

How to Implement a Residential Mid-High income Solar Water Heater programme as a Municipality in South Africa

A tool for South African Municipalities based on lessons learnt from the City of Cape Town Residential Solar Water Heater Programme

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With funding from



December 2013

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Reason for this report

This report serves as the final output of the EEP funded project which has supported the establishment of the City of Cape Town Solar Water Heater Programme. The primary purpose of this document is to provide other municipalities with the information and tools to implement their own municipal SWH programme in line with the City of Cape Town's, and to avoid the pitfalls which delayed the Cape Town programme by many years.

The document itself is short, providing a high level overview of the approach taken and lessons learnt. However, it references key documents which are also provided which will serve as the basis from which to implement a similar programme in another municipality.

The document is laid out in a step by step manner, making it easy to follow and implement. Lessons learnt are shared in the text and in information boxes where relevant to provide better insight into the why a particular route was followed.

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Introduction

On 4 November 2013, the City of Cape Town launched its Residential Solar Water Heater (SWH) Programme, the first of its kind in the country. The aim of the programme was simple - to increase the sale of SWHs in the mid-high income residential sector in Cape Town.

To achieve this, the municipality established a programme which would aim to unlock the key barriers which were hindering the market from accepting and adopting SWHs. These barriers included lack of public awareness, the high upfront capital costs, misleading advertising, confusion around what SWH to buy, and poor quality SWH manufacture, installation and maintenance. The City of Cape Town SWH Programme aimed to address these barriers in the following ways:

- i. **Raise public awareness around SWHs** – Create a familiarity in the public for SWHs by implementing a City driven awareness campaign around the programme and the benefits of SWHs, through print media, websites, municipal publications and communication to home owners through inserts in the rates bill
- ii. **Make SWHs more affordable** – Break down the high upfront costs of a SWH by offering the public a financed solution to purchasing one, requiring monthly repayments close to or equal to the amount of monthly energy saved by the SWH
- iii. **Ensure that excellent quality SWHs are professionally and competently installed-** Provide peace of mind to the public by issuing a list of accredited SWH installers who meet the strict SWH manufacture, installation and warrantee requirements of the municipality.
- iv. **Ensure excellent after sales service and maintenance-** Provide a guarantee that any problem with the SWH installation will receive prompt attention, and that an annual maintenance contract is in place

It is important to note that the role of the municipality in this programme is an enabling and a facilitatory one. The municipality is *not* selling SWHs, as it is not a registered financial services provider, and selling SWHs is not a core competency of the municipality. However the municipality *is* providing the following:

- i. Funding and managing an advertising campaign for the programme- research conducted by the City of Cape Town indicates that the municipality is seen by the public as a credible and independent source of information. Bringing the municipal brand to the SWH programme and putting out adverts will enhance the credibility of the programme participants.
- ii. Funding the management of the SWH programme through a SWH Programme Management Unit (PMU). PMU functions include:
 - a. Accrediting SWH installation companies on the programme on a periodic basis
 - b. Monitoring accredited SWH installation companies – ensuring that they keep up the levels of product, installation and good service expected of the programme.
 - c. Removing accredited SWH installation companies from the programme if they fail to maintain the levels required
 - d. Work in co-operation with the accredited SWH installation companies to raise awareness around the programme

- iii. Providing access to the municipal billing system for any of the accredited SWH installation companies wishing to use it for monthly collection purposes

It is anticipated that through the City of Cape Town programme, 140 000 solar water heaters will be installed in the Metro by 2018.

Implementing a SWH Programme in your Municipality

Municipalities are bound to what they can and can't do by the Constitution of South Africa. The City of Cape Town has exhaustively gone through a process of determining what role it can play in supporting the rollout of SWH's in the municipality in a way that is within their competency. This has involved the extensive exploration of three different business models in order to determine their feasibility. The first two models have resulted in problems which could not be resolved, and the last one proved to be successful. In the interests of other municipalities attempting these routes, the findings from Cape Town's two failed explorations are presented below:

1. Municipality purchases and installs SWHs and collects a monthly repayment from the customer.

This business model requires that the municipality extends its service delivery mandate to that of hot water provision. The municipality will purchase, install and maintain SWH's from its own budget, and charge a monthly fee for this service via the rates bill. Monthly repayment for this will ideally be less than the electricity saved from a SWH. The municipality can therefore maintain its income stream as electricity sales losses can be substituted by the SWH programme repayment component.

