
TERMS OF REFERENCE FOR APPOINTMENT OF A PANEL OF SERVICE PROVIDERS TO UNDERTAKE TECHNICAL FEASIBILITY ASSESSMENTS FOR THE DEPARTMENT OF ENERGY UNDER THE NATIONAL SOLAR WATER HEATER PROGRAMME FOR THE PERIOD 2015/16, 2016/17 AND 2017/18 FINANCIAL YEARS

1 BACKGROUND

- 1.1** The South African government, through its Department of Energy (DoE), remains resolute in ensuring that the national solar water heater programme (NSWHP) contributes towards the achievement of the country's socio-economic, electricity demand and greenhouse gas (GHG) emissions reduction as well as industrialisation objectives.
- 1.2** Medium to long term SWH installation targets have been pronounced as a reflection of national commitment in realising the above listed government objectives. In this regard the current Administration has set a cumulative target of 1.75 million SWH installations by 2019 and further pronounced a long term target through the National Development Plan (a cumulative target of 5 million SWHs by 2030).
- 1.3** Not all homes or buildings are suitable for installation of SWH systems. Whilst the government's intention is to fully exploit, through the SWH technology (amongst other renewable energy technologies), the potential to *cost-effectively* harness the "free" energy delivered by South Africa's sunny skies the actual SWH installations are highly contingent upon the number of SWH-ready houses within beneficiary municipalities (i.e. have water connections up to the dwelling/house, adequate solar access, roofs that are capable of carrying a loaded SWH system, etc.).
- 1.4** In implementing both the rebate- and fiscus-funded projects, useful lessons have been drawn and are regarded as central to a successful programme rollout. Amongst the lessons learned are the following:
- 1.4.1** A high level quick scan (pre-feasibility assessment) as to the applicability of the SWH technology should be conducted prior to committing financial

resources to a SWH project. Through Request for Information (RFI) submissions, requested by DoE, interested municipalities provide critical high level data pertaining to the state of readiness of the houses (within their jurisdiction) to receive SWHs;

- 1.4.2 Assessing area-, and sometimes site-, specific feasibility and suitability of installing SWHs should be an integral part of the programme rollout. Whoever undertakes site assessments must have enough technical knowledge to properly evaluate a site for SWH feasibility;
- 1.4.3 Trouble-free functionality of correctly installed SWH systems is hard to realise especially in areas experiencing hard water particularly where direct SWH systems are used. Hence all SWH installations **MUST** be compatible with prevailing site conditions.
- 1.5 Against the foregoing background DoE is inviting competent service providers to express their interest in conducting technical feasibility assessments in accordance with the scope of work outlined below. Through these assessments certain building attributes (e.g. geographic latitude, roof pitch, orientation, water quality, water pressure, etc.) that are pertinent in the installation of a SWH system will be determined.
- 1.6 The selected service providers (Feasibility Assessment Consultants) need to demonstrate an understanding of the necessary conditions for the adoption of the SWH technology. These providers will be listed on the DoE panel and appointed to undertake this function on an as and when required basis. All selected service providers will be given a fair chance to compete for the work as and when the need arises.
- 1.7 The selected service provider will work hand-in-hand with DoE, participating municipalities and Social Facilitation Consultants. The participating municipalities will make available all relevant data and information to assist the service provider to deliver on its scope of work.
- 1.8 Detailed technical assessment to be undertaken by or on behalf of the DoE or its Supplier in respect of an Identified Residential Area to determine the technical, operational, infrastructural feasibility of undertaking the supply, installation, operation and maintenance of SWH systems in such Identified Residential Area having regard to inter alia the technical, structural,

operational and safety requirements for the proper and safe installation and operation of a SWH system, the structural integrity of the residential dwellings in such Identified Residential Area and compliance with the criteria envisaged

2 OBJECTIVES

2.1 The objective of this Technical Feasibility Assessment project is to:

2.1.1 Undertake third-party (independent) verification of RFI data provided by the municipality; and

2.1.2 Make a determination as to whether a municipality's Identified Residential Area is technically sound to enable installation of SWH systems.

