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Economic Development Department
REPUBLIC OF SOUTH AFRICA

Program on Solar Water Heaters (SWH)

Select Committee on Economic Development

28 February 2012

Cape Town



Background

- Cabinet Lekgotla adopted 12 Action Plans to accelerate implementation of the NGP
- Action Plan 7 = Greening the Economy
- 3 key actions:
 1. Solar water heaters
 2. Biofuels
 3. REFIT
- Solar water heaters key objectives:
 - Scale-up financial support for achievement of the target of a million solar water heaters installed by 2014
 - Increase local production of components

Cabinet Memorandum



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- Cabinet approved the memorandum on 24 August 2011
- Key tasks:
 - Engagement between key departments (EDD, DoE, DPE, DRDLR, DST, NT, DTI) and organisations such as the IDC and SALGA to develop guidelines for the SWG rollout programme with inclusion of aspects related to localisation, job creation, rural development and promotion of SMMEs and cooperatives
 - Engagement with potential funders and submission of proposals to MINCOMBUD
 - Establishment of a programme steering committee (PSC)- Chaired by Prof Levin, DG:EDD



Meeting of PSC

- Programme Steering Committee met on 6 September 2011
- EDD, DOE, DTI, DPE, DST, DPW, ESKOM, IDC, NT, DHET
- Discussed the following issues/challenges:
 - Localisation plans
 - Even provincial distribution
 - Youth employment
 - Funding proposals
 - Amendments to regulations/regulatory interventions
 - Guarantees for installed solar heaters (in event installers go out of business)
 - Set-asides for cooperatives (installation)

Key recommendation of the PSC



- Currently the rebate is available on a first-come-first-served basis
- Key strategic solution to many of the challenges is the move away from the rebate to a programmatic contract-based approach
- Such an approach, if inculcated into the contract, will –
 - ensure equitable distribution and greater bankability
 - drive BEE, youth employment, skills development, localisation, set-asides etc

Key considerations



- The ability to attract new investments is influenced by uptake volumes in the market
- Insurance industry replaces roughly 400 000 conventional units per annum- R3500 – R5000 replacement (typical 100lt)
- Role of the insurance industry important in replacement sector.
- This segment experiences continual growth with large companies investing further to increase throughput – FRANKE, KWIKOT, etc.
- Manufacturing process semi-automated- mature technology.
- Manual Installation process can be labour intensive, enabling if volumes are large ie comparable to segment size of conventional systems.
- Low pressure solar hot water system LP ~R2000 imported vs selling price ~R4000
- High Pressure system HP ~R5000 imported vs Selling price ~R13 000

Key considerations



- Component costs vary up to 35% from import to local manufactured components
 - Labour input costs, economy of scale(demand), quality
- Need to push down the initial capital cost from both systems
- Need to empower the installation and manufacturing segments differently
- Intervention strategy is uniquely different for 2 solar Water heater systems.
- LP system installed in low cost applications are for developmental agenda ie social and environmental NOT Demand Side Management (DSM)
- HP system applied to suburbia has a DSM impact BUT need to increase uptake by households
- Which part does government fund HP, LP?
- Social awareness of benefits of solar water heaters and life cycle costs over life of product must be significantly enhanced – similar to “49m” program



Localisation plans

- Economies of scale of contract can stimulate localisation and investment interest
- Apply for **Designation** of SWH sector through dti Cabinet-approved action – December 2011
- Minister: the dti can designate any (sub)sector for special consideration (improved scoring, duties, strategic support) – public tender processes. In CDM traded processes this is to be clarified.
- Improve the approach to rollout from previous retrospective rebate applications
- Creation of demand and awareness across all spheres of users and households and beneficiaries
 - Social awareness campaign, green activism, “49m” type initiative, COP17 legacy project in UNFCCC precinct
 - Energy efficiency campaign with business (NEDLAC)
 - New Growth Path dialogue/Green Economy Accord/Green Jobs Report

Even provincial distribution



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- Allocate large-scale batch installations (eg 50.000, 100.000 etc)
- Provinces are allocated in accordance with FFC equitable distribution model – DOE will provide
- Will address the apparent provincial uptake discrepancy including rural development (DRDLR)
- Further demarcation and beneficiary allocation in support with SALGA and other departments.
- Easier management of Quality assurance and after-sales backup services/guarantees