This model has many potential benefits:

- a. Protection of municipal finances by creating an alternative income stream.
- b. Concessional financing to fund the SWH service delivery programme can be arranged, as development banks have an appetite to make loans to municipalities for green energy programmes
- c. The cost of SWHs can be brought down through a mass procurement and installation tender, making the financial case more attractive to end users.
- d. The municipal tender to procure SWHs for the programme can ensure that locally produced SWHs are installed

These benefits to the municipality are however not realizable currently for several practical reasons:

- a. The municipality will need to become an Authorised Financial Services and Registered Credit Provider in terms of the National Credit Act, as essentially it will be providing a financed solution for SWH purchase, much like a short term retail bank loan but at preferential interest rates. Municipalities are not structured to be lending institutions and so this would constitute 'business unusual' for them.

- b. In addition there could be complications from the Competitions Act in terms of the Municipality occupying a space that retail and commercial banks will typically occupy, but offering preferential financing options due to concessional financing from development banks.
- c. All of the financial risk of such a programme will be on the municipality. Bank loans will need to be repaid, and if the customers do not repay their monthly commitments, public money will be put at risk. As a result of these factors, this model was not deemed feasible by the City of Cape Town.

2. The municipality puts out tender for the appointment of Accredited SWH Service Providers who meet set criteria.

The tender requires that they

- a. Prove that they have accessed a financial institution to secure loan finance to provide a financed solution to their customers OR if they are large enough, provide the financing themselves
- b. Provide a sound sales and marketing plan
- c. Provide a professional after sales and maintenance service
- d. Be open to the idea that they can utilize municipality negotiated development bank financing
- e. Be open to the idea of the municipality collecting monthly repayments for SWHs through the rates bill

The tender route was attempted by the City of Cape Town, a process that in total took 6 months and ended in failure. Key reasons why this process was not suited for a government tender were:

- a. No money would be exchanged between the municipality and the service providers. Only accreditation would be provided, along with marketing support and access to the CCT rates bill collection facility.
- b. An unlimited set of service providers could potentially be appointed, not just one. This goes against a typical tender route in which only one service provider is appointed.
- c. The chances of an appeal from service providers who are not accredited could lead to extensive delays in tender award given supply chain protocol.
- d. A new programme such as the SWH Accreditation programme would need to be flexible as unforeseen issues arise, and requires easy to implement changes. A tender is a rigid and formal structure which does not provide this level of flexibility easily.

The process of preparing, advertising and evaluating the tenders took 6 months to complete. This was because the tender needed to follow the correct supply chain process, which included establishing a bid evaluation committee (BEC) with the skills to evaluate the tenders. Evaluating the bids proved a difficult task. Firstly the BEC needed to be capacitated to understand how the SWH programme would work, including the financial and technical components. Then the tenders were large and the adjudication criteria required extensive discussion and analysis as to whether the tenderers had fulfilled the criteria or not. Many of the tenders were non-responsive due to supply chain's strict rules, but due to the

subjectivity of the evaluation, the chances of these tenderers appealing were very high. There was also a flaw in the tender which committed the municipality to providing debt collection for the accredited service providers through the municipal billing and collection system, which was later shown to be not feasible.

In the interests of moving the process forward it was considered wiser to cancel the tender and follow a route ***outside of supply chain***, given that no money was being exchanged, no services were being provided directly to the municipality and a flexible management system was required. Rather than the municipality entering into a tender agreement with the accredited service providers, an accreditation agreement would be signed indicating

- a. how the municipality will support the programme
- b. what is expected from the service provider in terms of complying with the programme
- c. how the programme will be administered

This route has proved to be successful, and is the one which the City of Cape Town has based its SWH programme on.

This approach will now be described in greater detail in this report. What follows is a step by step guide to establishing a similar programme in other municipalities around the country, in the interests of encouraging SWH uptake nationally.

