

**SEED/CESU (City Energy Support Unit) Network Meeting
25 February 2010**

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1. Acronyms

AMEU – Association of Municipal Electricity Undertakings
CDM – Clean Development Mechanism
CESU – City Energy Support Unit
DoE – Department of Energy
DoRA – Division of Revenue Act
DTI – Department of Trade and Industry
MoU – Memorandum of Understanding
RFP – Request for Proposal
SACN – South African Cities Network
SALGA – South African Local Governments Association
SEA – Sustainable Energy Africa
SEED – Sustainable Energy for Environment and Development
SWH – Solar water heater

2. Overview of Network Meeting Purpose

The Network Meeting was originally set to focus on the role of municipalities in developing appropriate SWH regulations to support the Minister of Energy's commitment to the installation of 1 million SWHs by 2014. Shortly before the Network Meeting, SEA received information from the DTI that national government may introduce national SWH legislation by June 2010. The National Building Act (currently only concerned with health and safety) is to be amended to include energy efficiency regulations, which are drawn from SANS 204, a document containing voluntary energy efficiency standards for buildings.

Within the context of this recent development, the discussion focused on whether cities should continue to forge ahead with the development and implementation of by-laws instead of waiting for national government to lead the way. City by-laws may not be necessary if national government promulgates a national law. However, government processes can take a long time, e.g. SANS 204 has not been finalised after 5 years. There was a sense that Cities should pursue their own SWH initiatives regardless, as it could not be delayed any longer.

3. SWH and Energy Strategy Updates

An overview of the National Solar Water Heating Strategy and Implementation Plan was given. The initial draft version can be found here: <http://www.sessa.org.za/home/1-latest-news/167-swhframework>. Please note that this is not the final version. The Strategy includes international experience in SWH implementation, which identified regulation as the turnkey for successful and up-scaled SWH rollout. On the other hand, the deployment of subsidies has led to problems in many countries and significant distortions in SWH markets and legacies of long-term problems, e.g. a reduction in the federal government rebate in Australia led to a dramatic slowdown of the SWH industry.

The National SWH Strategy does not focus much on the area of SWH implementation for mid- to high-income households. Cities can develop Action Plans for SWH rollout in their respective areas of jurisdiction in order to fill this gap. Many cities have already taken steps towards SWH rollout and have set their own targets. A review of SWH policies and targets, as noted in city and provincial Energy Strategies, was presented.

4. Current City SWH Initiatives

The time initially put aside for a work session on local by-law implementation was used for Cities to list their current SWH rollout and legislation initiatives.

4.1. City of Cape Town

1. The City is attempting to implement a SWH by-law, but faces reluctance from the Planning & Building Department. The City will continue to push for the implementation of the by-law, as a means of identifying issues and learning lessons; the experience of which can in turn be shared with other cities. The City is interested in seeing whether other cities will experience similar institutional challenges.
2. An RFP is to be sent out for the installation of 300,000 SWHs as a method of achieving the energy efficiency target of 1600MWh by 2014 through SWHs. Installation will be through contracted service providers and payment collection will be through the city's rates bill.
3. 2300 low-income households retrofitted with SWHs in Kuyasa. Phase 2 proposal to cover 4000 households.
4. Upgrade of 40,000 council-owned rental units (CRU) in progress. The housing department is currently only willing to install electric geysers, but this is being contested.
5. A green building by-law is being considered, but there are issues about who will check and enforce the standards.

4.2. City of Johannesburg

1. No legislation has been passed, yet no development is allowed to go ahead without evidence of the inclusion of energy efficiency interventions (mainly through SWHs), due to local electricity constraints (e.g. the grid is reaching its limits as to the amount of electricity it can carry).
2. 200 low-income households in Alexandra and Cosmo City received SWHs through a donor funding model.
3. Energy efficiency levy (1%) on electricity tariff has been instituted and will be used in future to purchase SWHs.
4. Two RFPs have been sent out for a SWH rollout programme: one covering the technical aspects (e.g. SWH specs, etc) and the other covering the financial requirements (e.g. payment collection, etc). DBSA has made bridging finance available for the retrofit of mid- to high-income households with SWHs. The customer will eventually own the SWH.

4.3 City of Tshwane

1. A Green Buildings By-law is being developed. It will include aspects of the building form and electricity efficiency. The by-law will incentivise the inclusion of energy efficiency interventions through a discount on plan approval costs if energy efficiency measures have been implemented. The by law does not include SWH specifically, but rather that developments will have to demonstrate 50% EE and for this to be achieved it is implicit that SWH/EE water heating measures would have to be included.
2. 200 SWHs have been installed in rural households that are not connected to the grid. Funding is received from donors.
3. Considering retrofit of council buildings
4. Possible funding from private company for SWH retrofit project.

