# RECOMMENDATIONS FOR THE DESIGN OF SUCCESSFUL RENEWABLE ENERGY AUCTIONS OR COMPETITIVE TENDERS IN AFRICA

## LESSONS FROM SOUTH AFRICA

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## Acronyms

| | |
|---|---|
| **BW** | Bid Window |
| **CSP** | Concentrated Solar Power |
| **DA** | Direct Agreement |
| **DOE** | Department of Energy |
| **ED** | Economic Development |
| **EIA** | Environmental Impact Assessment |
| **FIT** | Feed-in Tariff |
| **GET FiT** | Global Energy Transfer Feed-in Tariffs Programme |
| **IA** | Implementation Agreement |
| **IPP** | Independent Power Producer |
| **kWh** | Kilowatt hour |
| **MW** | Megawatts |
| **PPA** | Power Purchase Agreement |
| **PV** | Solar Photovoltaic |
| **RE** | Renewable Energy |
| **REFIT** | Renewable Energy Feed-in Tariff |
| **RFP** | Request for (Qualification and) Proposal |
| **REIPPPP** | The Renewable Energy Independent Power Producer Procurement Programme |
| **SED** | Socioeconomic Development |
| **USD(c)** | United States Dollar (cents) |
| **ZAR(c)** | South African Rand (cents) |

# Introduction

High-level energy policy objectives generally do not differ much between countries: most seek an energy sector that will foster economic development and social welfare within the bounds of environmental sustainability. Ultimately, what African governments seek to achieve when procuring power can be summarised as follows:

- an adequate and reliable electricity supply
- that is competitively priced,
- that is progressively available to all,
- that is environmentally sustainable
- and promotes socio and economic development

The cost of renewable energy (RE) is falling and is increasingly able to meet the above policy objectives. Globally, innovation and competition have driven down costs, and solar photovoltaic (PV) and wind energy are now amongst the cheapest electricity sources in many countries, including South Africa.

The majority of RE projects in Africa have been procured through unsolicited, directly negotiated projects. **However in Africa and elsewhere, there is compelling evidence that competitive tenders or auctions provide superior investment price outcomes** (Eberhard et al, 2016). In contrast, directly negotiated projects have tended to be more expensive, and the other common alternative procurement mechanism, Renewable Energy Feed-in tariff (REFIT) schemes have yielded very few African projects.

Arguments against competitive tenders - that they are too complicated, have high transaction costs and take too long versus direct negotiations or REFITs - can mostly be countered by experience. **Competitive tenders can deliver a pipeline of bankable projects within a reasonable time,** especially when tenders incorporate standard power purchase agreements (PPAs) and appropriate credit enhancement and security measures. **And any resources devoted to designing and running these tenders are easily justified in the lower bid tariffs obtained.** Competitive tenders or auctions also increase transparency and minimise corruption.

**Increasingly, global experience is demonstrating that competitive tenders or auctions are the way to go in procuring renewable energy.** From 2011 to 2015 the number of countries running RE competitive tenders or auctions has increased substantially from 36 to at least 60. In contrast, FiT policies have seen slowed growth from 70 to only 79 over the same period (REN21, 2015).

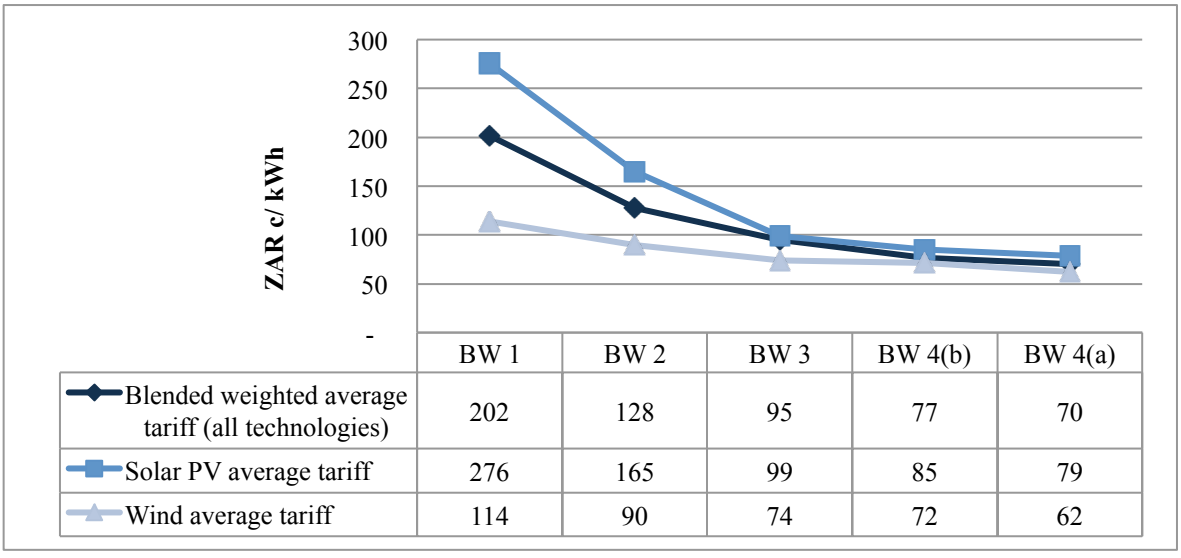
**South Africa provides a striking example of the success of a well designed RE competitive tender.** The Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) was launched

to facilitate private sector investment into grid-connected RE generation in South Africa, and IPPs were invited to submit bids for onshore wind, solar PV, concentrated solar power (CSP), small hydro, biomass, biogas or landfill gas projects.

Between 2011 and 2015 there were four such rounds of competitive bidding, where each round is referred to as a Bid Window (BW). Bid submissions for another 1,800 MW were submitted under an 'Expedited Bid Window' in November 2015 and will be awarded later in 2016. Competition has been fierce, with over 390 submissions across BWs 1 to 4 resulting in just under a quarter (92) of these - mostly wind and solar PV - being selected for the procurement of 6,328 MW, amounting to a total investment of USD 20,5bn.

Prices have fallen sharply (Source: Authors' calculations from Eberhard et al (2014) & date from DOE IPP office) and projects awarded under BW 4 indicate that solar PV and wind energy are now cheaper than the national utility's average cost of supply. Not only this, but **they are amongst the lowest priced grid-connected RE projects in the world, with solar PV and wind reaching as low as ZARc 77 (USDc 6.43) per kWh and ZARc 56 (USDc 4.66) per kWh, respectively.** Indications are that the current expedited window will deliver even lower prices.

This significant average tariff decline - from BW 1 to 4, by 48% for wind and 71% for solar PV - **also speaks to the benefit of running multiple bid rounds**. IPPs have been able to lower costs as they learn from prior in-country experience and competition has grown.




| | BW 1 | BW 2 | BW 3 | BW 4(b) | BW 4(a) |
|---|---|---|---|---|---|
| Blended weighted average tariff (all technologies) | 202 | 128 | 95 | 77 | 70 |
| Solar PV average tariff | 276 | 165 | 99 | 85 | 79 |
| Wind average tariff | 114 | 90 | 74 | 72 | 62 |

**Figure 1: Average bid tariff of awarded projects (ZARc)** [1]

Source: Authors' calculations from Eberhard et al (2014) & data from DOE IPP office.

[1]Note: Due to the competitiveness of the bids received in BW 4, two stages of preferred bidders were announced. The first, BW 4(a), awarded the 13 highest ranked bid responses. Later BW 4(b) awarded a further 13 projects. Because the BW 4(b) projects

By September 2016, 51 of the 92[2] contracted projects were fully operational, demonstrating both the ability of a competitive tender to expedite the delivery of numerous operational projects, as well as the shorter timeframes associated with constructing RE generation plants versus conventional fossil fuels.

