

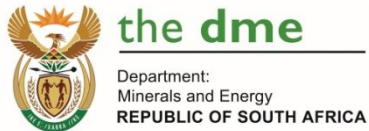
NATIONAL SOLAR WATER HEATING DEVELOPMENT UPDATE

RENEWABLE ENERGY SUMMIT

19March 2009

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Renewable Energy Market Transformation
(REMT)



PRESENTATION OUTLINE



1. Renewable Energy White Paper Perspective
2. Summary of Progress on SWH Development
3. Update on Recommendations from the National Solar Water Heating Workshop
4. Conclusions

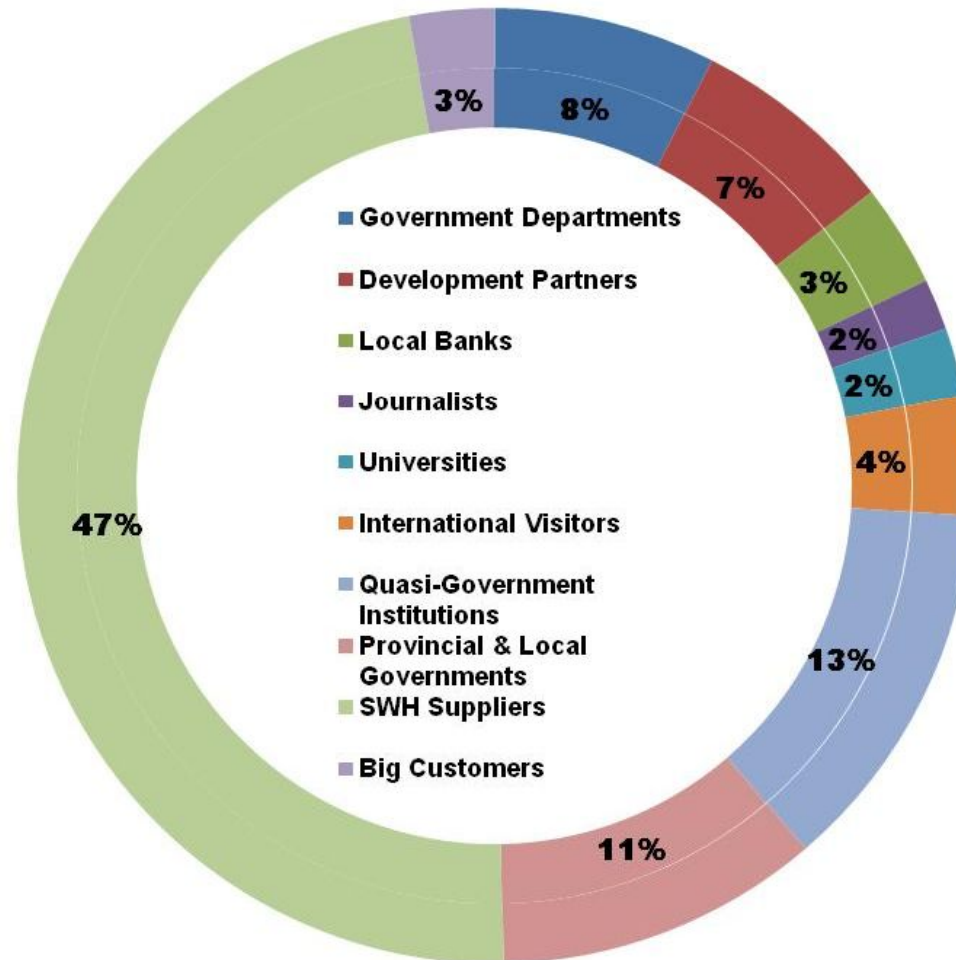
RE White Paper Perspective for SWH

1. The RE White Paper does not disaggregate its Target of 10 000 GWh into a SWH Target
2. SWH is pivotal to the RE strategy. Industrial, commercial and domestic water heating consumes about 18% of South Africa's total coal-generated electricity, according to Eskom.
3. DME estimates that the equivalent of a 2 000 MW coal-fired power station is required to provide hot water to households that now use Eskom electricity.
4. Eskom calculates that its plan to subsidise installation of 925 000 SWHs would cut peak demand on its grid by 578 MW.
5. With electric geysers accounting for between 30% and 50% of the average domestic electricity account, Eskom estimates that SWHs will save households up to 70% of their water heating costs.

RE White Paper Perspective for SWH (Contd)

6. An added bonus from large-scale rollouts is that SWH has the second highest potential for creating jobs among energy generation technologies ranging from nuclear (lowest) through to bio-diesel (highest).

Composition of Participants at National SWH Workshop



Summary of Progress on SWH Development

1. The CEF/UNDP 500 Project pioneered the setting up of SWH performance standards and led to the collection of vital data on SWH performance in energy savings.
2. Although only about 800 systems were installed in its first year, the Eskom Rebate Programme provides very useful lessons regarding product assurance
3. The steep learning curve of the SABS provides a launching pad for scaling up the system testing capacity for growing the market
4. SESSA SWHD has grown quickly from 16 members to more than 100 members over 2 years and it is now recognised by Eskom, SABS and the Munics
5. Currently it is estimated that about 10 000 systems are installed annually.

Summary of SWH Progress (Contd)

6. The City of Cape Town has pioneered a SWH by-law to support its strategy to achieve 10% penetration of private homes by 2010 and 10% city-owned buildings by 2012.
7. The Western Cape Government has installed 1000 SWHs in mainly rural homes as part of a pilot project.
8. The Nelson Mandela Bay Municipality is embarking on an ambitious programme to roll out 60 000 systems by 2012, starting with 500 units this year.
9. Innovative mass roll-out models are now emerging through Municipalities as implementation agents
10. Cost reductions are being pursued through the leveraging of Carbon Credits on a programmatic basis under CDM
11. Financial institutions are getting involved in big tenders like the recent one by the City of Joburg.



