

Municipal Energy Efficiency

This session provided an overview of energy efficiency in cities, and a platform for the discussion of municipal energy efficiency programmes, cost implications and barriers. Issues and points raised were the following:

1. The Division of Revenue Act (DoRA) funding. This funding consists of R700 million from the Department of Energy (DoE) for the implementation of municipal energy efficiency measures.
 - a. The original rules were impossible to adhere to, but hopefully the next revision will be far better.
 - b. The efficiency measures that municipalities are allowed to implement are currently limited to lighting (street, traffic and buildings) only.
 - c. Only metros and cities get support. Small local municipalities are excluded.
 - d. The DoE cannot coordinate with municipalities, due to lack of capacity. Municipalities need to be able to speak with one voice. AMEU and SALGA were suggested.
 - e. It was suggested that interventions are targeted and prioritised in terms of those that will have high impact when the reserve margin is most threatened, i.e. not street lighting, as this is at night.
 - i. Following this, both energy efficiency and demand side management (DSM) were highlighted as needing immediate implementation: DSM for short term protection of reserve margin, and energy efficiency for long term energy savings.
 - f. There must be a focus on diversifying the 'basket' of energy sources, depending on the energy service required.
 - g. Energy efficiency needs to be better defined (especially in terms of other fuels). It does not apply only to electricity.
 - h. A suggestion was made that the large municipalities should devise a 3-year plan, as a part of a Planning Task Team, to decide on key interventions. Cities should start with easy/visible interventions (e.g. lighting), but use the time to plan for the more complex interventions (e.g. SWHs).
 - i. DoRA will not fund SWHs.
2. Monitoring and Verification (M&V)
 - a. M&V entities need to be accredited by NERSA. This process is onerous.
 - b. M&V entities need to be hired up-front; a problem if it has not been included in the municipality's budget.
 - c. Every intervention must undergo M&V, which is admin-intensive.



3. Power Conservation Programme (PCP):
 - a. It is unclear whether the 10% savings envisaged by the PCP is relative to 2006 levels or current levels. If it is relative to 2006 levels, then the savings asked for are large (25%+).
 - b. PCP will most likely be dropped when Eskom has increased its generation capacity. PCP must be made permanent, in order for savings to be traded and to prevent the future distribution crisis (possibly by reducing circuit breakers in conjunction with PCP savings).
 - c. Currently PCP is of no benefit to distributors, although this does not have to be the case. If it is changed, it will have a far higher chance of success.
 - d. The PCP will benefit inefficient entities the most, as they will be able to save electricity easier.
 - e. Municipalities are experiencing financial crises. They do not have enough money for refurbishment, let alone energy efficiency. This will get worse with the Power Conservation Programme (PCP). The PCP aims to reduce the electricity usage of the 300 biggest users. This will result in a 10% revenue drop for municipalities, as one of their revenue sources comes from electricity sales.
 - f. There are two legislative potential homes for the PCP:
 - i. Energy Act: In this case the penalty cash would go to Treasury and would hopefully be spent on the industry. A problem is the inability to ring-fence funds.
 - ii. Electricity Regulation Act: In this case municipalities will not want to save, as they will lose revenue.
4. A distribution crisis is imminent, due to a lack of planning. When looking at energy efficiency and DSM, municipalities have to look at capital and funding in the long term, as energy efficiency will defer from future costs (infrastructure, etc) and therefore would not result in revenue loss in the long term.
5. As soon as the economy recovers (predicted for the end of 2009), the country will experience reserve margin problems again.
6. Municipalities, on average, experience 10% non-technical losses. If these losses are cut, energy efficiency measures will not need to be implemented. A problem is the diversity of electricity metering systems. They need to be consolidated. A NERSA task team has identified and will survey a sample area in order to get a feel for the existing metering systems.
 - a. eThekweni has reduced non-technical losses to 3% by doing a sweep of all their meters, with a special focus on big businesses, as they steal on a big scale. A company assisted the municipality with logging each meter into GIS. The next envisaged step is an automated vending system for electricity buyers.
7. By-laws need to be standardised nationally, though it is not believed that they are the right vehicle for implementation. National regulations, along with the assistance of municipalities, would be the better option.
8. A controversy surrounds the use of "ripple control." It is only supposed to be used in a national emergency, yet is being used indiscriminately today.