3 SCOPE OF WORK

3.1 In each Identified Residential Area, at a minimum, the successful service provider is expected to perform the following functions:

3.1.1 Test the quality of portable water;

3.1.2 Monitor water pressure in the supply line (e.g. at the highest point, lowest point, mid-day, mid-night);

3.1.3 Recommend the type of a SWH system (freeze- or non-freeze resistant) that is suitable for the climate of the area;

3.1.4 Analyse and report on the area topography (e.g. state of access roads);

3.1.5 Suggest any possible interventions/solutions for dwellings found not to be technically feasible for SWH installations;

3.1.6 Propose an optimal logistics and installation process befitting the circumstances of the area; and

3.1.7 Produce a technical feasibility assessment report ***with supporting data***.

3.2 In each inspected residential dwelling, at a minimum, the successful service provider is expected to perform the following functions:

3.2.1 Propose the optimum collector location and manage any aesthetic or citing concerns the homeowner may have;

3.2.2 Estimate the longest pipe runs from the tank and collector to the hot water draw-off point;

3.2.3 Assess roof integrity (strength or rated load-bearing capacity);

- 3.2.4 Specify roof type and determine roof orientation (relative to true North) and tilt/inclination angles;
 - 3.2.5 Confirm if water is supplied up to the house (water reticulation status);
 - 3.2.6 Confirm occupancy (i.e. the number of people permanently residing in the dwelling); and
 - 3.2.7 Identify any structural issues that could impact the cost of the SWH system installation.
- 3.3** In executing the above the Technical Feasibility Consultant must ensure thorough assessment and make an informed decision as to whether or not the dwelling is a feasible site for a solar SWH system.

4 DURATION OF THE PROJECT

- 4.1 The duration of the each technical feasibility assessment for a given project will be limited to **TWO (02) MONTHS**.

5 PAYMENT

- 5.1 Payment will be based on the achievement of pre-determined milestone and submitted reports. The Department will not make an upfront payment to a successful service provider. Payment will only be made within 30 days upon receipt of an original invoice and will be done in accordance with the delivery of service that will be agreed upon by both parties.

6 REPORTING

- 6.1 It is envisaged that DoE will require an initial meeting with the successful bidder(s) to agree on the project process and options to be investigated.
- 6.2 Progress meeting feedback shall be held as and when necessary, but at least bi-weekly. The venue for these meetings will be a selected venue in Johannesburg or Pretoria. Representatives from the selected service provider shall be obliged to attend. Where applicable, conference calls shall be held to facilitate such meetings.
- 6.3 The service provider shall work closely with, and report directly to, an official to be assigned by DoE.

- 6.4** All resulting reports and data shall be delivered in two copies, namely, in electronic format and in hard copies. All draft and final reports shall be printed in full colour. The reporting language is English. All documents and copyrights, including data and any associated databases developed during the social facilitation assignments will remain the intellectual property of DoE.
- 6.5** All drafts and final reports shall be submitted to DoE in full by the end of the project.

7 PROJECT OUTPUTS/DELIVERABLES

- 7.1** *Inception Report*: The report shall cover an overall project plan (inclusive of a project schedule) with intermediate and final outputs, proposed methodology and identified timeframes/milestones.
- 7.2** *Water analysis results*: These are the results for pre-determined parameters as tested in a laboratory that is accredited by the South African National Accreditation System (SANAS);
- 7.3** *Final Technical Feasibility Assessment Report*: An overall technical feasibility report prepared in respect of and setting out the findings of a Technical Feasibility Assessment shall be submitted to, and accepted by, DoE before the release of final payment. The report should reflect all the minimum requirements as listed in the scope of work.