***Update on Recommendations
from the
National Solar Water Heating
Workshop***

1. SWH Target



Workshop Recommendation

There must be one common National SWH Target which should:

- be aspirational and not viewed as restrictive
- be aligned with Government policy ensuring certainty in the market
- help in monitoring progress and necessary interventions

Update

Basis of SWH Target Setting established as:

- Annual New Housing Development
- Annual Housing Renovations
- Replacement of Blown-up Geysers
- Penetration of Existing Housing Stock
- New/Existing Commercial/Industrial

2. SWH Legislation



Workshop Recommendation

- Enact regulations to force every new building to have SWH
- Consider – generic regulations that make reference to ‘Efficient water heating’ so that other technologies like the heat pumps are not excluded as these are proving popular elsewhere.
- Only the principles supported here but the details to be worked out in legislation

Update

Identified SANS 204 as a good start:
SWH systems shall be installed, unless it can be proved by a competent person that it is not technically feasible. SWH shall comply with the requirements of SANS 1307 and shall be installed in accordance with SANS 10106. The hot water services for all new buildings shall be heated using devices and equipment which provide a minimum of 50 % of the heating energy requirement via solar energy.

3. Stimulating the SWH Value Chain



Workshop Recommendation	The SWH value chain needs to be stimulated on both the supply and demand sides. However, demand stimulation must lead in creating the critical mass
Update	<ul style="list-style-type: none">•At the demand-side, the SWH rebate for both residential and commercial systems has been identified for urgent review in terms of current Avoided Cost of Generation. An engagement with NERSA, preferably, before Eskom price application is essential.•Additional voluntary mechanisms like TRECs should be explored.

4. Tax Incentives for SWH Suppliers

Workshop Recommendation

- **National Government support for the growth of the SWH Industry through reasonable reduction of duties on imported SWH components while local manufacturing is being built up**
- **Appropriate tax incentives for local manufacturing of SWH**

Update

National Treasury has recently issued a new Regulation dealing with Additional Investment & Training Allowance specifically aiming at Energy Efficiency Improvements for manufacturers. SWH tax incentives should be explored under this regulation. Deadline for comments: 31 March 2009.

5. SWH Artisan Training



Workshop Recommendation

The SWH industry and Government and its agencies need to work together to ensure development of more and better trained SWH technicians such as installers

Update

DPE has already initiated a programme that would register Plumbers and issue them Certificate of Compliance. This would have to be coordinated with the Dept of Labour, Dept of Water Affairs and the SWH Industry.

6. Financial Institution Dedicated to SWH/RE Financing

Workshop Recommendation

Need for large scale financial institution (could be DBSA, not Eskom!) dedicated to RE and must be supported by national government.

- Pool grants (development banks, foundations, donors) currently being split up
- startup capital + subsidies
- Secure low interest loans, provide guarantees
- Secure programmatic carbon finance (long term benefit)
- Make these available to the public and municipalities
- Shared risk between end user and financial institution

Update

1. Already secured interests of International Development Finance Institutions (IFC, KfW & AFD). Still looking for partnerships with local development and commercial banks.
2. The SA Insurance Association is getting interested in Geyser replacement with SWHs

7. Improving SABS SWH Turn Around Time



Workshop Recommendation	<ol style="list-style-type: none">1. Adoption of SWH Component Testing2. Outsourcing of the testing of certain SWH components3. Adoption/adaptation of international standards4. Up-skilling of SABS5. Reviewing the burden of the SWH testing cost
Update	<p>SABS has held discussions with Eskom and other stakeholders with the ff agreements:</p> <ol style="list-style-type: none">1. Implement recommendations 1-32. Report on comparative test matrix of thermal performance of international standards being prepared3. Up-skilling of SABS started for 4 staff with the assistance of German experts4. Shared burden of the testing cost being studied by REMT

8. Transformation of the SWH Industry Association



Workshop Recommendation	Transform SESSA's SWH division from voluntary part-time body into a more disciplined, inclusive, strong and independent permanent industry body with some PPP support from government.
Update	<ol style="list-style-type: none">1. Subject to approval, REMT has held some initial discussions with SESSA SWHD regarding support for transforming the SWH Industry into a more professional body with clear outputs.2. This will create credibility for industrial growth, reliable consumer education and protection and good information for planning.3. This support should be on a partnership basis and on a sliding scale to enable the SWHD to gain its sustainability.

9. Need for a SWH Champion



Workshop Recommendation	While SESSA SWHD is being transformed into an independent and sustainable body, there is a need for one single institution to champion the cause of the industry instead of many scattered SWH activities with no control.
Update	<ol style="list-style-type: none">1. The DPE & DME are jointly creating a National Steering Committee (NSC) as a Champion for the growth of the SWH Industry. Chaired by Chief Directors.2. 4 Working Groups (WG) will be formed to deal with the 4 categories of recommendations from the National REMT SWH Workshop as a start.3. The WGs forming the NSC will report to the NSC on progress on the Programme of Action4. The NCS will be making a recommendation on the future of the SWH Incentive Programme.

Conclusion

1. The need for SWH and other forms of RE generation has been given added momentum by the sharp decline in Eskom's reserve margin
2. With as few as 10 000 SWHs being installed in South Africa annually, the need for large-scale rollouts has become critical.
3. A Programme of Action needs to be urgently implemented through an appropriate Champion.
4. The review of the RE White Paper must critically assess SA's SWH potential and boldly set a national SWH target to stimulate the demand.

Many Thanks!!

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