9. There is a need to look at tariff type, e.g. time of use tariff. A NERSA Task Team will be put in place to investigate the options.
10. There is a lack of clarity and information on the various projects of the NERT, e.g. NERT sent out a questionnaire to municipalities and the response was very poor and almost no-one in the audience knew of the questionnaire. The Association of Municipal Electricity Undertakings (AMEU) needs to disseminate information effectively to the correct people (more than one per municipality) and needs some way of making it clear that response to the email is important (e.g. "NERT ALERT!" as subject line)

Renewable Feed-In Tariff (REFIT)

An overview was given on the REFIT, current renewable energy regulations and the implications for municipalities.

Solar Water Heaters, CDM and Ceilings

An overview was given on solar water heater (SWH) and ceiling installation in low-income households, along with updates on implementation and policy developments at the local and national level. An introduction was given on the Clean Development Mechanism (CDM), as well as the progress made towards programmatic CDM. Comments and issues raised during the presentations were as follows:

1. Capital funding for SWH installation is difficult to come by. Some municipalities are relying heavily on the Eskom subsidy. Prices could be reduced by buying in bulk.
2. Municipalities are prohibited by the Municipal Financial Management Act to loan money to customers, as is required in a fee-for-service model (where the municipality pays for the installation of SWH and the customers pay them back through their municipal bills over a period of years). A solution is implementation through the Central Energy Fund (CEF), where the CEF would provide the loan.
3. It is difficult to get payments out of low-income communities where SWHs have been installed.
4. It was questioned whether the housing subsidy is enough to cover the installation of SWHs as well. Nelson Mandela Bay is able to include SWHs in the housing subsidy. They claim that building efficiency is driving down the cost of building construction, leaving a gap of R1900 for SWH implementation. Contractors are also eager to add SWHs to advance their project.
5. A big hurdle is to find an SABS-approved low-pressure SWH system, in order to make use of the Eskom subsidy. Only one low-pressure system has been approved so far, and it can only be used in coastal areas.
6. The biggest risk for a municipality is the installation process of SWHs. It was pointed out that technical comeback is unlikely if the system is SABS-approved. A suggestion was the holding back of a portion of the payment to the installer, which can only be claimed by the installer if there are no technical problems.
7. SWH monitoring and maintenance is problematic, but is required for CDM. A simple monitoring system is needed, as there is not much cash potential from CDM if a large



- amount of funds are spent on monitoring. It was suggested that municipalities stipulate a minimal maintenance requirement for SWHs in their Request for Proposals.
8. SWH insurance remains a grey area. A “sunset clause” should be included if a customer wishes to buy the SWH from the municipality. It was mentioned that insurance companies are on board when considering SWHs; they would rather replace geysers with SWHs.
 9. There are enforcement issues in SWH installation. The City of Cape Town is considering an efficient water-heating by-law, but the planning and building department is resisting the role of enforcer. An example of a solution is the case of Spain, where an energy agency was set up to do sample checks to see whether SWHs were properly installed. A suggestion was that builders put down a deposit and would lose this deposit or face court action if SWHs were not installed.
 10. A municipality would benefit from supplying SWHs in a fee-for-service model, as they would still receive payments from customers. If a customer were to buy a SWH privately, the municipality would lose out on a large chunk of electricity sales to that customer.
 11. It is imperative for municipalities to implement SWH rollout, as they lose revenue through the supply of expensive electricity during peak times for the running of geysers (people tend to shower in the morning and evening). This is especially true if the electricity falls under Free Basic Electricity for the low-income sector. This needs to be included in SWH financial models.
 12. SWHs need to be marketed correctly. The public need to be made aware.
 13. The installation of SWHs should not override the importance of the installation of ceilings in low-income homes and the placing of low-income households on better-located land.
 14. A CDM costing exercise is needed for small projects. Municipalities need to know how much they will get out of a project after validation and verification costs. Currently there are no available examples.
 15. More money can be gained through CDM carbon credits if the project is a greenfield project, as more factors can be affected than if it were a retrofit case, e.g. house orientation, etc.
 16. One idea was for CDM to go beyond programmatic and look at carbon savings on a city level, i.e. compare city energy consumption to a green city’s consumption.
 17. There was a request for a “CDM for dummies” presentation.

Ecosystem Housing Development

This session covered the ecosystem approach to housing: ‘building urban resilience instead of just building houses’. The ecosystem approach centres on a holistic city model, which puts emphasis on the importance of planning a city in an efficient manner. Issues/points raised during the session included the following:

1. Housing currently delivered by the government is too far from the urban periphery, placing residents far from the economically active areas where they could make a living. The building of settlements should be informed by efforts to build a cohesive society and service delivery system.
2. There is a need to consider alternative energy sources, as the electrification of households is proving to be a challenge.



