharing

GET FiT shares experiences and knowledge about best practice in renewable energy procurement and strengthening investment conditions at various national and international sector related events. The Programme continues to get positive attention by policy makers and investors as a successful example of small-scale renewable energy promotion in Africa. In 2019, GET FiT Zambia was represented at several conferences, some of which are described below.

GET FiT Zambia at African Energy Forum (AEF) 2019

GET FiT Zambia hosted a panel discussion at the AEF, the global investment meeting for Africa's power, energy & infrastructure sectors, which was held 11–14 June 2019, in Lisbon.

The panel session on Realising Renewable Investments in Zambia covered a range of topics including the current state of the power sector in Zambia, the outcome of the record-breaking GET FiT Solar PV Tender and the challenging path ahead to execute the solar projects.

The panellists provided their insights as to key issues that need to be addressed in the sector, as well as offered advice as to achieving financial close on the GET FiT solar projects. These discussions drew upon the country- and transaction-experience of the distinguished panel. It was clear that Zambia is an interesting market when it comes to renewables, however, while developers are committed to realizing the projects, lenders remain concerned about the sector sustainability and wish



The panel session on Realising Renewable Investments in Zambia was moderated by GET FiT Zambia Director, Ms Judith Raphael and panellists included Dr Jan Martin Witte, Director – KfW, to the right, and other representatives of various stakeholders.

for key fundamentals to be addressed to ensure successful outcomes for the projects.

On the one hand, the GET FiT approach, including the development of bankable standardised project agreements, continues to receive praise from sector actors. On the other hand, the session confirmed the Secretariat's expectation that achieving financial close and realizing the 120 $\rm MW_{ac}$ of approved solar projects in a timely manner will undoubtedly be challenging and will require dedicated efforts from all stakeholders, particularly the Government of Zambia.

Future Energy East Africa Conference

In September 2019, the Future Energy East Africa conference and exhibition in Nairobi, Kenya – the largest and longest running regional power conference and exhibition in East Africa – brought together leaders from the regional and international power and energy community to discuss the status of critical projects, spot attractive opportunities

and share best practice. GET FiT participated at the exhibition and exchanged with a range of industry leaders and sector officials in the regional and international power sector community, providing updates on GET FiT Zambia, the result and progress of the Solar PV Tender, and the plans for the Small Hydro Tender.

The 5th Annual Southern Africa Power Summit 2019

Secretariat representatives attended the 5th Annual Southern Africa Power Summit 2019 in Cape Town, South Africa from 29th–31st October 2019.

GET FiT Zambia Project Director Ms Judy Raphael elaborated on the success of the GET FiT Zambia Solar PV Tender and gave updates on the upcoming Small Hydro Tender during the panel discussion on the 3 Pillars of Achieving Sustainable Energy Development in Southern Africa-Regulation, Financing and Technology.

Microgeneration

The REFiT Strategy provides for an initial 3-year REFiT microgeneration allocation of 5 MW. This is in response to the feedback received from Zambian private sector stakeholders during the REFiT consultations. Zambian developers were concerned about their competitiveness if participating in procurement programmes such as GET FiT and Scaling Solar on equal basis as more experienced international companies.

In 2019, funding for a full feasibility study and design of the concept was confirmed, and the Secretariat collaborated with DoE to prepare for the study. The feasibility study is scheduled to be concluded by the end of 2020 and shall develop guidelines, rules and eligibility criteria as basis for implementation of the Microgeneration component from 2021.

Building on Lessons Learned

GET FiT Zambia's design is based on a variety of lessons learned from other donor-funded, private sector development programmes. This section elaborates on some of these learnings and how they influenced the implementation of GET FiT Zambia.

GET FiT Zambia benefits from access to a wide experience from six years of implementation of the GET FiT pilot in Uganda. Two key lessons from GET FiT Uganda that have been given particular attention in the Programme design of GET FiT Zambia are described under the following:

- Efficient use of donor funds
- Ensuring effective grid integration

A range of other lessons learned in GET FiT Uganda are published in the "GET FiT Uganda Lessons Learned" briefing notes. An overview is provided at the end of this section. In the same spirit, GET FiT Zambia is dedicated to sharing lessons learned from its implementation to benefit other private sector development and private-public partnership programmes. Lessons from GET FiT Zambia will be elaborated on in later Annual Reports.



Efficient Use of Donor Funds

Learning from GET FiT Uganda: How can GET FiT Zambia use donor funding efficiently to help developers over the "hurdle"?

GET FiT aims at improving the framework conditions for renewable energy investments in Zambia. One of the barriers to such investments is a high perceived risk of investment leading to high return requirements. GET FiT addresses this barrier from two angles: i) lowering the return required by potential renewable energy developers in the market, and ii) improving the return on investments in renewable energy projects.

On the one hand, GET FiT Zambia works closely with regulators and the governments in order to improve the investment environment. It establishes a track record of successful private participation in the renewable energy market and provides dedicated Technical Assistance to key sector stakeholders. The objective of these interventions is to improve confidence in the market and thus lower the *required return* for developers to participate in the market.

On the other hand, the Programme provides tangible support for individual projects in the form of a fixed subsidy (per kWh) for the duration of the PPA. The subsidies increase the project revenues and thus *increase the rate of return* of a potential investment. Ideally, this will ensure that the investor achieves the required rate of return and makes an investment decision.