**The REIPPPP is widely regarded as one of the world's most successful and best-governed renewable energy procurement programmes.** In less than four years, South Africa has achieved more investment in IPPs than in the rest of Sub-Saharan Africa (SSA) over the past two decades.

**The primary barriers to implementing RE across SSA remain institutional**. Governments need to build on best international practices in running competitive tenders for new power generation capacity, including renewable energy. **There is currently a strong interest from international developers in Africa, and using the REIPPPP framework as a springboard will allow governments to launch timely and quality renewable energy procurement programmes.**

**The recommendations below build on these South African lessons for designing and running competitive tenders for grid-connected RE IPPs**. In doing so we have been mindful that transaction costs for the South African programme were relatively high and that RE markets differ from country to country. **The recommendations will need to be tailored to local contexts.**

## How to design a winning RE IPP procurement programme

Global experience has shown that a successful RE competitive tender is one that is designed to achieve two key goals (IRENA and CEM, 2015):

- **Increased competition** amongst bidders to reduce price outcomes.
- Participation only by bidders that have the capacity to implement their projects at the contracted bid tariff within the given timeframe.

Based on these objectives, the Management Programme in Infrastructure Reform and Regulation at the University of Cape Town's Graduate School of Business has identified **nine key take-outs from the South Africa REIPPPP that might be relevant for other African countries.**

[2] This excludes the projects awarded under the Small Projects bidding windows.

# Part A: High Level Recommendations

## 1. Establish a clear policy and an enabling environment

To generate real interest from investors, **a country must commit to developing its RE market**. This commitment can be demonstrated by incorporating specific RE policy objectives and targets into the country's overall energy policy and **by establishing a clear 'roadmap' for RE investment**. Targets must be sufficient to attract private sector interest. However, **to be truly effective, these policy objectives and targets must be supported by clear policy tools; in other words, a plan for RE procurement**, such as a series of competitive tenders or auctions or a FIT scheme.

As an example, South African energy policy had already started to consider broad RE objectives and private procurement as far back as 1998 when the Energy Policy White Paper was published. In 2003, these objectives were further developed and the first (albeit modest) RE policy target was set, but without a policy tool or mechanism for achieving the target. It was only a decade later that a REFIT Consultation Paper was published. While the REFIT scheme was never fully implemented, and was replaced by the REIPPPP competitive tenders in 2011, it ignited private sector interest by sending a sufficiently strong 'signal' that South Africa was serious about RE IPP partnerships.

There is no one-size-fits-all RE policy framework or set of targets. These will depend on electricity needs, natural resources and other local factors. **An Integrated Resource Plan is useful for setting RE targets within the context of the overall energy mix and should be translated into timely procurement initiatives.** First, government needs to allocate power capacity targets and timelines to the national utility or private IPPs, and then timely procurement processes need to be launched.

In South Africa, the Energy Minister has been given powers to translate the electricity plan into procurement initiatives by making Ministerial Determinations specifying how much power should be procured from which sources by when and by whom (the national utility or IPPs). The private sector thus has an indication of available investment opportunities over the short and medium term.

**RE procurement programmes should also be supported by other government measures to create an enabling environment for the private sector**: for example, improving the overall investment climate and ease of doing business, non-discriminatory access to the grid; offering exemptions on import duties or, at the very least, a clear tax regime for renewable energy.

While "RE-friendly" policies and regulations are important for procuring private sector investment, a country in urgent need of additional generation capacity need not wait for the enabling environment to be

perfect: this can evolve and be adjusted in response to market challenges over time. **South Africa's experience demonstrates that significant investments in new generation capacity are possible even in a power sector that has undergone only limited market and regulatory reforms.** Although an Independent Regulator has been instituted, and IPPs are permitted, the vertically integrated and state-owned national utility retains a dominant market position (Eberhard, Gratwick, Morella, & Antmann, 2016). Within this context, decisive intervention was required by the Department of Energy (DOE) to launch the REIPPPP.

## 2. Mandated and coordinated leadership

### 2.1. Political commitment

**Political commitment is an important signal to the private sector** in terms of authorizing, mandating and sustaining a renewable energy procurement programme. The political impetus for the REIPPP came from the South African President's commitment at the Conference of the Parties (COP) meeting of the United Nations Framework Convention on Climate Change (UNFCCC) in Copenhagen in 2011. While this was a voluntary commitment to reduce South Africa's carbon emissions over time, it translated directly into the next iteration of the country's electricity plan - Integrated Resource Plan – for the first time incorporating a significant mix of renewable energy power sources. As described above, this plan resulted in new renewable energy procurement processes, which gave birth to the REIPPPP.

Political support can also be enhanced through maximizing and demonstrating the social and economic development benefits of renewable energy. The REIPPPP procurement process included economic development (ED) qualification and evaluation criteria - with the latter comprising a significant 30% of the final bid scores. **Including ED obligations in the procurement programme is a good motivator for political support**, although the extent of ED criteria imposed in the REIPPPP (which will be discussed in Part B) may not be replicable in other African countries.

### 2.2. Mandated, competent and credible programme leadership

Political commitment should also be demonstrated by **appointing a programme champion or leader and management team** that have a clear and visible mandate to lead the procurement process, and can do so efficiently and transparently. They should also be independent of the off-taker of power from the renewable energy IPPs, which in most cases is the national utility.

In South Africa, the government's Department of Energy (DOE) recognised that it had little institutional capacity to run a programme of the size and complexity envisaged for the REIPPPP and approached the

National Treasury's Public-Private Partnership Unit (PPP). A few members from each department formed a combined DOE-IPP office that was given full authority to run the programme and which operated largely outside of civil service regulations by setting up an independent office with contractual links to the Development Bank of Southern Africa (albeit firmly under the governance control of the DOE). Because key members of the team had National Treasury PPP experience, they were respected and trusted by the private sector.

Critically, the procurement management team should be capable and competent in managing a number of transaction advisers. South Africa's lack of RE procurement experience prompted the programme champion to tender for a large team of transaction advisers, many of whom had international experience in renewable energy auctions. In the initial design stage there were over 50 advisers involved (and the number of advisers increased to over 100 over the course of the programme).

It may not be possible in other country contexts to appoint a team leader with extensive experience of PPPs and working with the private sector. Neither may it be possible to replicate the ad-hoc nature South Africa's DOE-IPP office which, although under the governance of the DOE, had a high degree of operational autonomy. However **what is crucial, is that the team selected is respected by both the private sector and government officials, is competent in managing numerous transaction advisors, and is given full authority to design and run the procurement programme.**

Finally, the REIPPPP's success was bolstered by the programme leader's questioning attitude and determination to ensure that the renewable auction design was appropriate to local conditions and requirements. **A strong programme leader should challenge transaction advisors to try new design options that may be better tailored to the local context.**

For example, in many international RE competitive tenders, governments had typically chosen the project sites, borne the cost of connection and generally assumed more of the risk. The team leader knew this would place unacceptable pressure on the South African government. The responsibility was transferred to bidders to locate suitable sites, and the Power Purchase Agreement (PPA) allocated more risks to IPPs versus the off-taker than was common internationally.

### 2.3. Coordination of government departments

At bid submission, a RE competitive tender often requires proof of numerous consents and approvals relating to the proposed project site. These are obtained from various government departments and the (national) utility. For example, in South Africa, EIAs were evaluated by the Department of Environmental Affairs; water use licenses were processed by the Department of Water Affairs; sites on agricultural land required authorisation through the Department of Agriculture, Forestry and Fisheries; and Cost Estimate Letters for grid connection were required from the national utility.

These consents can result in potential delays. By 2013 more than 1,500 environmental authorisation applications had been made to South Africa's Department of Environmental Affairs in respect of RE projects.