How to set up a SWH programme in a South African municipality

Step 1: Establish which department will drive the establishment of a SWH programme in the municipality

Establishing a SWH programme within a municipality will require a focussed effort from a municipal department for several months to get it operational, and then up to five years of commitment to running the programme. The department must preferably be the one that focusses on energy and climate change within the municipality. The City of Cape Town department which is driving their SWH programme is the Environmental and Resource Management Department. Other municipalities have their energy and climate change staff located in Electricity or Treasury rather than Environment. Where the staff is located is not the key issue. The important requirement is that the department and staff are dynamic, with a clear mandate to work in this area. Having a budget to commission preliminary studies and reports is also important. A minimum of one staff member should be allocated to focus on programme development and implementation. This staff member should have a good understanding of municipal processes, and be able to present the concept of the programme clearly and persuasively to politicians and administrative heads.

Step 2: Prepare a motivation for a SWH programme

The question which will need to be answered when motivating for a SWH programme in the municipality is:

“Why should the municipality implement a solar water heater programme for the mid-high income residential market, and is it within their core competency?”

There are many compelling reasons why a municipality should encourage the uptake of solar water heaters within their jurisdiction. There are also some issues that need to be resolved or cleared up prior to pushing forward with such a programme. A breakdown of these reasons and issues is provided below:

National policy

- i. The Department of Energy has set the target of installing 1 million SWHs by 2015 in all residential sectors. It currently is facilitating a programme to roll out SWHs to predominantly the low income residential sector, but also in a more limited fashion to the mid to high income sector. Any other government programme assisting in delivering on this target, particularly in the mid-high income sector, falls firmly within the interests of achieving this national target.
- ii. The National Climate Change Strategy White Paper sets out goals to reduce the carbon emissions of the country in order to align the country with international carbon mitigation targets. Large scale implementation of SWHs and other efficient water heaters are a critical part of the effort to reduce the national carbon emissions levels to a sustainable point.
- iii. The National Building Regulations now require that any new building in South Africa provides 50% of its hot water from a sustainable source, implying that new buildings must install a SWH or a heat pump.
- iv. Several municipalities have Energy and Climate Change Strategies, and these will have targets for efficient water heating implementation. For further understanding of these strategies, they can be viewed and assessed on the City Energy Support Unit website <http://www.cityenergy.org.za/category.php?id=1#2>

Municipality benefits

- i. With SWHs and other efficient water heaters reducing household daily demand, particularly over peak periods, municipalities can create greater development opportunities within supply constrained areas of their distribution grid
- ii. Ensuring the use of locally manufactured solar water heaters will grow the sector and create jobs.
- iii. Creating the image of a 'greener' municipality will increase investment opportunities in the area, leading to job creation and a more robust economy
- iv. Money from residents which would have gone to energy expenditure remains in the municipality and encourages local economic growth and job creation

End user benefit

- i. SWHs reduce the average electricity consumption of a mid-high income household by up to 25%. This saved money stays in the local economy.

Revenue loss

While the above are the overall obligations and benefits from a municipal perspective, there is the negative factor that the municipality will lose money from reduced electricity sales as a result of widespread SWH installation.

In response to this, the municipal challenge lies understanding **the overall economic benefit to society** that a thriving solar water heater industry will bring, over the losses which may be experienced by the municipality due to reduced consumption figures from the mid to high income sector.

In this regard it is important to note that solar water heaters are becoming increasingly affordable, and save a lot of money for the end user. **It is therefore inevitable that the market will grow rapidly into the future, with or without municipal intervention.** Municipalities need to accept this, and rather try to shape the market to maximise local economic development by promoting good quality, locally produced SWHs which are installed by locally based companies.

As a guide, the economic analysis performed for Cape Town shows the positive results such a programme will have on the local economy. This document can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 1-SWH Economic Cost Benefit Analysis*.

It should also be noted that municipalities around the country are already experiencing a drop in electricity sales in the residential sector due to households changing their electricity usage behaviour patterns and becoming more energy efficient. This is a trend which is likely to continue as the price of electricity increases. A strategic re-examining of the electricity business model for municipalities will have to be embarked on into the future to ensure the sustainability of the electricity distribution industry and of municipalities themselves.

Step 3 (optional): Conduct a market assessment to determine the potential market for SWHs through a municipal facilitated scheme

Before embarking on a SWH programme, it is useful for a municipality to know whether there is a market for solar water heaters within their mid-high income sector. It is also useful to know whether the intervention of the municipality will yield beneficial results in terms of increased SWH implementation in the sector.