8 COMPULSORY BRIEFING SESSION

- 8.1** A **COMPULSORY** Briefing Session will be held on **13 October 2015** at the Department of Energy, Matimba House, 192 Visagie Street, Corner Paul Kruger and Visagie Streets, **Pretoria** at **14H00**.

9 EVALUATION METHODOLOGY

9.1 Cost

- 9.1.1** Service providers are requested to provide a quote which, as a minimum, covers the functions listed under the scope of work and the associated outputs/deliverables.

9.1.2 The total cost must be VAT inclusive and should be quoted in South African currency (i.e. rand).

9.2 Broad-Based Black Economic Empowerment

9.2.1 Provisions of the Preferential Procurement Policy Framework Act (PPPFA) 2011 and its regulation will apply in terms of awarding points.

9.2.2 Bidders are required to submit original and valid B-BBEE Status Level Verification Certificates or certified copies thereof together with their bids, to substantiate their B-BBEE rating claims.

9.2.3 Bidders who do not submit their B-BBEE status level verification certificates or are non-compliant contributors to B-BBEE will not qualify for preference points for B-BBEE.

9.2.4 A trust, consortium or joint venture must submit a consolidated B-BBEE status level verification certificate for every separate bid.

9.2.5 Accounting Officers must ensure that the B-BBEE Status level Verification Certificates submitted are issued by the following agencies:

10.2.5.1 Bidders other than EMEs

- (a) Verification agencies accredited by SANAS
- (b) Registered auditors approved by IRBA

10.2.5.2 Bidders who qualify as EMEs

- (a) Accounting officers as contemplated in the CCA; or
- (b) Verification agencies accredited by SANAS; or
- (c) Registered auditors (Registered auditors do not need to meet the prerequisite for IRBA’s approval for the purpose of conducting verification and issuing EMEs with B-BBEE Status Level Certificates).

9.2.6 The table below depicts the B-BBEE status level of contribution:

B-BBEE Status Level of Contributor	Number of points (90/10 system)
1	10
2	9
3	8
4	5
5	4
6	3

7	2
8	1
Non-compliant contributor	0

9.3 Company Experience

9.3.1 Service providers should at least have a minimum of three (03) years' experience in executing SWH technical feasibility assessments **OR** a minimum of five (05) years' experience in conducting any other technical feasibility assessments.

9.3.2 The above mentioned experience must be supported by proof of three (03) contactable references indicating when and where technical assessments were executed.

9.4 Team Leader and Team Members' Experience

9.4.1 Team Leader must at least have a minimum of five (05) years' experience in executing SWH technical feasibility assessments **OR** a minimum of five (05) years' experience in conducting any other technical feasibility assessments.

9.4.2 Team Leader must at least have a minimum of five (05) years' experience in installation of SWH systems.

9.4.3 Individual Team Members must have a minimum of at least two (02) years' experience in installation of SWH systems.

9.4.4 CVs of the Team Leader and Team Members must be attached to the technical proposal reflecting proof of the above mentioned experience and should list the relevant projects executed by the Team Leader and each Team Member.

9.5 Qualification

9.5.1 Team leader must have a (four-year) degree in Engineering (Construction, Civil, Electrical, etc.).

9.5.2 Team members must possess a National Diploma with a Plumbing Module **OR** a National Certificate in Plumbing.

9.5.3 Certified copies of certificates **AND Statement of Results/Academic Record** for the team leader and team members must be attached to the technical proposal reflecting proof of the above mentioned qualification. Failure to attach the required certified copies will imply the bidder will forfeit the allocated points.

9.6 Project Plan

9.6.1 The service provider will be required to provide a Project Plan detailing, among others:

9.6.1.1 intermediate and final outputs, identified timeframes and milestones.

9.6.1.2 a clear methodology and tools to be used in executing the project whilst demonstrating an understanding about indicators of successfully mobilized communities.

9.6.1.3 overall project management structure related to the management of activities related to execution of the project.