**Government departments and related authorities (at all levels - national, provincial and municipal) should be involved from the early stages of the programme and should coordinate and streamline their approval processes.**

## 3. Adequate resources to hire transaction advisors and implement the programme

**Upfront and adequate funding is necessary to hire expertise for the design of the procurement programme and its associated documentation and contracts.** Funding can come either directly from government or from a loan or grant from development finance institutions.

One of the key lessons from the REIPPPP is that **governments and the programme champion should not hold back on spending what is needed to secure expert and experienced international advice at the design stage, as this is critical to the programme's ultimate success. However they should also aim to build local professional advisory capacity to sustain the programme**. In terms of local advisors, the REIPPPP's core team consisted of representatives from four legal firms, two financial firms and one technical firm, although others were also used - indicating the extent of advisory capacity required. The benefits of low prices from a well-designed auction justify the costs of hiring international expertise to help design and run the auctions.

**The ongoing costs of subsequent bid rounds may be covered by charging project development fees to successful bidders**. In South Africa, this fee was set at 1% of each awarded project's total cost and meant that subsequent REIPPPP bid rounds could function without ongoing government budget allocations.

## 4. Auction Design Built on International Best Practices

### 4.1. Wide consultation

**It is important to engage with project developers and private sector equity sponsors as much as possible during the design stages of the programme** to determine market readiness and which factors they deem essential for investing. **It is equally important to engage with potential lenders**, as most IPP projects are highly geared and, without a potential pool of debt financing, the programme is unlikely to get off the ground. Finance institutions should be invited to comment on the bankability of draft contracts and agreements. **Roadshows can be effective for courting potential financiers.**

### 4.2. International Benchmarking

**Arguably the most important step in designing a RE competitive tender is carefully study of international experience and best practice**. For example, the South African legal advisors studied RfPs and PPAs that had been used for RE programmes in Spain, India, California & the UK. While not all international experience could be replicated, it provided a benchmarking framework which could then be adjusted to South African conditions and needs.

### 4.3. Procurement Model – Competitive Tender versus REFIT and Directly Negotiated

We have already discussed that one of the advantages of competitive tenders, especially when combined with bankable and standardised contracts, is that they can develop a pipeline of bankable projects during the bid process, as opposed to an ad hoc series of negotiations with unsolicited offers, often from dubious project developers. Up-to-date power plans linked to timely initiation of competitive tenders is a much more effective way of dealing with power shortages than direct negotiations with unsolicited offers.

We have also highlighted the tariff benefits. **Competitive tenders are more responsive to market movements and innovations than FIT programmes, allowing for "real price discovery"** (IRENA and CEM, 2015). RE auctions in developing countries can attract bids from well-established international project developers that have installed thousands of megawatts of RE capacity in various countries and boast extensive sector expertise. Project developers and sponsors are in a much better position to determine appropriate market-related renewable energy prices (adjusting for developing country risks) than African governments or regulators who generally have limited experience in RE and IPP partnerships and have generally either set REFiTs, or directly negotiated contracts, at much higher prices than those revealed in competitive tenders or auctions.

Had the REFIT scheme not been abandoned in South Africa, the country could have been saddled with a number of long-term contracts at prices much higher than those subsequently achieved in the REIPPPP. While prices in BW 1 were bid close to the originally published REFIT tariffs, subsequent bid rounds saw prices fall. In BW 2, the reduced capacity on offer (1,275 MW, compared with 3625 MW in BW 1) stimulated more competition and resulted in the average bid tariff dropping by 21% for wind and a remarkable 40% for solar PV. Ongoing competition resulted in further price reductions in subsequent rounds.

Updating REFITs would have first required debate and policy approval, and it is unlikely that the regulator would have accurately predicted the market well enough to sufficiently reduce the REFITs to the extent by which they fell through market competition.

Table 1: Comparison of tariffs under the terminated REFIT Scheme versus price caps and bids in REIPPPP BW 1-4

| Technology | REFIT (ZAR/ kWh) | | REIPPPP (ZAR/ kWh) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Price Cap | | | Average Tariff | | | | Average Tariff Decline | | |
| | 2009 Tariff | 2011 Tariff | BW 1 & 2 | BW 3 | BW 4 | BW 1 | BW 2 | BW 3 | BW 4[3] | BW 1 to 2 | BW 2 to 3 | BW 3 to 4 |
| Wind | 1.25 | 0.94 | 1.15 | 1.00 | Removed | 1.14 | 0.90 | 0.74 | 0.62 | -21% | -18% | -22% |
| PV | 3.94 | 2.31 | 2.85 | 1.40 | Removed | 2.76 | 1.65 | 0.99 | 0.79 | -40% | -40% | -25% |
| CSP | 3.14 | 1.84 | 2.85 | 1.65 | 1.65 | 2.69 | 2.51 | 1.64 | n/a | -7% | -35% | n/a |

*Source: Eberhard et al, 2014, based on DOE source; Authors' calculations from DOE IPP unit data*

**RE competitive tenders also produce better price outcomes than directly negotiated projects.** Governments and utilities seldom have the capacity to assess whether an unsolicited offer is competitively priced. On the other hand, **bidders in competitive tenders face price competition and must agree to standardized contracts upon bid submission, which removes their bargaining power during the contract signing stage.**

**However, it is important to recognise that auctions only work if there is sufficient competition.** To attract a large number of (experienced) bidders, the programme must be structured in a way that stimulates competition. This should be achieved through some of the following design features.

### 4.4. Two-stage versus one-stage tender process

Government and the programme champion must decide whether the auction should be a one-stage or two-stage process. The South African REIPPP was a one-stage process where bidders who met qualification criteria could proceed to evaluation. While **the advantage of the one-stage process is speed, its disadvantage is high transaction costs for non-qualifying bidders. The two-stage model includes a prequalification round, so that only sufficiently qualified and experienced bidders progress to the more detailed and demanding bid evaluation round**. **A two-stage model aims to reduce transaction costs for bidders who do not prequalify, but obviously takes longer**. An expedited process may be important for SSA countries; many of who are facing critical power supply shortages and need additional generation capacity to come online rapidly. On the other hand, it is important to attract more investors and stimulate competition by reducing transaction costs.

As was done under the REIPPPP, **any country that selects a one-stage tender approach should compensate for the absence of prequalification by requiring all interested bidders to pay a bid bond (to discourage non-serious bidders), as well as setting stringent compliance and qualification**

[3] Excluding 13 additional projects contracted in BW 4. Including those projects, the average costs come to ZARc 0.68 for Onshore Wind and ZARc 0.82 for Solar PV.

**criteria before they are evaluated** and scored based on their price (and perhaps also economic development parameters). While this has worked well in South Africa, a one-stage tender does impose a significant cost burden on bidders, many of whom absorb these costs without being awarded any projects. **Where a two-stage tender is used, the prequalification round requirements must be as simple as possible**. The requirements should either be very clear pass or fail requirements, or a straightforward scoring system.

### 4.5. Multiple bid rounds, with smaller capacity blocks available for tender per round

One of the most important lessons to emerge from the REIPPPP is **the value of running sequential auctions at regular intervals**, and **capping the power capacity that is auctioned in each auction or bid round**. This stimulates competition and drives down tariffs by ensuring that demand (from bidders) exceeds supply (that is auctioned) in each round. The capacity on offer, though, should not be so small as to discourage investor interest. Multiple bid windows are attractive to bidders because the perceived 'higher chance' of being awarded a project at some point, knowing that there will be several rounds of capacity on offer, encourages more investors to participate.

**Bidder risks and costs will fall as IPPs acquire more experience and local knowledge, allowing them to bid more competitively as the bid windows progress**. For example, under the first bid round of the REIPPPP, none of the 53 bids submitted were fully compliant in terms of meeting qualification requirements to progress to comparative evaluation, and required assistance from the programme champion to complete their bids for evaluation. The 'failures' were largely due to non-material issues as a result of inexperience and the tight submission timeline; however, over the rounds a number of high quality "Tier 1" players with a deep understanding of the programme have developed.