KfW has commissioned a study in cooperation with Centre of the Environment, Energy and Natural Resource Governance (C-EENRG) of the University of Cambridge to better understand the impact of GET FiT Uganda. One of the research questions was to what extent the GET FiT Programme had unlocked private investments that would not have happened otherwise. This question is also of great interest for GET FiT Zambia, which targets private

investment promotion and improvement of framework conditions for private sector participation as a key objective.

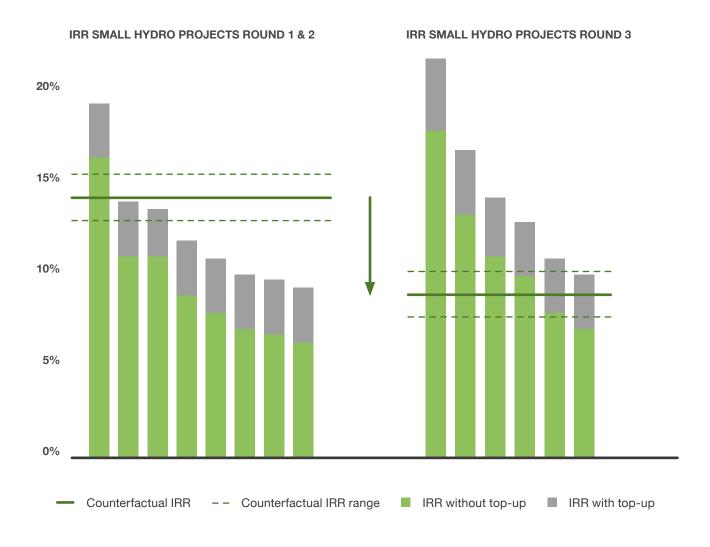
The study used a threshold approach, comparing the IRR of GET FiT projects against the project with the lowest IRR that was realised without support, after being rejected from GET FiT participation (see graph to the right). This counterfactual rate is considered the Required Return on Equity ('hurdle rate') for projects to be commercially viable at that point in time. This threshold approach was applied for the results from the first two RfP rounds, and a new *counterfactual* rate was found for the third procurement round.

The study made two observations in that regard: First, there is evidence that the GET FiT intervention successfully lowered the required rate of return between the implementation of the consecutive rounds, an indication for an improved investment environment and a great accomplishment for the Programme.

Secondly, not all subsidies provided in the last procurement round appeared to have been strictly required to enable the investments. Specifically, in the first and second round, seven out of eight projects would probably not have been built if not receiving the subsidies and support by GET FiT. In contrast, four out of six projects that were awarded GET FiT subsidies in the third round could potentially have been realised without the subsidy.

From GET FiT Uganda to GET FiT Zambia

The observations from the study show that GET FiT Uganda effectively enabled investments, but that by the third round the subsidy was less required and it was time for donor funding exit.



In the interest of efficient allocation of donor funds, the aim should be to support only those projects that would otherwise not be realised. A fixed subsidy amount for all projects in a portfolio, will inevitably come with inefficiencies in subsidy allocation, as one will also be paying subsidies to projects that would have been viable in any case – or with a lower subsidy amount.

However, it is challenging to determine the exact subsidy level needed for individual projects to be financially viable. This has been an important subject when developing the GET FiT Zambia tender strategy. The introduction of a competitive element to allocate subsidies is an attempt to allocate only the amount required to fill the gap between expected return and the required return. This is achieved by letting developers bid for their required subsidy in the procurement process, which will be considered in the scoring and project selection. With this, the Programme aims to minimize the risk of subsidies creating windfall profits.

Ensuring Effective Grid Integration

Ensuring timely grid integration for GET FiT projects turned out to be a major obstacle for the success of GET FiT Uganda. To address this, GET FiT Zambia includes a dedicated programme component to support efficient grid integration of the portfolio.

The GET FiT pilot in Uganda faced a variety of challenges. In addition to construction delays, environmental and social compliance issues and others, one of the key challenges was – and continues to be – the full evacuation of power. In particular, two issues provide important lessons for GET FiT Zambia: i) delays in constructing the connection infrastructure and ii) insufficient grid capacity to fully evacuate power from GET FiT projects.

Timely and appropriate grid connection was identified as a potential challenge early on in the implementation of GET FiT Uganda, and an additional donor contribution to ensure grid infrastructure for GET FiT projects amounting to circa 20 million EUR was secured from the Government of the United Kingdom. Despite this, the Programme experiences high levels of deemed energy¹, and several projects lack connection infrastructure at the date of commissioning. This has resulted in multiple events of deemed commissioning². More than 20% of the produced energy from the whole portfolio was deemed in 2019. This represents about 90 GWh deemed energy, associated with approximately 8.5 million USD in costs for the utility. In GET FiT Uganda, projects were not responsible for their own connection infrastructure and had to rely on Ugandan authorities to provide it. However, numerous challenges were encountered, such as funding shortfall, and resulted in substantial delays in construction.

Learning from these challenges, GET FiT Zambia integrated a grid connection component into the Programme – the *Grid Facility*. The component includes various measures to mitigate the risks relating to grid connection, as illustrated in the figure on the following page.

In GET FiT Zambia, developers must plan and build the connection infrastructure themselves. The assets will be handed over to ZESCO at the commissioning of the plant. Through GET FiT, developers will be compensated for infrastructure costs that cannot be recovered through the REFiTs. This is addressing the first issue, by reducing the risk of delays in providing connection infrastructure.