4.4 Ekurhuleni Metropolitan Municipality

1. An electricity by-law gives the municipality the power to control the amount of electricity an area receives as a method to secure overall electricity supply. Currently the municipality is restricting the amount of power it is willing to supply in areas that are experiencing supply constraints. Developments have to demonstrate energy efficiency measures before consideration is given to the supply of electricity. This is relatively easy to implement in cluster developments. There is also the consideration of lowering the KVA cost contribution from the developer if the development includes SWHs. (COJ also following this approach).
2. For the same reasoning as above, the electricity by-law covers the use of ripple relay control and smart metering. Ripple relay control has been implemented in the municipality and there is the possibility of the supply of 12,000 more control systems from Eskom. People who opt out are penalised. This penalisation system could also be applied to those who do not install SWHs.
3. RFP process similar to Johannesburg. The proposal is for the implementation of 256,000 SWHs, where CEF would raise the finance and organise installation. Implementation is hoped to commence by July 2010. The only hiccups so far came with the signing of the legal documents and a recent change of directors and managers at the City.
4. Currently financing new SWHs through an energy efficiency levy on the tariff.
5. Finances gained from the energy efficiency levy on the electricity tariff are also being used to retrofit municipal buildings with energy efficiency interventions, including SWHs, in accordance with their Guidelines on Electricity Energy Efficiency.

4.5 eThekweni Municipality

1. RFP for SWH rollout to be sent out. Development financing has been made available by the French Development Agency. No guarantee was needed from the City. The City is raising money on their balance sheet and will own the SWHs. It is considered similar to the installation of other infrastructure (e.g. water pipes), i.e. SWH will act like a “virtual power station.”
2. Time of use tariff in place (need to confirm with eT if this already in place?) for residential and commercial customers.
3. Retrofit of public buildings in progress.

4.6 Nelson Mandela Bay Metropolitan Municipality

1. Working in partnership with provincial government to include SWHs in all new low-income developments. SWHs to be financed by the national housing subsidy.
2. An RFP was sent out for the installation of 60,000 SWHs in mid- to high-income residential households over 5 years. A fee-for-service model will be used, with the collection of SWH payments through the municipality. Funding will be from CEF. 180 bids have been received.
3. Rollout of 1000 SWHs in low-income housing in progress.

4.7 Sedibeng District Municipality

1. Retrofitting of council buildings being considered.

4.8 Sol Plaatje Municipality

1. Approached by a company wanting to build a concentrated solar thermal plant.
2. Sustainable procurement policy developed. This will work to ensure that all council and public buildings procure efficient water heating in the future.

5 SWH Implementation

Cities listed important issues, challenges and ideas when considering SWH rollout and by-laws.

5.1 Increase in SWH Installation

The following were discussed as methods of increasing SWH implementation:

1. **SWH by-law** development and implementation
2. **Development planning criteria** need to be considered, e.g. not supplying electricity outside the urban edge (but this could be a major political issue, as it is mainly the poor that are beyond the urban edge).
3. Consider awarding **development licenses** to developers with a track-record of previous energy efficient developments.
4. According to City of Johannesburg and Ekurhuleni Municipality electricity by-laws **load-control measures to ensure the security of electricity supply** can be undertaken at the discretion of the engineer in charge. This could include the installation of SWHs as well. Cities are to examine their by-laws closely for this potential opportunity for SWH implementation.
5. A **penalisation system** could be put in place for residential users, penalising those who do not have SWHs installed. This will encourage self-reporting and would help the City keep track of how many systems are installed.
6. Some cities are considering **green building by-laws**, but this could take longer than a SWH-only by-law.
7. Tap into the potential of **Free Basic Alternative Energy (FBAE)** as an instrument for financing SWH implementation in low-income un-electrified households.
8. **Awareness campaign**: design and develop a creative and persuasive collective cities' message promoting the use of SWHs at mass scale - this initiative to be possibly driven through the South African Cities Network..

5.2 SWH By-law Implementation

1. In some cities, Planning and Building Departments view SWH by-law regulations with great reluctance, as they are perceived to delay the pace at which building plans are approved and in turn thought to adversely affect the performance ratings of planners, which are based on the

number of building plans approved per month. This will fall away if national government is to go ahead with national legislation. There is a **need for support from all departments**.

2. It is **time-consuming and difficult** to get a SWH by-law implemented.
3. A **clear financial case** needs to be made for overall acceptance of by-law development and implementation.
4. Cities are concerned that mass installation of SWHs would result in a loss of **revenue from electricity sales**. There is a small saving in winter months due to purchasing on time of use from Eskom and selling on at flat rate, but overall there would be a financial loss, amounting to as much as 20% off residential sales. The 'fee-for-service' approach, keeping the service within the city, may mitigate this loss.
5. Cities must **standardise their bylaws** to ensure uniformity within the municipalities, as some developers tend to avoid cities with strict legislation to those with lax legislation. Cities really need to get together and have a single strategy or campaign on energy efficient water heating, rather than having piece-meal/ fragmented strategies.
6. There are concerns that there may not be enough **SWH installers**. The Department of Science and Technology and the Electrical Contracting Board are looking into training SWH installers.
7. There will be a **challenge of getting officials involved in construction and building up to speed** when the new national building code legislation is promulgated.
8. **Water reticulation** will need to be indicated on building plans, if SWHs are to be included as a mandatory specification for building plan approval.
9. There is a request for an expansion of the **national ADMD (After Diversification Maximum Demand) study** of residential areas to determine the electricity use per average **household after energy efficiency measures have been implemented**.