Multiple bid rounds also allow for lessons to be learned and improvements to be made on the government side, as they are able to streamline and refine the tender documentation and legal contracts with each bid round. **Tender flexibility is important** to reduce transaction costs and make participation more attractive, which again increases the number of interested bidders. For example, the introduction of "Returning Compliant Bidder" provisions in BW 4 of the REIPPPP makes it less onerous for previously unsuccessful, but compliant, bidders to resubmit bids.

Section 4.3 above demonstrated the negative price consequences of overestimating the size and readiness of the RE market and offering significantly more capacity than there are bid-ready projects in the initial auction. The REIPPPP's first round price outcomes were close to price caps and not at all competitive. **We recommend starting smaller and then gradually ramping up the programme through larger capacity offerings in later rounds.**

### 4.6. Technology-specific versus technology-neutral competitive tenders

Whether or not countries should use technology-neutral or -specific tenders depends on their RE resource, power requirements, as well as grid constraints, and there is no one-size-fits-all solution. South Africa has shown that it is possible to run a multiple technology competitive tender, using the same tender documentation with common qualification and evaluation criteria, as well as certain technology-specific requirements and contracts (for example, technology-specific PPAs). There was no competition between technologies, as specific capacity amounts were made available per technology per bid round.

In practice this does make the tender documentation much more lengthy and onerous, but **multiple technology tenders are useful for revealing relative market prices and which technologies show the greatest promise for cost and price reductions**. In South Africa, the smaller technology categories - biomass, biogas, landfill gas and small hydro - attracted far fewer bids than the larger wind and solar PV projects. It is suspected that this was either due to the price cap being set too low to make the smaller technologies viable (most awarded projects in these technology categories were close to, or at, the price cap), or because the REIPPPP's high transaction costs, coupled with the smaller project sizes, resulted in an unfavourable risk-return profile. This could suggest that these **smaller scale technologies may generate more participation under a programme that is separate to the mainstream RE options, with an auction design that has lower transaction costs to better suit their risk profile**.

### 4.7. Limitation of individual project size per technology

**The size of individual projects permitted should be** capped to encourage more competition and to reduce buyer risk through a diversified seller base. However, this cap must not be so low that it prevents projects from achieving economies of scale that would reduce bid tariffs.

There is a tension between designing an auction that incorporate economies of scale and seeks lowest prices and one that also seeks maximum participation by smaller local project developers. In South Africa, the large, multinational RE developers, especially utilities using corporate finance, have been accused of pushing smaller local players out of the market. This has been a big challenge for the REIPPPP and is an important lesson for developing countries: the creation of a competitive environment should be balanced with local, broad-based procurement. Alternatively, government could introduce an additional programme that restricts participation to smaller, local IPPs. This has been attempted in South Africa via the Small Projects IPP Procurement Programme for projects of 1 to 5 MW only, with high local ownership requirements to support local players. However, prices achieved in the programme have been much higher than the main REIPPPP.

### 4.8. Sealed-Bid versus Open-Bid Tenders

The auction designers should decide whether they will solicit single sealed bids, or use an open descending clock auction design, perhaps combined with a final sealed bid. Under a sealed bid tender, such as the REIPPPP, all bidders are required to submit single price bids by a predetermined date and do not know what others have bid due to strict confidentiality undertakings. Because they may only bid once, they are unable to adjust their proposal based on competing bids.

An alternative method is the open descending clock auction, where the auctioneer would offer a price and available capacity, and developers would propose the quantity they would be willing to provide at that price. The auctioneer would then progressively lower the price in multiple phases until the total quantity bid matches, or marginally exceeds, the quantity available for procurement. In Brazil a hybrid model was used, where the descending clock phase was followed by a final sealed bid. This saw prices fall up to 20% below the last of descending clock bids.

Open, descending clock auctions have the advantage of producing more competitive price outcomes and are perceived to be more transparent than sealed bid auctions. This is a future possibility for South Africa now that the RE sector is entrenched. However, this model may be too complex to introduce in other smaller renewable energy markets. **Generally, the sealed bid approach is simpler, reduces possible collusion, and can still achieve good price outcomes.**

### 4.9. Selection of project sites

As discussed above, the REIPPPP allowed project developers to identify their own sites. However, **if land access is an issue in other Sub-Sahara African countries, it might be best for the government to identify the sites, secure land rights, and also do resource and environmental impact assessments (EIAs), as well as transmission connection and load flow studies.**

## 5. High quality, bankable documentation and contracts

The tender documentation, referred to as the Requests for Qualification (RfQ) or Request for Proposals (RFPs), and associated contracts, must be of the highest standard, based on international best practice and should allocate risks appropriately.

At a high level, **the RFP requirements must be carefully designed to filter out IPPs that are not financially, technically or legally capable of carrying out the project as promised within the given timeframe.** This ensures that awarded projects are as "fail-safe" as possible; in other words, that they will proceed to financial close and commercial operation effectively and timeously.

**A recurring criticism of international RE competitive tenders has been a high failure rate in bringing procured capacity online**, as a result of inability to reach financial close, construction delays and cancellations. **In contrast, the REIPPPP's clean record to date indicates that valuable lessons may be learned from the RFP requirements**, and these are detailed in Part B of this report.

**Finance should preferably be locked in at the time of bid submission. This approach was taken in the REIPPPP, effectively shifting the responsibility for detailed due diligence to the bank.**

While stringent qualification and evaluation criteria are essential for ensuring that all winning bidders will reach financial close and commercial operation, they should not be so onerous that they deter investment. This is particularly important in SSA countries that are only able to offer very small capacity tenders, as this adversely affects the risk-return profile for potential investors.

**Contracts should be standardised and non-negotiable. A key issue in Africa is ensuring project "bankability"** - in other words, that the terms of the PPA, Implementation Agreement and Direct Agreement are acceptable to sponsors and lenders. The Implementation Agreement usually provides some form of sovereign guarantee or backing to the PPA in the event of buyer default, while the Direct Agreement sets out lender step-in rights (see section below, as well as Part B of this report).

## 6. Appropriate risk mitigation, credit enhancement and security measures

**In most African countries it will be necessary to provide some form of credit enhancement and additional security to attract sufficient investment for these project-financed deals.** The REIPPPP included an effective sovereign guarantee embedded in the Implementation Agreement, although the contingent liability for the South African government was mitigated by an Inter-governmental Framework Agreement that commits Eskom to make good any payment defaults through pass-through of regulator approved tariff increases.

Risks may be mitigated by international arbitration arrangements, the involvement of Development Finance Institutions such as the World Bank or African Development Bank (including use of their guarantee instruments), letters of comfort and/or credit, ring-fenced revenue, etc.

## 7. Fairness, transparency and trust building to earn private sector trust

The programme should maintain the trust of private developers and investors so that investor interest is sustained and completion maximized.

### 7.1. Evaluations conducted under strict security conditions

South Africa's evaluation process was conducted as follows:

- **Private sector professional advisors were selected as evaluators, rather than government officials,** to demonstrate *independence*. Evaluation reports for each project were prepared by technical, legal and financial professionals.
- Each evaluator report was reviewed by independent review teams (different firms in the same field) to demonstrate *objectivity*.
- Strict security conditions included secure premises to house the bids and CCTV cameras that even filmed the evaluation process.
- Finally, an independent governance review of the overall evaluation process was conducted, to demonstrate *transparency*.

As a result, the REIPPPP tender evaluation process has been beyond reproach. Despite the large number of unsuccessful bids, there have been no formal or legal challenges to any of the award decisions. **We recommend the use of secure and well-audited procedures for managing the bid evaluation process**, to reflect objectivity and transparency.