Interim Rapid Grid Assessment

To address the second issue – insufficient grid capacity to evacuate power from GET FiT projects – GET FiT Zambia has implemented multiple measures: At an early stage in the tender process, GET FiT supports the Zambian authorities to assess grid connection options and connection costs for all projects through an "Interim Rapid Grid Assessment" (IRGA). The IRGA identifies potential constraints in the grid which might hinder integration and evacuation of power from the project. Additionally, the grid connection solution is a project evaluation criteria in the tender. Finally, a "Congestion Assessment" will be performed as a final step of the evaluation process, to identify

Deemed energy is defined as energy that could not be delivered to the buyer, due to grid failures or constrained power evacuation. The standardised Power Purchase Agreements (PPAs) include 'deemed energy' clauses to protect investors from the risk of the off-taker's inability to evacuate the power produced.

² Deemed commissioning refers to the commissioning of a plant before the grid connection infrastructure and/or sufficient evacuation capacity is in place.

eventual bottlenecks that may hinder the evacuation of power from the awarded projects by considering the cumulative impact of generation from the entire portfolio. This process allows for the initial elimination of those projects that will not be able to evacuate power, due to congestion in the grid, and ensures that only the projects that are capable of feasibly being integrated to the grid, being granted an award.

Technical Assistance for Improved Grid Management

GET FiT Zambia's pro-activity on this issue goes further, to improve Zambia's capacity for grid integration of renewable energy capacity and operations. The Programme's Technical Assistance Facility provides funding for grid-related studies as well as Technical Assistance, workshops and capacity building for relevant sector institutions. Particularly, the identification of areas within the grid that require integration support of intermittent renewable energy (Solar PV) into the grid and its implications for hydropower operations, was requested by local stakeholders and will be implemented in 2020 and the following years.

Through these measures, GET FiT Zambia aims at minimizing the grid related risk for both developers and the off-taker and ensuring successful evacuation of the produced energy. The inclusion of "successful grid-connection and power evacuation" in the GET FiT Zambia results framework emphasises the importance of grid connection in the course of implementation (see Chapter 7).

Mitigating challenges experienced in GET FiT Uganda through tailored activities of the GET FiT Toolbox



GRID CONNECTION AS PART OF PROJECT

Developers responsible for financing and construction of connection infrastructure.





GRID CONNECTION ASSESSMENT

Cooperation with grid operator ZESCO to conduct pre-bid assessment of grid connection of potential bidders, an Interim Rapid Grid Assessment and a congestion assessment as part of evaluation.





TA AND GRID STUDIES

Dedicated funding for Technical Assistance, additional grid studies, capacity building and support.



FUNDING SUPPORT

Funds dedicated to support connection costs and eventual necessary deep grid integration measures.

GRID CONNECTION CHALLENGES IN GET FIT UGANDA

Severe delays in construction of connection infrastructure and grid infrastructure at some projects not robust enough to evacuate the full capacity of projects.



High levels of deemed energy at multiple projects: In 2019, 20% of the total potential energy of the portfolio could not be delivered to the grid. This signifies a heavy burden and unnecessary cost for the off-taker that also has to compensate for deemed energy.



Lessons Learned Briefing Notes

GET FiT Uganda has published seven Lessons Learned briefing notes, which describe the challenges experienced and solutions relevant for similar programmes. These have provided valuable contributions to the design of GET FiT Zambia.

In 2018, GET FiT Uganda undertook a comprehensive effort to map out, elaborate and present key lessons learned from seven main areas of Programme implementation. All briefing notes have been published in World Bank PPP knowledge lab, contributing to providing important insights for future similar programmes, also for GET FiT Zambia. The lessons learned briefing notes are accessible on www.getfit-uganda.org. The following topics are presented in the briefing notes.

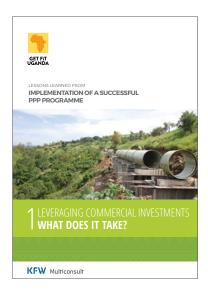
- Leveraging Commercial Investments, reflects over GET FiT's role in leveraging capital for renewable projects, and concludes that long term commitments are important.
- Setting the Stage, outlays the factors that are important before initiating a GET FiT Programme. At implementation initial open discussions and enabling framework is important.
- Programme Implementation, underlines
 the importance of flexibility in design
 and implementation, fostering effective
 coordination and ensuring integrity of award
 process.
- Developers Engagement, describes the importance of a transparent selection process where selection criteria and technical requirements are communicated clearly.
- Complying with E&S Performance Standards, presents the importance of guidance on E&S issues along with having clear incentives (and disincentives) to comply with E&S requirements and standards.

- Making the Impact Stick, state the importance of TA and infrastructure development.
- Monitoring for Results, notes the importance of also measuring soft results such as institutional capacity building, and working smarter – not harder – to achieve results.

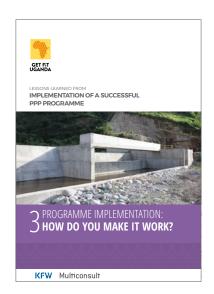
The Lessons Learned briefing notes have provided valuable inputs to the Programme design and are a continuous resource for Programme activities. Particularly, the IPP selection criteria and technical requirements, as well as the inclusion of a dedicated Technical Assistance facility at the outset of the Programme, were influenced by lessons learned during the GET FiT implementation in Uganda. This will contribute to mitigating risks for local stakeholders, and developers respectively.