10 EVALUATION CRITERIA

10.1 Bids will be evaluated on **90/10** point system as outlined in the PPPFA of 2011.

The proposals will be evaluated in two phases:

Phase 1: Bidders will be evaluated based on functionality. The minimum threshold for functionality is **70 out of 100 points**. Bidders who fail to meet minimum threshold will be disqualified and will not be evaluated further for price points.

No	Criteria	Weights
1	<p>Company Experience:</p> <ul style="list-style-type: none"> ❖ Service providers should at least have a minimum of three (03) years' experience in executing SWH technical feasibility assessments OR a minimum of five (05) years' experience in conducting any other technical feasibility assessments. ❖ The above mentioned experience must be supported by proof of three (03) contactable references indicating when and where technical 	<p>20</p> <p>15</p> <p>05</p>

	assessments were executed.	
2	<p>Team Leader and Members' Experience:</p> <ul style="list-style-type: none"> ❖ Team Leader must at least have a minimum of five (05) years' experience in executing SWH technical feasibility assessments OR a minimum of five (05) years' experience in conducting any other technical feasibility assessments. ❖ Team Leader must at least have a minimum of five (05) years' experience in installation of SWH systems. ❖ Individual Team Members must have a minimum of at least two (02) years' experience in installation of SWH systems. ❖ CVs of the Team Leader and Team Members must be attached to the technical proposal reflecting proof of the above mentioned experience and should list the relevant projects executed by the Team Leader and each Team Member. 	<p>35</p> <p>15</p> <p>10</p> <p>05</p> <p>05</p>
3.	<p>Qualifications:</p> <ul style="list-style-type: none"> ❖ Team leader must have a (four-year) degree in Engineering (Construction, Civil, Electrical, etc.). ❖ Team members must possess a National Diploma with a Plumbing Module OR a National Certificate in Plumbing. ❖ Certified copies of certificates AND Statement of Results/Academic Record for the team leader and team members must be attached to the technical proposal reflecting proof of the above mentioned qualification. Failure to attach the required certified copies will imply the bidder will forfeit the allocated points. 	<p>20</p> <p>10</p> <p>05</p> <p>05</p>
4	Project Plan: Project plan with	30

	<ul style="list-style-type: none"> ❖ intermediate and final outputs, identified timeframes and milestones. ❖ a clear methodology and tools to be used in executing the project whilst demonstrating an understanding about indicators of successfully mobilized communities ❖ overall project management structure related to the management of activities related to execution of the project. 	10 15 05
Total		100

For purpose of evaluating functionality, the following values will be applicable:

0=	Very Poor	Do not meet the requirements
1=	Poor	Will not be able to fulfil the requirements
2=	Average	Will partially fulfil the requirements
3=	Good	Will be able to fulfil the requirements
4=	Very Good	Will be able to fulfil better in terms of the requirements adequately
5=	Excellent	Will fulfil the requirements exceptionally

Phase 2:

Price	90
B-BBEE compliance	10

11 FORMAT AND SUBMISSION OF THE PROPOSAL

11.1 All the standard bidding documents (SBD) must be completed in all respects by bidders. Failure to comply will invalidate a bid.

11.2 Bidders are requested to submit two (02) copies: 01 original plus copy of the proposal and bid documents.

12 CLOSING DATE

- 12.1** Proposals must be submitted on or before **22 October 2015** at the Department of Energy, Matimba House, 192 Visagie Street, Corner Paul Kruger and Visagie Streets, Pretoria, at **11h00** in a bid box marked Department of Energy. **No late bids will be accepted.**

13 ENQUIRIES

- 13.1** All technical enquiries to be directed in writing to:

Mr Khanyiso Zihlangu

Tel: 012 406 7651

Email: Khanyiso.zihlangu@energy.gov.za

- 13.2** All bid enquiries to be directed to:

Ms Daisy Maraba/ **OR** Ms Rachel Moerane

Tel: 012 406 7748/7747

Email: Daisy.Maraba@energy.gov.za **OR** Rachel.moerane@energy.gov.za