### 7.2. Strong communication with the private sector

There should be **transparent and regular communication with potential and actual bidders and financiers**, including in the early design stages of the programme, and later in dealing with bid queries or requests for clarification. We also recommend that the programme champion holds **pre-bid workshops** to run through key requirements with interested bidders, and that responses to requests for clarification during the bid process are posted on a website and available to all bidders.

### 7.3. Maintaining programme credibility

In order for a government-run programme **to build private sector trust it must effectively meet deadlines**. While there have seen some slippages in South Africa, mostly due to changes in Ministerial appointments, and also the national utility's growing grid constraints, the REIPPPP has generally kept the evaluation and award periods short. However, several rounds have experienced delays in reaching financial close. Another critical issue is **a credit-worthy off-taker that meets payment obligations**.

## 8. Competitive and accessible capital markets accelerate investment

**The REIPPPP was significantly advantaged by South Africa's well-developed capital markets**, with local commercial banks and DFIs providing more than 80% of the total debt value of awarded projects to date. **This is not easily replicable, and other smaller economies may find it difficult to attract local commercial lender interest.**

Here, **development finance institutions have a key role to play.** Pension and insurance funds may also be potential sources of funding. Commercial banks in countries such as South Africa have developed experience and confidence in funding RE projects and are willing to consider projects in other African countries.

Over time, some of the South African projects will need to be refinanced, thus creating a secondary market with increased insurance and pension fund participation, while enabling commercial banks to continue supporting the development of new projects. This should also be a long-term consideration for any country planning a significant RE IPP roll out - how to refinance projects once they are operational so that experienced lenders who are willing to assume development risk are freed up to finance future projects as well.

## 9. Grid Connection planning must be coordinated with IPP programme

One issue which should have received more attention in South Africa's REIPPPP was the integration of generation and transmission expansion planning. As the REIPPPP unfolded, transmission constraints have delayed some projects and the national utility has frustrated the development of others. The development of RE resources, in most countries, implies a reconfiguration and strengthening of the grid. **A RE procurement programme needs to be complemented with an adequate transmission planning and investment programme.**

In hindsight, it may have been beneficial for project sites to be limited to specific zones where transmission capacity was in place, or could be strategically upgraded to serve numerous projects. The South African Cabinet recently approved the gazetting of Renewable Energy Development Zones (REDZ) in February 2016. These REDZ seek to concentrate wind and solar PV developments in specific geographical areas where investments in transmission grid strengthening will be concentrated. Strategic environmental assessments will also be undertaken in these zones, which will reduce the burden of individual project EIAs. Other SSA countries could use this approach.

# Part B: Recommendations for Tender Documentation and Contracts

Section 5 of Part A above provided a high level overview of the importance of high quality RFP documentation and associated contracts. Based primarily on the REIPPPP, we now highlight some of the clauses that are important in the design of RfP documents.

## 1. Request for (Qualification and) Proposals (RFP)

**Where a one-stage tender process is chosen, it is important to include two distinct sets of qualification/compliance and evaluation criteria in the RFP.** Firstly, general compliance requirements and qualification criteria must assess whether bids are "Compliant Bids". **A Compliant Bid is one that meets both general requirements and meets or exceeds a number of prescribed thresholds to 'qualify' for the second stage**. As discussed earlier, this ensures that only bidders that are competent and adequately resourced stand to be awarded.

**Second, compliant bids are then comparatively evaluated based on a set of evaluation criteria, which can consists of both a price and non-price component**. In South Africa's case, projects were scored according to their bid tariff (70% weighting) and a basket of Economic Development (ED) criteria (30% weighting).

### 1.1. General Requirements

- **Capacity restrictions:** The RFP should state the total capacity available for tender per technology, as well as the individual project size permitted per technology. In the REIPPPPP, each wind, solar PV and concentrated solar (CSP) project was capped at 140 Megawatts (MW), 75 MW and 100 MW, respectively.

- **Price caps:** It may be useful to set a "ceiling price" per technology. This provides a (maximum) guideline for interested bidders, which could be used in the initial bid rounds when a country is new to RE procurement and there are few, or no, local RE IPP benchmark prices. It also ensures that the evaluation team does not waste time and resources assessing bids that are not at all competitive, and mitigates the risk of passing on high costs to consumers. Once a procurement programme is established, with sufficient competition, these price caps may be removed.

  Caution must be exercised: poorly researched price caps can do more harm than good; too low, and they fail to stimulate private sector interest; too high, and bid tariffs may be less competitive than they would have been without them, as bidders realise that the host government is poorly informed. In

determining reasonable price caps, international benchmarking should be performed along with an analysis of how country-specific factors are likely to affect renewable energy prices versus international experience.

- **Bid bonds:** An amount prescribed in the RFP (imposed per MW of project capacity) must be pledged by a bidder as a 'guarantee' that they will deliver on their project as bid and within the time prescribed. In the event that they fail to do so (the conditions of which are pre-specified in the RFP), this amount is forfeited to the host government. The objective of this 'penalty cost' is to protect against unrealistic proposals by inexperienced bidders who would subsequently struggle to finance and deliver on their projects as proposed.

  When setting the required bid bond quantum, government should consider whether the tender is a one- or two-stage process and the stringency of qualification criteria. For example, South Africa set a fairly high initial bid bond to deter inexperienced, under-resourced bidders that would have been eliminated during the prequalification round of a two-stage tender process.

  An interesting lesson from the REIPPPP is how this bidder guarantee ramped up once bidders were informed that they had been selected as provisional preferred bidders. Thereafter they had only 15 days to lodge a new “preferred bidder guarantee” - for double the Rand (ZAR) amount of the original bidder guarantee, to qualify for official appointment as preferred bidders. This could be forfeited to government if the preferred bidder failed to: comply with any conditions contained in the letter of appointment as preferred bidder; sign any of the required contracts within the time period specified under the RFP; or pay the development fee when prescribed (although this is not an exhaustive list).

  While the guarantee should be significant enough to weed out unwanted bidders, an excessive amount can make it difficult even for competent bidders to secure the guarantee and participate.

- **Development fee:** As discussed, preferred bidders should be charged a development fee equal to a small percentage of their project cost, to cover the future running costs of the procurement programme, including the cost of transaction advisors.

- **Bid currency:** Host governments must decide whether bid tariffs should be proposed, and ultimately paid, in the local currency or a common international currency such as the US Dollar. This will also apply to the presentation of monetary amounts in the financial proposal.

  Where governments decide on local currency bid tariffs, bidders are exposed to subsequent foreign exchange (forex) movements in respect of certain foreign currency upfront capital expenditures (imported equipment is generally a substantial percentage of upfront cost) and operating costs. These

costs are typically required to be factored into the bid tariff, based on a government-prescribed spot rate at bid submission. However, in many developing countries, macro factors can lead to sudden, and significant, devaluations of the local currency versus the international currencies in which these imports and operating costs are to be paid. If the bid tariff remains as proposed at bid submission, the potential adverse consequence on the project's return can be a deal breaker for IPPs. While bidders can 'hedge' for forex risks themselves, a government offering of some protection for this risk does make participation more attractive.

The REIPPPP did this by permitting adjustments to the prescribed spot rate used at bid submission (which adjusted the bid tariff) at financial close in respect of capital expenditures. There was no forex adjustment for operating costs, because the bid tariffs are linked to inflation under the programme (discussed below), which should supposedly compensate for operating cost forex movements via the economic theory of Purchasing Power Parity. In practice many of the REIPPPP's awarded IPPs have found this insufficient and note that the significant ZAR devaluation over the past few years has been damaging to their rate of return.

The host government should also not take on too much forex risk. A lesson from the REIPPPP was that, as of BW 3, a cap was placed on the level of forex exposure that government would compensate for between bid submission and financial close.