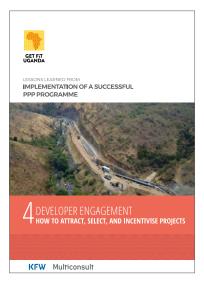
Another major focus of GET FiT Zambia will be environmental and social safeguarding. Injuries, resettlements and land effected by supported projects are diligently monitored throughout the implementation period. Furthermore, a mechanism to ensure compliance with environmental and social guidelines was put in place.

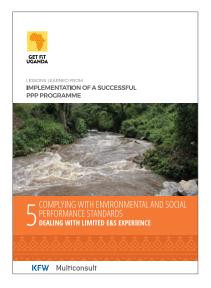
As described in the sections above, GET FiT Zambia will also use a competitive approach for allocating top-up subsidies to ensure efficient use of donor funds. Further, learning from grid-related challenges in Uganda, the results monitoring framework in GET FiT Zambia includes a separate section to track the successful grid integration and power evacuation. All these measures based on the Lessons Learned from GET FiT Uganda will make the Programme robust – and will ultimately contribute to a successful implementation.

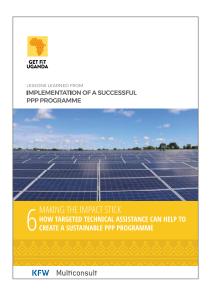


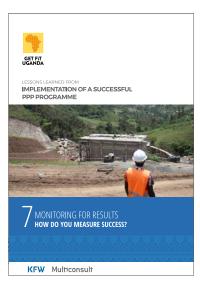


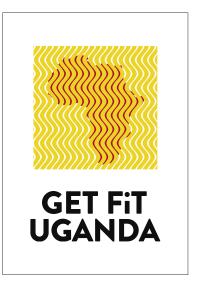














Financial Status

GET FiT Zambia has received significant contributions from the German Government that will ensure the successful implementation of the first phases of the Programme.

To date, the German Government has committed 41 million EUR to the Zambian Government for the implementation of GET FiT Zambia. The commitment is embedded in Financial Agreements between KfW and the Ministry of Finance of Zambia. Depending on needs and interest, funding opportunities through other donors may allow for potential extensions and add-ons to the Programme.

The funding available for GET FT Zambia will have four main purposes:

- Project subsidies
- Grid integration support
- Technical Assistance
- Consulting services

The largest share of the funds (approximately 70%) will be used for project subsidies for small hydropower projects. In the GET FiT Zambia context, such subsidies are referred to as Viability Gap Funding (VGF), designed to close the gap between the offered power tariffs and the tariff necessary for investors to achieve the required rate of return on investments. This way, the Viability Gap Funding can leverage substantial amounts of private capital to the Zambian power sector. The VGF will be front-loaded and performance-based, with 50% of the subsidy disbursed at the time of commissioning and the rest paid over the two first years of operation. The subsidy amount will be determined as a function of energy supply estimates, and as mentioned before, in Zambia this amount will be based on the USDc/KWh bid received from the developer.



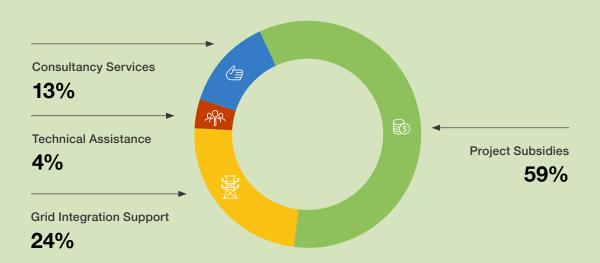












Since subsidies will be allocated to the projects as a competitive element in the Small Hydro Tender, it is difficult to estimate the exact amount required to achieve the REFiT Strategy targets. While the German committed funds are likely to be sufficient for the first small hydropower procurement round of 50 MW, implementation of subsequent rounds will depend on remaining available funds.

Another large share of the funds will likely be required to secure the **grid connection** of GET FiT projects. Developers will be responsible for planning and construction of shallow grid connection infrastructure, to be handed over to ZESCO at commissioning. GET FiT will close eventual funding gaps through compensating developers for the infrastructure costs.

Funds reserved for the TA Facility will provide for relevant studies and technical assistance sourced externally, in addition to the structured capacity building programmes provided by the Programme Implementation Consultant.

Finally, the contribution covers the cost of the Programme Implementation Consultant who manages the GET FiT Secretariat in Lusaka. The Programme Implementation Consultant is responsible for collaboration with and support to the key sector institutions to implement the renewable energy tenders, and all other Programme activities including monitoring & evaluation, financing & funding mobilisation support, TA coordination, and integrated capacity building activities.

The actual allocation of funds to the different components purposes is unknown, as the exact required amounts will only be known after completed procurement rounds. The chart above illustrates an indicative distribution of Programme funds based on simulation of possible small hydropower portfolios.

Programme Monitoring & Risk Management

GET FiT Zambia's aims to achieve lasting and transformative results for Zambia. The Monitoring & Evaluation (M&E) framework is the tool to monitor to what extent the Programme's long-term objectives are achieved.

The M&E framework enables stakeholders to maintain focus on the intended long-term effects of the Programme and can be a deciding factor for success or failure. It also enables GET FiT to bring transparency on how funds are deployed and to showcase good results beyond a successful procurement of renewable energy. This is particularly important for donor-financed programmes.