As a point of reference for other municipalities to examine, the City of Cape Town conducted a market survey to answer some key questions around the usefulness of a municipally facilitated solar water heater programme. The survey sampled a comprehensive cross section of the mid to high income households in Cape Town. The number of households questioned provided a sufficiently high statistical confidence factor to ensure that the results held validity and weight.

Economic benefit from a SWH programme

The City of Cape Town commissioned an economic cost benefit analysis for the SWH programme, and it showed an overall economic benefit to society, but within this context it also a substantial loss in revenue showed for the Municipality.

The important key findings that came out of this survey showed that the municipality can play a key role in aiding the implementation of SWHs in mid-high income households in Cape Town. These findings were:

1. **68% of surveyed households would like a SWH, with 50% likely to purchase one in the next 1-3 years**
2. **No upfront costs would be the greatest motivator to buy a SWH** (ie monthly repayments at a lower rate than monthly electricity saved)
3. **71% would trust the City of Cape Town to endorse a list of accredited suppliers of SWHs, compared to 7.7% for Eskom.** This is a key result showing the benefit that a municipality can provide in providing sound and unbiased information in this area.

This study can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 2-SWH programme market survey*

As a result of this study, it became clear that an attractive monthly financed scheme, endorsed by the City of Cape Town would be the most effective way to roll out SWHs in the municipality. This finding may well be true for other municipalities, but municipalities would do well to assess their mid-high income market, as public perceptions may differ around the country. If there is not a budget for this though, these results can be used as a basis for motivating for a similar SWH programme to Cape Town's in other municipalities.

Step 4: Prepare a financial case for the programme end users

It is worthwhile to get a sense of the type of financing that will make SWHs attractive to end users. This can help the municipality to understand how feasible their programme will be based on their current electricity tariffs. A spreadsheet to calculate this can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 3-SWH Cost benefit analysis spreadsheet*

An explanatory document on how to use the spreadsheet can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 4-Explanation of SWH Cost benefit analysis spreadsheet*

Step 5: Determine potential market size

The municipality should embark upon an exercise to determine the potential market size for SWH uptake in the residential market. Cape Town's methodology for the exercise can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 5-SWH market size assessment*

This should provide a useful basis for determining the SWH uptake potential in other municipalities.

Understanding the market size assists in target setting and determining whether the programme is working or not. As such this is a really useful piece of work, and should be done using the best possible data available.

Step 6: Getting buy in at the political and administrative level

It is very important to get buy in at a high political and administrative level for the SWH programme at the outset. In order to do this, a **report and presentation** needs to be prepared and presented to key personnel and politicians. A report motivating for the establishment of a SWH programme in the municipality must be prepared for mayoral committee (MAYCO) approval. This report should contain

- i. The motivation for the programme (see Steps 2, 3, 4 and 5 above – key points being supporting national, provincial and Municipality targets and policy, economic benefits and job creation, keeping money in the local economy, carbon emissions reduction, the public appetite for a municipality facilitated SWH programme, the current financial case and market potential)
- ii. A legal opinion endorsing the municipal competency to run a SWH programme. The Cape Town legal opinion prepared by an advocate of the high court on behalf of the City of Cape Town can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 6-SWH programme legal opinion*
- iii. A request that MAYCO supports the development of such a programme
- iv. A request that MAYCO supports the establishment of a steering committee made up of key administration officials, who will provide high level support for the setting up of the programme.
- v. A request that MAYCO supports the allocation of a budget for the programme to ensure that the municipality's obligations in terms of the programme can be met. This includes a budget for the SWH Programme Management Unit (PMU), and a budget for an awareness and marketing campaign. As a guide, a motivation for the PMU budget can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 7-Programme Management Unit motivation and budget*

This report will need to go through the various municipal departments for sign off, prior to going to MAYCO. Therefore it would be useful to set up meetings before this occurs with Finance, Electricity, Local Economic Development and Environment in particular to raise awareness around the programme and to lobby for their support. It is very useful to get the support at Executive Director level, and for these staff members to sit on the project Steering Committee, should MAYCO approve the process.

The argument needs to be compelling, and if there are any political and administrative leaders in the municipality who are strong advocates for energy efficiency, renewable energy and growing the green economy, then their support for the programme must also be secured, and presented as endorsees of the programme to the other key officials.

Political champion

Cape Town had great support for the project from the Mayor, who had SWH implementation on her election agenda. This assisted in moving the programme through the Municipality approval processes.