5.3 SWH Rollout Projects

1. Some cities have received **DoRA funds**, but this funding does not include funds for SWHs.
2. There needs to be a focus on the **retrofit of existing buildings**, as well as legislation for new buildings, because of current electricity constraints.
3. The City of Johannesburg has hit a snag with their RFPs for SWH rollout in terms of **guarantees from the City for funding**. In the 'on the book/fee for service' approach, cities themselves install SWHs as 'infrastructure' and **bridge funding** is required for the initial SWH purchase. Some guarantee is required from the City in order to raise the loan, despite a city's track record of money collection through their rates bills. This is difficult for cities.
4. Some issues are experienced in the RFP process, with the signing of **legal documents** for City SWH rollout.
5. **Smart meters and/or ripple control** are required to regulate peak use on cloudy days. SWHs can still create a peak use outside of normal peak hour times. This is extremely important if peak load reductions are to be guaranteed.
6. **Loading certificates**, given to a house if it can carry the extra weight of a SWH on its roof, are needed from low-income houses to ensure the roof does not collapse under the weight of the SWH.

5.4 Cities: Roles and Barriers

1. The National SWH Strategy will focus on SWH provision to low-income households. **Municipalities have a key role** to play in the retrofit of **the mid- to high-income sector**.
2. Most of the energy discussions miss the main point: that of the electricity crisis. There **must be a focus on addressing the electricity crisis** through energy efficiency interventions in existing and new building stock.
3. A **SWH champion** is needed for a City to make progress in SWH installations.
4. **Changes in directors and managers** delays the process as everyone has to be brought up to speed and on board with the programme.
5. **Monitoring and evaluation** is onerous, but must be undertaken if a city wishes to access CDM funding. It is also useful to track the amount and effect of SWH installations.

6. Actions

6.1 City actions

1. Cities are to send **information on their current SWH initiatives, SWH implementation issues and SWH targets** to Andrew Janisch (SEA). This information will be included in the National SWH Strategy, to be presented to the DoE, and will highlight SWH targets, the barriers that need unblocking and the high importance of national SWH legislation.
2. There was a call to have a **sub-committee of city representatives** to be invited to engage with the national SWH legislation and Strategy process. SACN has a mayoral forum established around sustainability, with a focus on renewable energy and energy efficiency.
3. Manoj Singh (eThekweni Municipality) to forward details to SEA of an imminent **workshop on the Tunisian experience of mass scale SWH implementation**. SEA will forward this information to all cities.
4. Other cities requested that the **City of Tshwane and the City of Cape Town forward them copies of their draft by-laws** so that they can familiarise themselves with them. The City of Tshwane mentioned that they will first have to seek permission from the CSIR before they can share their Green Buildings By-law document with other cities. City of Cape Town's SWH by-law information to be sent to Andrew, who will send it to all cities.
5. Cities were encouraged to **sign their MoUs with the CESU and SEED Programmes**, as both programmes cannot continue funding delegates to attend network meetings without signed MOUs.
6. **Awareness campaign during Earth Hour**: cities to make an announcement on SWHs being a "must;" giving information on savings, etc. AMEU and SALGA to be part of the message. Possible slogans: "Hot water in a blackout" or "Cities for Solar."

6.2 SEA actions

1. Collate information to **create synthesis of City SWH actions**. Disseminate to all City partners. Initiatives include, amongst others:
 - a. RFP private service provider model (e.g. City of Cape Town)
 - b. RFP development finance model (e.g. eThekweni): accounting for SWHs as City capital assets
 - c. Ekurhuleni possibility of 0.25% surcharge to finance energy efficiency (SWHs)
 - d. City of Tshwane on bulk contribution payment, i.e. developers given an incentive to install SWHs, through lowered plan approval costs.
2. Cities called for a consolidation and coordination of local and national government's efforts. SEA will act as the co-ordinator.
3. Consideration of a **letter from SEA to national government and DTI** that Cities are gearing up for SWH implementation. Include Cities' SWH visions and targets and their desire to meet with DTI on the issue of national legislation.
4. Cities to be **kept informed of national developments**.
5. Find out whether municipalities are empowered to place a **surcharge fee** on households if they are not using energy efficient means of water heating.
6. Get a legal opinion on the use of **electricity by-laws** and the reasoning of current electricity supply constraints as a method for mandatory SWH installation requirements.