The M&E framework enables GET FiT to learn from experience and apply lessons for continuous improvement throughout the implementation, as well as provide lessons for other private sector development programmes. The framework includes a risk management system that allows early identification and registration of key developments and risks so that challenges can be effectively addressed by adjusting interventions and implementing mitigation measures.

This chapter presents the Monitoring & Evaluation framework, reports on monitoring results for 2019 and risk management, and discusses how the Programme produces "Value for Money" for the donor funds.

The Monitoring & Evaluation Framework

GET FiT Zambia's Monitoring & Evaluation framework is designed as a robust tool for monitoring results, unexpected developments and risks, and is a basis for evaluation of the Programme's long-term impact.

The M&E framework includes *Outputs, Outcome* and *Impact* in a hierarchical structure. Results on one level is logically linked to progress on the lower level. The Programme's activity (in the GET FiT Zambia context termed Toolbox) produces the Outputs, defined to be within the Programme's *Sphere of Control*. While the Outputs influence the achievement of the Outcome, this level is also influenced by other activities, and is defined to be within the *Sphere of Influence*. Achieving the Outcome will contribute to the intended Impact, the *Sphere of Interest* of the Programme. The M&E framework (also called results framework) is shown on the next page.

GET FiT Zambia's five Outputs are:

- Increased small-scale, on-grid renewable energy at competitive cost
- Avoided Greenhouse Gas (GHG) emissions

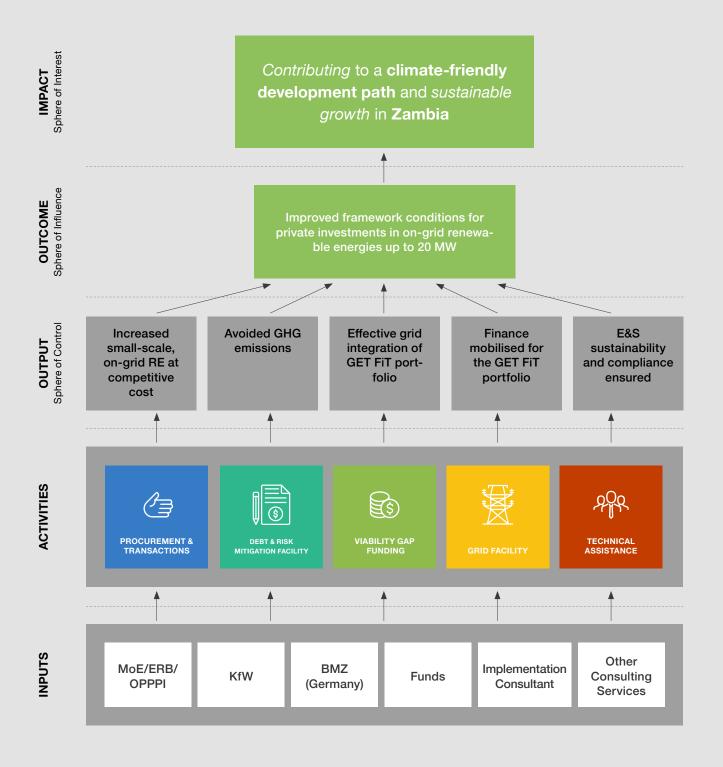
- Effective grid integration of the GET FiT portfolio
- Finance mobilised for the GET FiT portfolio and
- E&S sustainability and compliance ensured.

Achieving these Outputs contributes to improving framework conditions for private investments in on-grid renewable energies up to 20 MW (the Outcome). With this as result, GET FiT Zambia will likely have contributed to the overall Impact: "a climate friendly development path and sustainable growth in Zambia".

Programme performance toward these objectives is based on reporting from key stakeholders. Reported values of indicators associated with each of the Outputs and Outcome, determined together with stakeholders, are compared to baseline values and target values.

The Results Framework

Through the GET FiT Toolbox, the Programme will have a direct effect on the sector in terms of increasing climate-friendly, renewable energy capacity at competitive costs and leveraging private capital for the energy sector – to improve the investment framework, and ultimately contributing to sustainable growth in Zambia.



Monitoring Results

After its first full year of implementation, GET FiT shows good progress. The developers of awarded Solar PV projects are actively engaging with potential lenders in preparation for construction start, while the launch of the first RfP for the Small Hydro Tender is under preparation.

2019 is the first round of structured monitoring since the Programme's inception in mid-2018. The performance of the Programme will be reported on an annual basis. The overview on the next pages shows the progress toward achieving the Outputs, Outcomes and Impacts, as measured by the core indicators of the Programme. A range of other sector-level indicators will be tracked during Programme monitoring, and notable developments will be reported. The current Programme targets are set based on a 150 MW portfolio to reflect the current funding situation. Targets will be reviewed as and when funding for the full 205 MW allocated by the REFiT Strategy is committed.

While the Programme is progressing well, tangible effects are expected to take several years to materialize. Since the results to report on the M&E Framework after only one year of implementation are limited, the following section will provide additional context and expected developments in the following years of implementation. Results are presented in the form of a logical framework (log-frame), including a list of indicators, their target value, value in the reporting period and comments.

Outputs

Output 1 refers to increased capacity at an affordable price, which includes capacity of, generation from and average price of GET FiT projects. As noted earlier, the current targets are set based on a 150 MW portfolio. With the award of 120 MWac in Solar PV capacity, the Programme is already well on track. However, formalisation of these projects through PPA's and Financial Close is required before the results can be reflected in the logframe. The year 2020 will provide more clarity with regard

to expectations for the hydropower capacity procured with current funding.