Step 6: Set up a Programme Steering Committee

A steering committee comprising EDs of finance, electricity, economic development and environment, or their proxies will help to keep the needs of the programme balanced with the needs of the municipality, and ensure buy in at this important level. Monthly, or bi monthly meetings should be scheduled, depending on the programme plan.

Step 7: Design the programme

Once MAYCO approval and a steering committee has been established, it is time to start designing the SWH programme for the municipality. Following the City of Cape Town route will require that four key areas will need to be addressed by the project team to ensure that the programme can be successfully launched and managed. These are

- i. The development of SWH Accreditation Documents
- ii. The establishment of a Programme Management Unit (PMU)
- iii. The development of an advertising campaign
- iv. Securing the use of the municipal billing services

These will now be discussed in more detail

Development of SWH Accreditation Documents

In order for the SWH programme to formally accredit SWH service providers, some important documents need to be developed. These include

- i. **a programme explanatory leaflet for potential applicants –**
view at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 8-SWH programme explanatory leaflet*
- ii. **an accreditation application form –**
view at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 9-SWH programme application form*
- iii. **an accreditation agreement -**
view at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 10-SWH programme accreditation agreement*
- iv. **a code of conduct –**
view at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 11-SWH programme code of conduct*

The City of Cape Town put considerable effort into developing these documents, and they are in a format to be utilised by other municipalities, simply by replacing the logo and references to Cape Town with the particulars of the municipality concerned. The application form, explanatory leaflet, accreditation agreement and code of conduct were drafted by the project team, and formalised by a commercial lawyer to make sure that they were legally waterproof, and that the municipality's interests were protected.

Essentially these documents provide an overview of the programme to interested applicants, a means to apply for accreditation, a contract tying them to the conditions of the programme, and a

code of conduct spelling out the requirements placed on the potential service provider should they become accredited.

These documents form the core of the thinking that has developed into the City of Cape Town SWH Accreditation Programme, a product many years in the making. Should another municipality get the go ahead from MAYCO to perform the work in their jurisdiction, these will allow a smooth and watertight passage for setting up their SWH programme.

Establish a SWH Programme Management Unit (PMU)

With the budget obtained from MAYCO, it is essential that at a minimum a post for a SWH programme manager should be created and filled. For smaller municipalities, this role could be fulfilled on a part time basis, but ideally, and particularly for larger municipalities, the role should be a focussed one, with an administrative assistant as a beneficial addition.

Whether the management of the SWH programme is filled by a part time job, or by two new positions, it is useful to define the role of this space by establishing a SWH Programme Management Unit (PMU). This will provide confidence to the SWH industry that the municipality is serious about assisting in SWH implementation, and is playing its part in the programme. Once established, this unit will perform the following functions:

- i. Periodic advertising for SWH service providers to participate on the programme (every 6 months to one year)
- ii. Assessment of applications to determine whether they fulfil the requirements of the municipality in terms of the programme design documents. This will include both assessment of their written submission and interviewing of applicants to ensure that they understand the requirements of the programme
- iii. Accrediting SWH service providers who meet the municipality's requirements for the programme
- iv. Monitoring the quality of service delivery of the accredited SWH service providers for the programme
- v. Intervening when an accredited service provider does not comply with the code of conduct of the programme.
- vi. Delisting of service providers who are consistently not meeting the requirements of the programme
- vii. Dealing with disputes arising from point above
- viii. Liaising with accredited service providers to ensure that their needs are being met, and looking for marketing opportunities other areas of support to grow the programme.
- ix. Ensuring that municipal obligations to the programme are met, namely
 - a. a fully functional, credible and responsive PMU
 - b. that the municipal advertising campaign is implemented effectively
 - c. that municipal billing system is available to those service providers who require it.
- x. Reporting to the municipality on programme progress. This will include a summary of SWH systems installed, progress towards targets, problems encountered, how these have been dealt with.

It is important to acknowledge that the PMU is crucial to the credible functioning of the municipal SWH programme. The PMU provides the reassurance to the SWH industry that value is being added by the municipality to their business. Without this structure, the programme will in all likelihood fail.

Develop an advertising campaign to support the SWH programme

One of the most powerful supportive roles that the municipality can play is to develop and run an advertising campaign to support the SWH programme. This campaign should be generic, in other words not favour one service provider over another, and aim to raise awareness around the key elements of the programme, namely quality locally produced SWHs installed by quality service providers, with an affordable repayment option available for those who can't afford the high upfront costs.