In many countries in Sub-Saharan Africa, investors will only accept hard currency (US dollar or Euro) denominated PPAs.

- **Clauses to reduce collusion and enhance transparency:** As discussed, a key strength of sealed bid tenders is that they reduce collusion versus open tenders. This must be supported by strict confidentiality clauses in the RFP - for example, bidders should submit signed declarations that they will not discuss their bid tariff, or even whether they are participating in a bid round. This has proven effective in South Africa. Not only did the REIPPPP have zero tolerance for collusion amongst bidders, but also any collusion involving government officials, and corrupt processes.

- **Returning Compliant Bidders:** Where multiple bid rounds are envisaged, the RFP should include allowances for bid projects that were compliant, but unsuccessful in the comparative evaluation under previous rounds. For example, the REIPPPP exempted them from re-submitting land and environmental consents, provided there had been no changes to the project site since the prior bid.

### 1.2. Qualifying Criteria

*General recommendations:*

- It is crucial to **draft RFP documentation in a way that minimises variations in bid responses and thus allows for as little 'qualitative' assessment as possible**. The REIPPPP achieved this by ensuring that the information put together for bid responses was as standardised as it could be. For example, the RFP included a separate volume containing the "Form of Bid and Returnable Schedules", which provided numerous standardised undertakings required from bidders upon bid submission. Numerous Appendices (under various Volumes to the RFP) also provided templates for declarations and submissions required as qualifying criteria.

- While the REIPPPP has maintained testing qualification criteria, it has relaxed some criteria in later rounds that were deemed excessive or added unduly to bidder burden and cost. This highlights an important lesson - **where possible, shift any necessary, but non-essential, requirements (such as some consents and permits) from bid submission to preferred bidder requirements that are necessary for financial close**. Specific examples will be provided under the relevant category of criteria.

*Legal Criteria:*

- It is advisable that the project company is established as a special purpose vehicle (SPV), whose sole purpose is to undertake the bid project. The REIPPPP has proven that **it is not necessary for an SPV to be registered by bid submission, provided that there is an undertaking to establish one post-appointment as preferred bidder.** This saves unsuccessful bidders the time and cost of registering a company (albeit a small relative cost).

- While various legal undertakings are required at bid submission, arguably the most important one is that **all bidder companies, their members and lenders must confirm that they accept the terms of the standardised PPA, Implementation Agreement, Direct Agreement and Connection Agreements without any mark-ups.** This minimises delays in financial close due to lengthy legal negotiations. In cases where any shareholder entities have not yet been incorporated by bid submission, the appointed Lead Member of the project company must confirm that these will be registered as indicated in the bid. Furthermore that, once they are incorporated, they agree to be bound by the bid response as if they had existed at submission.

*Land:*

- **A key design feature is whether government or IPPs chose the project sites**. As discussed, **this depends primarily on land access** - such as whether land in the country is largely privately owned and

whether land entitlement is clear. In countries that do not have clearly defined title deeds, negotiations with local communities living on the land becomes even more difficult. Here, it is recommended that the government selects sites and performs some of the preparatory work prior to the tender.

- In South Africa, IPPs were required to choose their own sites and did so successfully. **Certain restrictions on the distance of the site from the grid can expedite grid connection works and thus commercial operation date**, which is an important factor for certain SSA countries.

  While allowing bidders to select their own sites does stimulate competition and allows them to locate projects in areas with the most favourable renewable energy resource, **pre-selecting areas eligible for projects has a number of benefits. This includes focusing the construction of infrastructure (grid, roads, IT, water) in selected areas, facilitating planning and engagement with local communities, while still stimulating competition by creating scarcity for bidders** (GIZ, 2013).

- **Land options (where bidders have an irrevocable option to purchase or lease land from the owner upon award of preferred bidder status) should be allowed in the bid response**. This is as an alternative to securing title deeds indicating ownership or a firm lease agreement with the land owner prior to the bid. Unsuccessful bidders simply allow the land option to expire.

- As discussed earlier, it is important to relax any non-essential requirements to reduce the compliance and transaction costs of project developers at bid submission. As of BW 4 of the REIPPPP, bidders were no longer required to prove by bid submission that all necessary applications relating to land use change, subdivision, removal of restrictive conditions and zoning applications had been made by the Project Company to secure the right to lawfully use the project site for the intended project purpose. Instead proof would only be required after the award of preferred bidder status. **Land use and rezoning consents are extremely time consuming and expensive. If they are unlikely to delay or entirely jeopardise the bid project, and are instead more of a regulatory formality, they should be required later only for winning bidders.**

***Environmental:***

- **A non-negotiable RFP requirement is that bidders must submit an Environmental Authorization per project site at bid submission**. In South Africa, bidders are required to submit Environmental Impact Assessment Reports in line with the South African National Environmental Management Act. **Not all developing countries will necessarily have sufficient national environmental standards in place. In this case, look to international best practice.** For example, in Uganda bidders were required to comply with the **International Finance Corporation's Environmental and Social Performance Standards**. While these standards might seem onerous, conscientious compliance will preempt and

obviate any later environmental and social challenges or conflicts that have the potential to derail the project.

- **All "non-core" environmental permits could be required at a later stage when projects are awarded preferred bidder status**. This not only reduces bidder burden, but also reduces the burden on government departments that have to process these applications.

- **Consider technology-specific requirements in multiple technology RFPs. Generic requirements across technologies are not optimal**. For example, in South Africa only the RE technologies that include tall structures such as wind plants and CSP towers are required to include proof of consent from the Civil Aviation Commissioner to erect potential obstacles to aviation. CSP projects, which have a tendency to be situated in water scarce areas, require specific water consents by bid submission while other technologies only require a non-binding confirmation of water availability. Biomass, biogas and landfill gas projects require waste management licences, etc.

***Financial:***

- **Bidders should be required to submit prices that will be indexed to inflation over the life of the power contract (based on a local inflation index).** Decisions will need to be made on whether the tariffs will be fully or partially indexed to inflation.

- **Requirements should be put in place that verify the financial standing of the finance providers,** (whether these be corporate finance, equity or external debt providers). The bidders need to identify all finance providers, as well as the value of their contribution. Where corporate or equity finance will be used, bidder should provide several years of audited financial statements for the ultimate provider. Bidder should also demonstrate that the net assets of each ultimate corporate or equity finance provider(s) over the prior 3 years have been at least 100% of the finance it proposes to put towards the bid project ("net asset test"), or that the provider has a proven track record in the past 5 years of raising corporate or equity finance (as applicable) to the equivalent of at least 100% of its proposed finance ("track record test").

  The stringency of these requirements might be relaxed for certain project participants. For example, in the REIPPPP, equity members with "free carry" or "sweat equity" i.e. no equity investment in the project, such as Black Economic Empowerment Enterprises and Local Community Trust entities, are exempt from the net asset and track record tests. If this were not the case this criterion may adversely affect the achievement of some of the economic development objectives associated with Black and Local Community Ownership.

- **Requirements should ensure that the funding proposal is robust i.e. as financially fail-safe as possible**. This is not an exhaustive list, but some key recommendations are: **where possible, required finance should be locked in at bid submission**. This was not common at the time the REIPPPP was launched, but has been a key driver of its zero project failure rate to date. Evidence of locked-in finance should be provided via letters of support from each financier (based on a template provided in the RFP, in which financiers pledge to have performed a due diligence and confirm the accuracy of the bidder's proposal). This shifts the due diligence cost and burden to lenders and allows the programme champion to perform a higher level due diligence.

  Secondly, **where a project will use external debt, the bidder must demonstrate that any of its members have a proven, recent track record of raising external debt of a similar nature** to that proposed. Lastly, bidders only qualify if they demonstrate a "robust mitigation strategy" i.e. a clear alternative plan to obtain funds in the event that their proposed finance provider becomes unable to do so on the terms stated, evidenced by **the provision of a letter of indicative support from the alternative funders**. Some of these requirements may be too stringent to be practical for other SSA countries.