The Programme aims to offset 500,000 tons of GHG emissions every year. Avoided GHG emissions will be calculated based on the established grid emissions factors methodology for the respective technologies – recently updated by UNFCCC.

Deemed energy and deemed commissioning will be reported under a separate Output, considering the challenges that were experienced in GET FiT Uganda. Particularly, the number of months with constrained evacuation (grid unable to take more than 90% of the energy generated) and deemed commissioning (days of operations under insufficient grid infrastructure) will be considered.

Leveraging private investments is a key objective of the Programme. In total, the Programme aims to attract 250 million USD in investments from IPPs, generating a leverage ratio of 4.1. Since the Programme already awarded projects representing investments for 120 MW $_{\rm ac}$ of Solar PV capacity, it is well on track to achieve these targets. It should be noted that a project is only considered in these indicators, once it has achieved Financial Close.

Finally, an important factor to consider in the development of projects under GET FiT is compliance with environmental & social standards. GET FiT will track a selected range of indicators, covering injuries during construction, required resettlements and affected land.

GET FiT acknowledges that environmental and social safeguarding is a crucial element of the Programme – and therefore monitors developments rigorously.

Output Indicator		Target ³	2019	Comment		
Output 1 Increased small-scale, on-grid, renewable energy capacity at competitive cost						
Output Indicator 1.1 Financial close achieved (in MW)		150	0	No project has achieved Financial Close yet.		
Output Indicator 1 Commissioned cap projects (in MW)		150	0	No project has commissioned yet.		
Output Indicator 1 Electricity delivered projects (in GWh/ye	d from GET FiT	500	0	No project has started generation yet.		
Output Indicator 1 Weighted average (in USDc/kWh)	1.4 per PPA price	8.5	0	Projects are considered once the PPA is signed. No project has signed a PPA yet.		
Output 2 Avoided GHG emissions						
Output Indicator 2 Net change in GHG GFZ projects (in tC	emissions from	500,000	0	No project has started generation yet.		
Output 3	Effective grid inte	gration of the GF	Z portfolio			
Output Indicator 3 Days of deemed co	mmissioning of	0	0	No project has reached commissioning or deemed commissioning yet.		
Output Indicator 3.2 Months of constrained evacuation of GET FiT projects (number of months)		0	0	No project has started generation yet.		
Output 4 Finance mobilised for the GFZ portfolio						
Output Indicator 4 Financing mobilise projects (in MUSD)	d for GET FiT	250	0	Financing is only considered to be mobilised, once a project has achieved Financial Close.		
Output Indicator 4 Leverage ratio of G (ratio)		4.1	n/a	Private investments are only considered as leveraged once a project has reached Financial Close.		
Output 5	Output 5 E&S sustainability and compliance ensured					
Output Indicator 5.1 Fatalities or serious injuries related to the GET FiT portfolio (number of incidents)		Minimal	0	Project construction has not started yet.		
Output Indicator & Displaced people of (number of persons)	due to GFZ projects	Minimal	0	Displaced people are considered once a project has started construction. No project has started construction yet.		
Output Indicator 5 Affected protected projects (number of	land areas by GFZ	1	0	A maximum of one hydropower project should affect a protected land. Projects will only be considered once construction has started.		

³ Targets for the year 2024, based on portfolio size of 150 MW (100 MW_{ac} solar and 50 MW hydro), corresponding to the current donor funding commitments.

Outcomes

Similarly to the Outputs, tangible results did not yet to materialize on the Outcome level. The Outcome is measured by means of five separate indicators. These indicators assess to what extent the framework conditions for private investments in on-grid renewable energies up to 20 MW were improved.

The first two indicators relate to the share of total energy represented by capacity and generation from small-scale, on-grid renewable energy IPPs. Currently, there are no such projects in the country, with private investments only in off-grid (Zengamina) and larger-sized projects (LHPC with two hydropower projects with more than 20 MW in installed capacity as well as Neoen's 76 MW_{ac} Scaling Solar project). GET FiT Zambia intends to increase this share by fast-tracking a portfolio of such projects – and ultimately create a good

basis for further private investment in such projects beyond the GET FiT implementation.

Further to the increased capacity and generation, the number of projects that are using standardised documentation developed under GET FiT is used as an indication of the framework conditions for private investments: if more projects are using the standardised documentation, the conditions for private investments have likely improved.

The annually published Climatescope will serve as another indicator for the investment environment. In 2019, Zambia has achieved remarkable results, ranking 13th out of 103 countries assessed – scoring particularly well on *Opportunities* (linked to current and future electricity demand) and *Experiences* (linked to the volume of installed clean energy).

Improved framework conditions for private investments in on-grid renewable energies up to 20 MW

Outcome 1 Proportion in power generation mix (% of installed capacity)	3.70%	0.00%	There are currently no on-grid, small-scale renewable energy projects in the country. Only Zengamina operates an off-grid plant of 0.7 MW, and the privately-held LHPC operates two dams with 24 and 32 MW in capacity.
Outcome 2 Share of total electricity delivered to the grid (% of generation)	2.70%	0.00%	There are currently no on-grid, small-scale renewable energy projects in the country.
Outcome 3 Number of projects using standardised documentation (number of projects)	10	0	No project has signed the developed, standardised documentation yet.
Outcome 4 Climatescope Ranking (Score from 0 to 5)	2.15	2.35	Zambia ranked 13th in the 2019 Climatescope report, scoring particularly well on opportunities and experience. The value in the baseline year 2018 was 2.03.
Outcome 5 Number of projects outside the GET FiT portfolio that reached Financial Close (number of projects)	1	0	No on-grid, small-scale renewable energy IPP outside of GET FiT has reached Financial Close.