The City of Cape Town advertising campaign reports are available for use by other municipalities. These include

- i. A Segmentation Strategy, which lays out what key research needs to be undertaken to understand the market needs. This document can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 17-SWH segmentation strategy*
- ii. A Segmentation Model, which lays out the results of the research proposed by the strategy, and provides key insights into the SWH buyer market. It also provides a conversion model which shows how to convert a potential SWH purchaser into a confirmed purchaser. This document can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 16-SWH segmentation model*
- iii. A Creative Strategy, which takes the information gathered from the segmentation model and presents an advertising campaign best suited to the market studied. This document can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 15-SWH creative strategy*

Please note that this information is available for use by all municipalities, and the creative ideas contained may be duplicated to save costs.

Engage with the Banking Sector to ensure that instalment finance is available for SWH purchasers, should they require it

As a financed option to purchase a SWH is one of the cornerstones of the SWH programme, a relationship needs to be set up with retail and development banks to support the programme in this area.

The City of Cape Town engaged with the 5 big retail banks (ABSA, Capitec, FNB, Nedbank and Standard) in order for them to be made aware of the SWH programme, and for them to indicate which of their financing products would be most appropriate for SWH customers. Two specialist solar energy product lenders were also included: ECO1 and Solar-Credit in association with DirectAxis.

The contact details of these lenders were provided to applicants wishing to be accredited on the SWH programme. In order to be accredited, the service provider needed to provide a letter from the lending institution/s that they had chosen saying that they would provide finance for the service provider's SWH customers, should that be required.

The municipality also engaged at great length with the development bank sector, to determine what bulk concessional loans could be provided to service providers big enough to secure them. The IDC in particular has concessional loans (minimum R1 million) available to SWH service providers wishing to set up an internal financing solution. This will however require that the service provider is a Registered Financial Services Provider in law, and is sufficiently large to secure such a loan. Other development banks such as the African Development Bank and Agence Francaise de Developpement (afd-French Development Bank) are also open to lending in this area, but exclusively through a government institution. As a municipality would not bear the risk of these loans, the money is currently available to the public through the IDC. Therefore the IDC currently is the best large scale financing option for SWH installation businesses, as they are set up to lend to the public.

Set up the municipal billing system to accommodate the SWH programme

It is possible that the municipally accredited SWH service provider would wish to use the municipal monthly billing and collection service to collect their customer's monthly repayment for the SWH. The municipality would therefore act as a collection agency, but not as a debt collector. In other words it will collect and pass on payments to the accredited company, but will not follow up non payment from customers.

This system is easy enough to set up within a municipality, if the following points are observed

- i. The municipality does not guarantee debt collection, and will not follow up on missed payments
- ii. The municipality will charge an administration fee in the region of R10 per bill
- iii. To keep costs down, billing will only be electronic,
- iv. The money collected must be held and administered through a sundry account, **separate to the rates account.**

To date, none of the accredited companies in the Cape Town SWH programme wish to use the billing and collection service. This is because they are too small to provide internal financing, and are using the retail banks and specialised lenders currently teaming up with programme. These financiers have their own collection mechanisms outside of the municipality. However, should a company be large enough to lend off their own balance book, then this option could be considered. It is therefore prudent to ensure that the municipal billing and collection service can manage this function prior to the start of the programme.

Draw up an agreement with the relevant electrical and plumbing inspectorates

Once the programme is up and running, the municipality will want to conduct spot checks on the installations to ensure that they meet national electrical and plumbing standards. If the municipality does not have the internal capacity to conduct this work, then it needs to outsource the function.

For the plumbing industry, the PIRB (Plumbing Industry Regulation Board) is the organisation best suited to fulfil this function. The PIRB is a not for profit national body which has a team of skilled plumbing inspectors who check 5% of all plumbing installations in the country to ensure that national plumbing standards are being upheld. Effectively this means that 5% of all SWH systems installed through the municipal SWH programme would be checked by the PIRB anyway. Should the municipality wish to up the inspection count, particularly early on in the programme, then they would have to pay the PIRB for these additional inspections. An agreement will need to be signed between the municipality and the PIRB. This is what the City of Cape Town has chosen to do initially until such time as the programme establishes an acceptable level of technical quality . A copy of the agreement used by the City of Cape Town to contract with the PIRB can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 12-PIRB Professional services agreement*

In the same light, the electrical industry has several inspectorates around the country who report to the Chief Electrical Inspector in the Department of Labour. It is necessary to contact the Chief Inspector to determine which person/body fulfils this function within a specific municipal area.