- **Bidders should be required to submit their financial model (on which the bid tariff is based) for review.** Requirements could include those used in the REIPPPP: for example, sensitivity analyses should be performed to indicate the impact of forex movements on the bid tariff; **disclosures should be made on tax and accounting assumptions applied in the financial model** (to check accuracy); and an audit review opinion of the financial model by a suitably qualified professional firm should be provided. Lastly, **an important requirement is that bidders should submit a Declaration in respect of the Success Payments that have been committed to** - broadly defined as the reimbursements of costs incurred in the development of the bid project which will be payable only on achievement of financial close. Possible examples include payments to site developers, free carry for equity members and success payments for equity and non-equity members. The quantum, rationale and timing of all success payments should be clearly identifiable in the financial model, to ensure that these are not excessive or potentially corrupt.

***Technical:***

- **Technical eligibility:** Where possible, **the technology components for power generation must either be internationally certified (by prescribed certification bodies) or comply with relevant international best practice standards**. This is not to say they cannot be locally manufactured, provided they meet international standards of acceptable design. **Alternatively, certain components should exhibit a "proven reliability"**, where the RFP specifies the conditions of "proof". For example, the exact same components must have been in use in an existing commercial operation or demonstration projects for a specified amount of time.

- **Forecast energy sales**: It is acceptable to allow project pricing to be based on a P50 production estimate in the financial model submitted by bidders. Being less conservative than the P75 or P90 estimates, the P50 requirement helped drive bid tariffs down in Brazil. The catch was that Brazil's IPPs subsequently struggled to secure financing for their projects after being awarded, resulting in significant delays. This was because financial institutions (both commercial and institutional) are typically more conservative and only finance projects on the basis of P90 data (GIZ, 2013). South Africa's RFP eliminated this risk by requiring financing to be locked in at bid submission, and the RFP specifically required that P50 forecast energy sales must be included in the bid response, even though some of the debt providers would have required a P90 sales forecast.

  Requiring use of the P90 estimate is very conservative in terms of production capability and forecast energy sales. While this reduces risk to the government that the bid might be based on an unrealistically high energy resource, and that production estimates might not be fulfilled, it also drives the bid tariff up significantly. **We recommend use of the P50 estimate for the financial model, while disclosure should be made of any more conservative production estimates used to obtain external debt.**

- **Resource assessment requirements**: The RFP should specify the data required, to ensure *accurate* resource assessment; for example, the REIPPPP required 365 consecutive days of wind data, subject to certain conditions. Furthermore, in respect of the assessor that provides information for the Forecast Energy Sales Report, requirements should include proof that they are suitably qualified and experienced, and that an independent review of this Report has been conducted by another suitably qualified assessor.
- **The bid should include a disclosure of the project construction schedule, and a deadline by which COD must be achieved.**

### *Economic Development:*

- Renewable energy competitive tenders or auctions are generally awarded only on price, but some jurisdictions, such as the South African REIPPPP, also included Economic Development (ED) criteria. The REIPPPP used a basket of 7 economic development (ED) criteria within which there were sub-criteria as well. Details on these are provided in **Error! Reference source not found.** below. To qualify, idders were first required to meet all threshold (minimum) ED levels prescribed in the RFP (and indicated below) and then were scored in relation to how much they exceeded these threshold levels. In addition, bid projects were required to have a minimum of 40% South African ownership. **It is advisable to place a minimum requirement on local citizen ownership, to ensure that some of the benefits remain in-country.** As a result of this requirement, the REIPPPP saw some strong partnerships formed between local developers and multinationals. This is also beneficial as international skills and knowledge are transferred to the local sector.

**Table 2: Economic Development Qualifying and Evaluation Criteria under the REIPPPP**

| Element (Weighting) | Description | Threshold | Target |
|---|---|---|---|
| JOB CREATION (25%) | RSA Based employees who are citizens | 50% | 80% |
| | RSA Based employees who are Black people | 30% | 50% |
| | Skilled employees who are Black people | 18% | 30% |
| | RSA based employees who are citizens and from local communities | 12% | 20% |
| | RSA based citizens employees per MW of Contracted capacity | N/A | N/A |
| LOCAL CONTENT (25%) | Value of local content spending | 40% – 45%* | 65% |
| OWNERSHIP (15%) | Shareholding by Black People in the Seller | 12% | 30% |
| | Shareholding by Local Communities in the Seller | 2.5% | 5% |
| | Shareholding by Black people in the Construction Contractor | 8% | 20% |
| | Shareholding by Black people in the Operations Contractor | 8% | 20% |
| MANAGEMENT CONTROL (5%) | Black people in Top Management | - | 40% |
| PREFERENTIAL PROCUREMENT (10%) | BBBEE Procurement** | - | 60% |
| | QSE & SME Procurement** | - | 10% |
| | Women Owned Vendor Procurement** | - | 5% |
| ENTERPRISE DEVELOPMENT (5%) | Enterprise Development Contributions*** | - | 0.6% |
| | Adjusted Enterprise Development Contributions*** | - | 0.6% |
| SOCIO ECONOMIC DEVELOPMENT (15%) | Socio-Economic Development Contributions*** | 1% | 1.5% |
| | Adjusted Socio-Economic Development Contributions*** | 1% | 1.5% |

**Depending on technology. 45% for solar PV, 40% for all other technologies.*
***As percentage of total procurement spend.*
****As a percentage of Revenue*
*Source: DOE (2014)*

- **SSA countries should not replicate all of South Africa's ED criteria**. For example, bidders found the local content minimum requirements challenging, and South Africa has a much larger electricity market and manufacturing base than other SSA countries. **ED criteria add a layer of costs**, which is a trade off because it increases the bid tariff. **However we do recommend incorporating some ED criteria, particularly those that relate to community development** such as socioeconomic development spend, local community ownership and job creation. Failure to foster a good relationship with the local community has been proven to be a deal breaker in the African context. ED criteria also assist with political buy-in.

### *Success payments:*

- The REIPPPP did not restrict success payments to any quantum or percentage of total project development costs, but did require the project to be assessed for "value for money" which included analysing whether these payments were disproportionately large or unjustifiable. The South African Small Projects IPP Procurement Programme (SP-IPPPP), however, restricted success fees to 2.5% of total project development cost. Given that other SSA countries have much smaller grid capacities than South

Africa and will most likely offer tenders for much smaller individual project sizes, they could be more comparable to the SP-IPPPP than the REIPPPP.

**We advise that the RFP restricts the maximum success payments permitted to a reasonable percentage of total project cost - although not too low that it creates insufficient incentive for developers to enter the market.** In South Africa, as competition grew, all costs had to be squeezed to bid more competitively and there was a marked decline in success payments as a percentage of total project cost for the mainstream RE technologies. We would expect to see the same trend elsewhere, which again highlights the benefit of multiple bidding rounds.

### 1.3. Evaluation Criteria

- The critical consideration here is whether to use price only to evaluate tenders (an auction) or include a non-price component (a competitive tender). RE procurement programmes have the potential to leverage local social and economic development, in addition to competitive price outcomes. **The inclusion of non-price components, such as economic development criteria, can promote political and local community support; both of which are critical to a programme's success**.

- **The second key consideration is how to weight the price versus non-price component**. The REIPPPP use a 70: 30 price: non-price weighting, attaching higher priority to ED objectives than the typical government structure of 90:10 at the time. Governments should bear in mind that often the non-price components take longer to achieve and add a cost layer to the bid tariff. The decision of how to weight price versus non-price components should be based on the primary objective: is it to procure the cheapest RE generation, as quickly as possible, or are broader socioeconomic development objectives a priority?