⁴ Targets for the year 2024, based on portfolio size of 150 MW (100 MW_{ac} solar and 50 MW hydro), corresponding to the current donor funding commitments.

Finally, the number of projects reaching Financial Close outside GET FiT, with the criteria highlighted earlier, is the last Outcome indicator. GET FiT targets at least one additional project outside GET FiT to achieve Financial Close by the end of the Programme implementation.

In addition to the five indicators mentioned above, GET FiT monitors a range of additional sector-level indicators to track developments – enabling an early identification of opportunities and threats for the Programme.

Impact

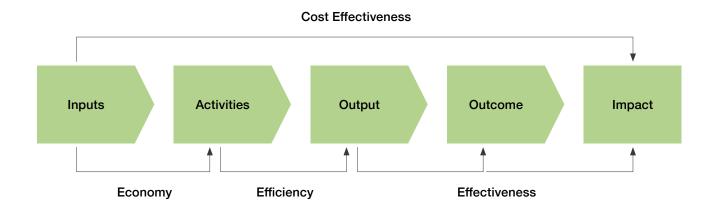
GET FiT Zambia's impact statement is "Contributing to a climate-friendly development path and sustainable growth in Zambia". In the results framework, it is assumed that the Impact is achieved when the Outcome is achieved. Therefore, the Programme is not monitoring the Programme through indicators in the official logframe and results framework. Nevertheless, GET FiT is keeping track of developments that can give meaningful insight as to the development on this level.

Measuring Value for Money

Value for Money (VfM) is a concept that aids to assess whether donor funds are allocated to interventions where they produce high value. Through the Annual Reports, GET FiT Zambia will assess and report on the Value For Money (VfM) of the funds made available to the Government of Zambia.

Public support to international assistance programmes becomes more robust with increased transparency on how money is spent and the results it produces. Adding to the previous section which monitors qualitative and quantitative indicators, this section presents a simple framework to assess the monetary value of the results against the financial inputs, which will be used in the future Annual Reports once results start to materialize.

VfM measurements show how much one will obtain of a wanted consequence through the money allocated to the given purpose. VfM measurements create a basis for better programme management to spend funds more efficiently and continuously increase value for the money. It also provides valuable background for discussions about what causes good or bad performance.



The methodology used in VfM considerations is based on the same principles as the M&E framework. Inputs to the Programme will enable the implementation of certain activities, resulting in outputs that produce outcomes and impacts.

Value For Money can be measured from three angles; Economy, Efficiency and Effectiveness. While Economy assesses the cost of implementing the activities in the programme, the efficiency

and effectiveness dimension focus on how the Inputs translate into Outputs and Outcome. Useful Output indicators will be selected as parameters to measure the Efficiency. This may include equity and debt leveraged for the power projects, as well as the value of jobs created, power supplied and GHG emissions reduced - relative to the donor funding. The Effectiveness of the Programme will be measured by improvements in the framework conditions.

Risk Management

Risk monitoring is an important tool to manage external developments and their impact on the results. Through quarterly monitoring, GET FiT Zambia tracks and reviews risks that can affect Programme performance and whether Outputs effectively will translate into improved framework conditions for private investments in small-scale renewable energy.

GET FiT Zambia's risk management framework analyses risk in an impact-probability perspective, assessing risk in terms of level of probability of occurrence and the potential negative impact it could have and labelling each identified risk as Acceptable risk, Risk that require follow-up or Risk that require mitigation measures to be implemented.

The key risks for GET FiT Zambia are roughly divided into six categories:

- Policy and Macro Environment
- Power Sector & ZESCO Reform
- Market & Investor Interest
- Local Capacity
- Environment, Social & Governance
- Sustainability of Results

The key risks identified at this stage in the Programme are explained below.

Macro-level economic outlook

The macroeconomic environment influences investor's risk perception as well as donor interest and willingness to provide financial support. At the end of 2019, uncertainty related to the macro-economic environment in Zambia persisted, with concerns particularly related to fiscal and debt sustainability. Gross Domestic Product (GDP) growth was on a three-year low at 2%, with inflation around 10% at the end of the year.

Financial situation of ZESCO

The public, vertically-integrated power utility ZESCO will be the off-taker of electricity from the GET FiT projects, and their credit-worthiness determines PPA bankability and investor confidence. Facing the high levels of debt that burden ZESCO, the RLSF from ATI offers a liquidity guarantee to GET FiT projects. A positive signal is a significant retail tariff from January 2020, which will boost the utility's revenues, but cost-reflectivity of retail tariffs is still uncertain. A cost-of-service study is underway and will support the path toward tariff cost-reflectivity.

IPP experiences

The appetite of investors and financiers to participate in IPP development is influenced by the macro-economic and sector sustainability factors described above, as well as the experiences of other IPP development in the market. A positive track-record of IPPs reporting of positive experiences related to project development in the Zambian investment framework as well as honoured PPAs, are important signals to investors. The high level of competitiveness in the Solar PV Tender as well as the number of Small Hydro developers participating in the prequalification process, clearly indicate that the market attracts strong interest. However, the positive decision of Development Finance Institutions (DFI) depends on the Government implementing measures to improve the financial situation of ZESCO in the short term as well as laying out a clear and credible roadmap for long term sector sustainability.