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Email: pieter.laubscher@labour.gov.za

Once determined, this body can be contracted to provide spot electrical inspections on SWHs installed through the programme. A copy of the agreement used by the City of Cape Town to contract with the relevant electrical authority can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 13-WCAEIA Professional services agreement*

Step 8: Advertise, Evaluate and Accredite

Once all of the steps above have been achieved, the programme is ready to be advertised. It may be useful have a briefing meeting with the SWH industry to explain what the municipality is doing and how the programme will work. The industry can be contacted through the SESSA SWH division (<http://www.sessa.org.za>). A presentation to the SWH industry made by the City of Cape Town prior to advertising can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 14- SWH Programme pre-briefing meeting for Applicants*

The call for applications must be advertised through the normal municipal channels (not through supply chain). The call must include details of

- i. what the programme is about
- ii. where to download or get a hard copy of the **programme explanatory leaflet, programme application form, accreditation agreement and code of conduct (see Step 7 above).**
- iii. who to contact should there be any queries
- iv. where and when to hand in their application

As this is not a tender process but an open accreditation scheme, municipal contact with the applicants is allowed during the application window. This is very useful in allowing the potential accredited to company to fully understand the requirements of the programme.

Once the application window closes, the SWH PMU will need to evaluate the responses against the criteria of the programme. Some of the important criteria include:

- i. Proof of a nominated PIRB certified SWH installer signing off on installations
- ii. Proof of a nominated electrician who registered with the Department of Labour signing off on installations
- iii. Providing proof of a business arrangement to provide instalment finance facilities to clients
- iv. Being in business for longer than 1 year
- v. Valid tax clearance certificate
- vi. Using locally manufactured products
- vii. Being in good financial standing

Failure to meet these criteria should result in the applicant not being accredited. After assessing each submission, the City of Cape Town took the opportunity to meet with each of the applicants to make them aware of areas where they did not meet criteria, to give them an opportunity to comply. These discussions were also very useful as they allowed the City to make personal contact with the applicants and develop working relationships for the programme into the future.

Once the evaluation is complete, the successful applicants must be notified, and arrangements made for the signing of agreements. For the City of Cape Town, a launch was organised to gain some media awareness around the programme, with the Mayor presenting each accredited company with the agreement and an accreditation certificate. The agreement was signed by the Executive Director: Economic, Environment and Spatial Planning. In the case of other municipalities, the accreditation agreement must be signed by the relevant mandated administrator.

Step 9: Running of the Municipal SWH Programme

Once the programme has been launched, it is the role of the Municipal SWH Programme Management Unit (PMU) to ensure that it runs smoothly and that the municipality delivers what it promised to the accredited service providers. Key areas that the PMU needs to focus on are:

Quality

The PMU needs to continually monitor the quality of the SWHs installed in the programme. This involves checking the quality of both the product and the installation.

Product quality

A SWH used on the municipal SWH programme must carry the SABS mark of approval, having complied with the following national standards: SANS 151-geyser, SANS 1307-SWH mechanical test and SANS 6211 – SWH performance test, as well as having their manufacturing process approved by the SABS inspector. The PMU must ensure that the products used by the accredited service providers maintain these standards, by keeping tabs on when the SABS mark expires on the product, and requesting new SABS certificate once this occurs.

Installation quality

A SWH used on the municipal SWH programme must be installed and plumbed according to the national standard SANS 10106. Once complete, the installation must be accepted by a certified plumber registered with the Plumbing Industry Regulation Board (PIRB). This plumber will complete a plumbing Certificate of Compliance (CoC) if the installation meets the required standard.

It is the responsibility of the PMU to ensure that it keeps track of all the installations of the programme, and ensure that they each receive a plumbing CoC.

To ensure correct electrical installation of the SWH the national standard SANS 10142/1 needs to be complied with. The installation must receive an electrical CoC from a Department of Labour registered electrician.

It is the responsibility of the PMU to ensure that it keeps track of all the installations of the programme, and ensure that they each receive an electrical CoC.