3. Strategies are good and well, but implementation sometimes fails due to differing interpretations, which in turn informs policies at provincial and local levels. Contradictions between these two become stumbling blocks.
4. There needs to be a focus on the building of multi-use neighbourhoods, where people can live and work. A starting point could be city rental units, subsidised housing and gap housing upgrades.
5. Townships should be made attractive for people, as they tend to move to the suburbs when they start earning good salaries, resulting in minimum to no investment and development taking place in township areas.
6. Hindrances to the ecosystem approach include financial, policy and regulatory instruments that are either absent or not optimally utilised. These need to be synchronised.
7. Placing emphasis on an ecosystem approach during the planning and design phases of a city is far cheaper and more sustainable than retrofitting badly planned cities.
8. A question was raised as to the definition of gap housing. Gap housing falls in the 'gap' between state-supplied residential units (cost R100 000 or less) and privately delivered houses (not less than R250 000). The market comprises of people who earn between R3 500 and R10 000 per month. They do not qualify for state assistance, yet earn too little to participate in the private property market.
 - a. The City of Cape Town has analysed this gap in housing supply and devised a strategy to start filling it. The strategy is two-fold: it induces the private sector, to supply housing units at lower prices, whilst simultaneously encouraging low income, employed individuals to build their own houses.
 - b. There is a need for the building of more pilot demonstration units to emphasis what can be achieved through these types of buildings.
 - c. Have more marketing material out in property sales offices, so that the targeted groups can be enticed to partake in these initiatives, so that they can benefit from the interventions.
 - d. The media should make a commitment to rollout community education programmes about initiatives such as 'gap housing' and similar.
9. Mixed developments, which include low income housing, gap housing, rental units, etc, is ideal to encourage de-segregation and non-isolation of the lower income groups. An example includes the West Cape Project by Cooke Le Fevre Architects and Urban Designers.

Sustainable Transport

The sustainable transport dimension was newly introduced to the network meetings; hence the presentation was a brief introduction and overview into how transport system inefficiencies contribute to cities' inefficiencies. The main points covered in the presentation were accessibility, safety, space use, comfort, energy efficiency, CO2 emissions and economic impact.

Attendees were in full agreement that transport plays an important role in developing energy efficient and sustainable cities, therefore transport will become a pertinent topic at SEED Cities Network initiatives going forward.



SEED/CESU Programme Management

Municipalities were asked to outline all the key areas they felt were important for further/future implementation, and to participate in the outlining of the CESU's role in supporting them. These roles and responsibilities will be taken forward into separate memorandums of understanding with each of the CESU's city partners. The indicators work-shopped were the following:

Energy efficiency in cities indicators:

1. Get cross-cutting political commitment (have energy efficiency initiatives on management scorecards). Get all the different directorates to contribute towards energy efficiency
2. Measure efficiency/GDP% - absolute baseline
3. Energy efficiency efforts must be redistributive in nature: there must be enough capacity to reach the poor
4. Each city must work towards having dedicated energy efficiency resources (human and financial)
5. Each city must have a plan in place: who does what, by when, with what resources and how. This plan should also be informed by the desired Urban Quality Of Life goals
6. Establishment of a high-level multi-disciplinary task team that will deal with all strategic issues
7. Political will and institutionalisation of all the above

Solar water heater (SWH) indicators:

1. Visible presence of SWHs on roofs
2. SWH targets in Energy Strategy
3. Political will: SWH on every council member's roof
4. Visible advertising and public familiarity as part of a rigorous marketing and communication strategy
5. Clear public awareness programmes/campaigns (linked to above)
6. All initiatives included in Integrated Development Plan budget
7. Policy by-laws (positive disincentives)
8. Showcase: have SWHs on municipal buildings, public buildings, etc
9. Assess social impact and long-term benefits of having SWHs
10. Mass rollout initiatives (capacity building/Plumbing Industry Registration Board)
11. Establish an independent technical advice unit
12. Regulations in place to enforce that all new buildings and private housing must have SWHs installed and have old buildings retrofitted
13. Conduct a baseline survey
14. Lobby insurance companies to get involved (e.g. replace blown electric geysers with SWHs)



Transport Indicators:

1. Safety indicators (less fatalities, safer public transport system, etc)
2. Higher percentage of budget allocated to improving transport systems (public and private)
3. Lessening of average distance and continuous kilometers traveled by commuters (both public and private)
4. Modal shift: private to public, motorized to non-motorized, peak to whole day, etc
5. Changing public perceptions (from negative to positive)
6. Better/more transport options for commuters
7. Visible disincentives (e.g. getting rid of parking allowances and car allowances, etc)
8. Encouraging employers to get involved in transport schemes
9. Each municipality to have more vigilant fleet management and fuel efficiency policies
10. Having an Integrated Transport Plan