Public procedure progress

Transparent and efficient procedures require capacity within and good coordination among key sector institutions. Long time-lags or delays related to Feasibility Study Right (FSR) licensing, DFA signing, ESIA clearance, Generation license and other formalities increase time and cost for project preparation. The cooperation with the EU Programme IAEREP related to the IPP Framework aims at improving transparency and efficiency in

IPP licensing. Additionally, GET FiT's TA Facility can be directed strengthen OPPPI's capacity to access and store data and thus improve the transparency of Feasibility Study Rights allocations.

Environmental & social standards

Renewable energy development requires strong and competent Environmental and Social management to protect vulnerable population groups and cultural and ecological values, minimize social tension and avoid project delays.

Construction of projects requires acquisition of land that in Zambia in many cases is under customary tenure; strict Health Safety and Environmental (HSE) standards are necessary to avoid accidents during construction or operation of power plants; and all projects must comply to requirements from National Heritage and Conservation Commission (NHCC) as well as Zambia Environmental Management Agency (ZEMA).

Successful implementation of GET FiT Zambia puts strong requirements on developers to manage these processes, and coordination and clarity of roles and accountabilities among Zambian institutions is critical. GET FiT Zambia maintains a strong focus on such E&S specific risks, and actively works to improve both developer and institutional capacity for E&S compliance.



10

Outlook

2020 will be an active year for GET FiT Zambia's sponsors, stakeholders, developers and investors, undoubtedly with both challenges and excitement.

After awarding the 120 $\rm MW_{ac}$ Solar PV capacity in 2019, efforts in 2020 will focus on successfully achieving financial close and start of construction amidst the uncertain outlook of the energy sector.

In parallel, the local capacity building workshops at the universities will be launched in the beginning of the year. The Secretariat looks forward to assisting the awarded consortia in facilitating the workshops which will help build capacity in the sector from students' level.

With the development of the Microgeneration component, local stakeholders anticipate an opportunity to contribute to bring on more solar PV on the grid, in line with the REFiT Strategy. There are also expectations that this component will build a proven track record and strengthen the capacity of local developers to compete in international tenders.

On the hydro side, the prequalified developers who were granted FSR in September 2019 are gearing

up toward the launch of the GET FiT Zambia Small Hydro Tender – a major milestone for the first half of the year. A second window for FSR opened for additional candidates to qualify for eventual subsequent rounds of the SHP.

In parallel and complementary to these key processes, the Secretariat will continue the close cooperation with and support of government stakeholders, partners, financiers and developers, giving no less attention to implementation of Technical Assistance packages benefiting various stakeholders and exploring opportunities for new beneficial partnerships, and synergies with ongoing efforts to strengthen private activity in renewable energy in Zambia.

Bracing up for an exciting year ahead, the Secretariat look forward to gaining ever more experiences from implementation of an efficient and sustainable renewable energy programme, creating lessons learned for the future in Zambia and across Africa, and continuing to tell the GET FiT story.

List of Abbreviations

AEF African Energy Forum

ATI African Trade Insurance Agency

BMZ Federal Ministry for Economic Cooperation and Development

ERB Environmental and Social Energy Regulation Board

EU European Union

FSR Feasibility Study Rights

GDP Gross Domestic Product

GET FIT Global Energy Transfer Feed-in Tariff

GHG Greenhouse Gas

GRZ Government of the Republic of Zambia

HSE Health Safety and Environmental

IAEREP Increased Access to Electricity and Renewable Energy Production

IFC International Finance Corporation

IPP Independent Power Producer

IRGA Interim Rapid Grid Assessments

IRP Integrated Resource Planning

KfW Kreditanstalt für Wiederaufbau

M&E Monitoring & Evaluation

MoE Ministry of Energy

MW Megawatt

OPPPI

MW_{ac} Megawatt in alternating current (AC) capacityNHCC National Heritage and Conservation Commission

Transmar Hernage and Contest valient Commission

Office for Promoting Private Power Investment

RE Renewable Energy

REFIT Renewable Energy Feed-in Tariff

RfP Request for Proposal

RfQ Request for Qualification

RLSF Regional Liquidity Support Facility

SHP Small Hydropower Projects

SSA Sub-Saharan Africa

TA Technical Assistance

VfM Value for Money

ZEMA Zambia Environmental Management Agency

The People at Work for GET FiT Zambia



The programme is mainly carried forward by the GET FiT Zambia Secretariat in Lusaka and the Zambian governmental institutions Department of Energy (DOE) and Office for Promoting Private Power Investment (OPPPI). The picture to the left shows representatives from the GET FiT Secretariat and the DoE. From left to right, back to front Agnelli Kafuwe (DoE), Dailesi Njobvu (Secretariat), Judy Raphael (Resident Programme Director, Secretariat), Brian Siakwenda (DoE), Isaac Soko (DoE) and Allan Chivunda (DoE).

KfW, in close cooperation with the Zambian Ministry of Energy, is responsible for the implementation of GET FiT Zambia, supported by Multiconsult as Programme Implementation Consultant:



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Ryan Glenn Anderson Multiconsult Project Director



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GET FiT Zambia Annual Report 2019

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