Spot checks

The PMU will need to conduct their own spot checks on installations to ensure that the plumbing and electrical CoCs issued are in fact valid, and reflect installations that comply with national standards. In order to do this the PIRB and the relevant electrical inspection authority in the area needs to be contracted to the municipality. For more details see Step 7 above.

Manage the SWH advertising campaign

Whether in house or outsourced, the advertising campaign needs to be managed by the municipality. All media outputs will need to be approved internally, and this process must be streamlined to allow quick and effective marketing. Cape Town's experience is that while print and radio media is useful, the best marketing approaches are through

- i. personal interaction through exhibition stands at shopping malls and public events. A conversation is often required to bring people around to understanding how a SWH works and what the benefits of the programme are.
- ii. flyers in the rates bill, making rate payers individually aware of the programme
- iii. a dedicated website which describes clearly how the programme works and provides information for the public to be aware of. The website must also display the logo and link to the websites of the accredited SWH service providers. To view Cape Town's website: <http://www.capetown.gov.za/en/electricitysaving/Pages/Service-Providers.aspx>

Opportunities to collaborate with the accredited service providers should be proactively looked for – these include promotions, free giveaways and programme specials. If the service provider is putting their own marketing money into the programme, then the municipality should look to support it wherever feasible.

Details on the Cape Town marketing plan can be viewed at <http://www.cityenergy.org.za/category.php?id=3#1> under the heading *Cape Town SWH programme lessons learnt Document 15-SWH creative strategy*

Management of queries and complaints from the public

A dedicated telephone line and email address for the PMU must be set up in order for the public to engage easily with the municipality around the programme. The PMU must prioritise the public, as the name of the programme can be tarnished by poor response time and customer service.

Complaints must be followed up with promptly and the PMU can mediate between the customer and the accredited service provider to ensure that the issue is resolved.

Managing annual or biannual application processes

As the accreditation process is open, every six months to a year the PMU needs to call for applications from new SWH service providers wishing to be accredited on the programme. This process is described in detail in Step 8 above.

Managing disputes and delisting accredited service providers

A formal process needs to be in place to manage and resolve disputes arising from the programme. Should a dispute not be resolved, and the service provider is clearly operating outside of the accreditation agreement and the programme Code of Conduct, then the PMU will have to delist the service provider from the programme. The dispute resolving and delisting process is described in more detail in section 9 of the accreditation agreement listed in step 7 above.

Keeping record of installations and reporting

The PMU will need to establish a monthly reporting structure so that the municipality can keep track of the programme's progress. Monthly reporting back to the line head is required to ensure that the programme is still meeting the municipality's objectives.

The report will need to provide a summary of the following:

- i. Milestones achieved during the month
- ii. Marketing and sales for the month – including marketing efforts from the municipality (adjustments to municipal SWH programme website, flyers in rates bills, adverts published) and requests (website hits, requests, sales). The PMU must track sales under the programme through monthly installation submissions by the accredited service providers.
- iii. Quality control and public liason – this provides a summary of quality control and public liason work over the period. This is a critical section as it determines whether the accredited service providers are complying with the Code of Conduct detailed in the Accreditation Agreement that each have signed with the municipality.

The key aspects for the report will be:

- Summarising the number of PIRB and electrical authority inspections,
 - Summarising how many of the inspected installations were failed
 - Summarising how many of these failed installations have been rectified
 - Summarising the number of public complaints reported to the PMU over the period
 - Summarising the number of resolved and unresolved complaints over this period
- iv. Updated information on the Accredited Service Providers – including number of ASPs added to/removed from the programme in that month, number of appeals currently in process.
 - v. Issues, risks and assumptions arising
 - vi. Key milestones to be achieved over next period

Ensure the continuity of the SWH programme

As many of the financed solutions for SWHs require a 5 year payback, it is prudent for the programme to be managed by the municipality for at least this period. The PMU will be the municipal face of the programme, and as such it needs to remain operating for at least this period.

Conclusion

This report has described in great detail how a municipality can set up and run their own SWH implementation programme, based on the lessons learnt from the City of Cape Town. While SWHs will be installed with or without municipal intervention into the future due to their financial savings to the end user, the municipality can assist in guiding the market in such a way that local job creation and industry are supported and that local economic growth can be optimized.

1. Reporting

The first programme report for November is included in this submission.