#### *Recommendations for Economic Development Evaluation Criteria:*

- Initially under the REIPPPP, bidders were awarded an absolute number of points simply by meeting the minimum requirement (threshold) per sub-element, and again if they exceeded the target as well. This was changed so that now the bidder with the greatest commitment ("the Highest Compliant Bidder") is awarded full points, provided this is at or above the prescribed target level, while the remaining Compliant Bidders are allocated points in proportion to how they place between the Highest Compliant Bidder and the threshold, or zero if there is no threshold. If there is no Highest Compliant Bidder (i.e. no bidder has met or exceeded the target), all Compliant Bidders are awarded points proportionately based on their position between the target and threshold, or zero if there is no threshold. **A relative scoring system is preferable to awarding an absolute number of points when the bidder exceeds the ED threshold or target level, as it encourages bidders to maximise their contributions.**

- **Weightings of the sub-criteria within the non-price component should reflect the government's priorities**; for example in South Africa job creation and local content requirements were considered the highest priorities and weighted accordingly.

- The REIPPPP designed the Implementation Agreement to include provisions stating that IPPs are obliged to report on their ED obligations to government quarterly and provide proof to substantiate progress claims. There are penalties and rewards based on quarterly performance in respect of these commitments, with underperformance drawing termination points which may accumulate to the point where government is entitled to terminate the contract. **Ongoing monitoring is critical to the success of the ED component. However the programme champion is unlikely to have the capacity to monitor each project closely. By attaching termination points to underperformance in respect of ED criteria, the monitoring responsibility also falls on lenders**. IPPs in South Africa have noted that their lenders tend to monitor their ED performance closely to avoid termination points. **Alternatively, government should build capacity for ED monitoring.**

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# Appendix 1

**Table 3: Capacity and Investment Outcomes of Bid Windows 1 to 4**

| | Wind | PV | CSP | Biomass | Biogas | Landfill | Hydro | Total |
|---|---|---|---|---|---|---|---|---|
| **BW 1** | | | | | | | | |
| Capacity offered (MW) | 1,850 | 1,450 | 200 | 13 | 13 | 25 | 75 | 3,626 |
| Capacity awarded (MW) | 649 | 627 | 150 | 0 | 0 | 0 | 0 | 1,425 |
| Projects awarded | 8 | 18 | 2 | 0 | 0 | 0 | 0 | 28 |
| Average tariff (ZAR c/kWh) | 114 | 276 | 269 | N/A | N/A | N/A | N/A | N/A |
| Average tariff (USD c/kWh) ZAR8/$ | 14 | 35 | 34 | N/A | N/A | N/A | N/A | N/A |
| Total investment (ZAR m) | 13,876 | 23,559 | 11,891 | 0 | 0 | 0 | 0 | 49,326 |
| Total investment (USD m) ZAR8/$ | 1,734 | 2,945 | 1,486 | 0 | 0 | 0 | 0 | 6,166 |
| **BW 2** | | | | | | | | |
| Capacity offered (MW) | 650 | 450 | 50 | 13 | 13 | 25 | 75 | 1,276 |
| Capacity awarded (MW) | 559 | 417 | 50 | 0 | 0 | 0 | 14 | 1,040 |
| Projects awarded | 7 | 9 | 1 | 0 | 0 | 0 | 2 | 19 |
| Average tariff (ZAR c/kWh) | 90 | 165 | 251 | N/A | N/A | N/A | 103 | N/A |
| Average tariff (USD c/kWh) ZAR7.94/$ | 11 | 21 | 32 | N/A | N/A | N/A | 13 | N/A |
| Total investment (ZAR m) | 13,783 | 13,841 | 5,097 | 0 | 0 | 0 | 722 | 33,442 |
| Total investment (USD m) ZAR7.94/$ | 1,736 | 1,743 | 642 | 0 | 0 | 0 | 91 | 4,212 |
| **BW 3** | | | | | | | | |
| Capacity offered (MW) | 654 | 401 | 200 | 60 | 12 | 25 | 121 | 1,473 |
| Capacity awarded (MW) | 787 | 435 | 200 | 17 | 0 | 18 | 0 | 1,457 |
| Projects awarded | 7 | 6 | 2 | 1 | 0 | 1 | 0 | 17 |
| Average tariff (ZAR c/kWh) | 74 | 99 | 164 | 140 | N/A | 94 | N/A | N/A |
| Average tariff (USD c/kWh) ZAR9.86/$ | 8 | 10 | 17 | 14 | N/A | 10 | N/A | N/A |
| Total investment (ZAR m) | 16,969 | 8,145 | 17,949 | 1,062 | 0 | 288 | 0 | 44,412 |
| Total investment (USD m) ZAR9.86/$ | 1,721 | 826 | 1,820 | 108 | 0 | 29 | 0 | 4,504 |
| **BW 3.5** | | | | | | | | |
| Capacity offered (MW) | | | 200 | | | | | 200 |
| Capacity awarded (MW) | | | 200 | | | | | 200 |
| Projects awarded | | | 2 | | | | | 2 |
| Average tariff (ZAR c/kWh) | | | 153 | | | | | 153 |
| Average tariff (USD c/kWh) ZAR10.52/$ | | | 15 | | | | | 15 |
| Total investment (ZAR m) | | | 18,319 | | | | | 18,319 |
| Total investment (USD m) ZAR10.52/$ | | | 1,741 | | | | | 1,741 |
| **BW 4 (a)** | | | | | | | | |
| Capacity offered (MW) | 590 | 400 | 0 | 40 | 0 | 15 | 60 | 1,105 |
| Capacity awarded (MW) | 676 | 415 | 0 | 25 | 0 | 0 | 5 | 1,121 |
| Projects awarded | 5 | 6 | 0 | 1 | 0 | 0 | 1 | 13 |
| Average tariff (ZAR c/kWh) | 62 | 79 | N/A | 145 | N/A | N/A | 112 | N/A |
| Average tariff (USD c/kWh) ZAR12/$ | 5 | 7 | N/A | 12 | N/A | N/A | 9 | N/A |
| Total investment (ZAR m) | 13,466 | 8,504 | 0 | 1,195 | 0 | 0 | 245 | 23,411 |
| Total investment (USD m) ZAR12/$ | 1,122 | 709 | 0 | 100 | 0 | 0 | 20 | 1,951 |

| BW 4 (b) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Capacity offered (MW) | | | | | | | | |
| Capacity awarded (MW) | 686 | 398 | 0 | 0 | 0 | 0 | 0 | 1,084 |
| Projects awarded | 7 | 6 | 0 | 0 | 0 | 0 | 0 | 13 |
| Average tariff (ZAR c/kWh) | 72 | 85 | N/A | N/A | N/A | N/A | N/A | N/A |
| Average tariff (USD c/kWh) ZAR12.5/$ | 6 | 7 | N/A | N/A | N/A | N/A | N/A | N/A |
| Total investment (ZAR m) | 15,330 | 8,363 | 0 | 0 | 0 | 0 | 0 | 23,693 |
| Total investment (USD m) ZAR12.5/$ | 1,226 | 669 | 0 | 0 | 0 | 0 | 0 | 1,895 |
| **TOTALS** | | | | | | | | |
| Capacity offered (MW) | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Capacity awarded (MW) | 3,357 | 2,292 | 600 | 42 | 0 | 18 | 19 | 6,328 |
| Projects awarded | 34 | 45 | 7 | 2 | 0 | 1 | 3 | 92 |
| Total investment (ZAR m) | 73,423 | 62,411 | 53,256 | 2,257 | 0 | 288 | 968 | 192,603 |
| Total investment (USD m) ZAR12.5/$ | 7,540 | 6,892 | 5,690 | 207 | 0 | 29 | 111 | 20,470 |

*Source: Authors' calculations from the DOE IPP office project data; Eberhard et al (2014).*