Youth & Employment



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- Skills development - up-skilling, re-skilling youth and retrenched workers (in partnership with labour, SETAs) – DOL has advised on database of contact details.
- Involve DHET with HEI, FET colleges to train artisans and technicians (up to 10 000 qualified plumbers required to support the rollout plan by 2014) – use the database to inform contracted companies
- HP technology development program – DST-led initiative on alternative component technologies that can be localised
- Leverage international agreements with China, Germany to transfer curriculum to train and skill artisans e.g. Tshinghua University SWH/PVT curriculum with CPUT
- DST Program for training and Testing facilities - TBC

Sources of funding (1)



- Eskom was granted R1.1bn by NERSA through the MYPD2 process for the installation of 259 000 systems
- To date, the number of installed units are ~230 000
- MYPD2 is already approved and will enable Eskom to increase installations to 446 000 units by the end of FY12
- An additional R2.976bn funding is required for a further 554 000 units necessary to meet Government's objective of 1million units by the end of FY14/15
- After PSC debate MTEF allocation through 1c allocation from the taxation pool on non renewable generation is considered the most appropriate funding route for FY13/14 and FY 14/15

Sources of funding (2)



- Additional potential sources of funding include:
 - An allocation from the fiscus
 - The electricity tariff (MYPD)
 - Employment and Development Funds including the DBSA-administered Jobs Fund, the EU-sponsored Employment Creation Fund (ECF) and the Comprehensive Rural Development Program (CRDP)
 - The Green Climate Fund under the UNFCCC programme for financial incentives for climate change adaptation activities
 - IDC investment fund for green industries – R22Bn

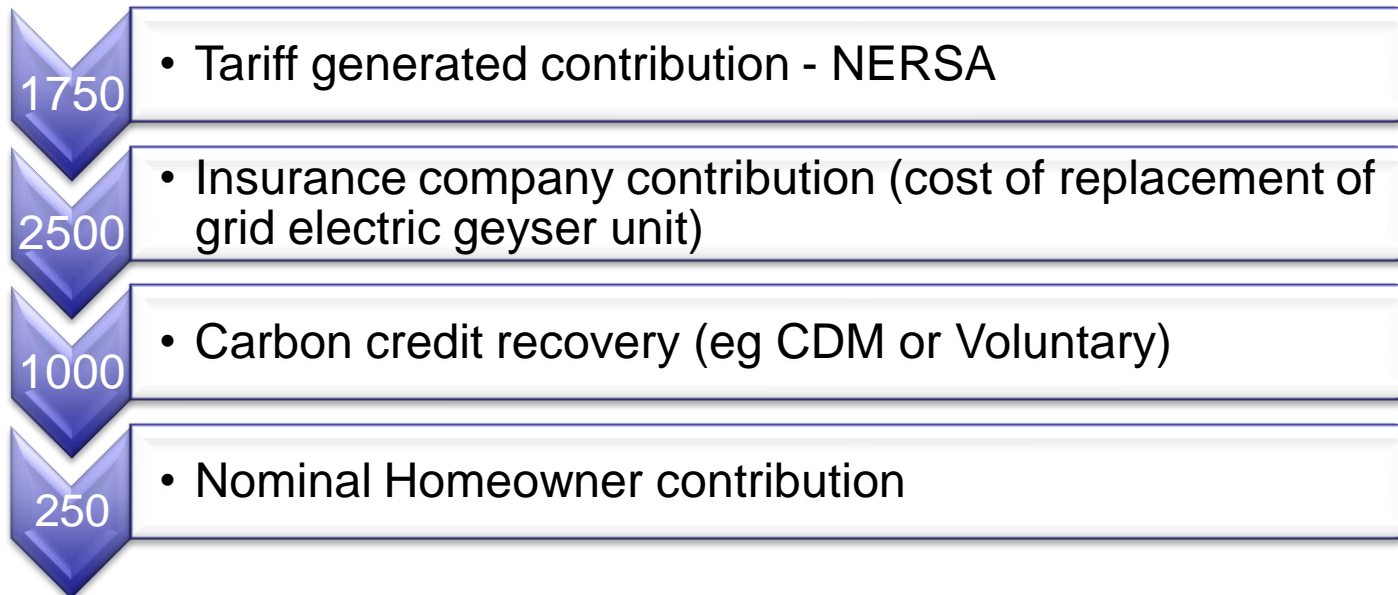
Proposed Funding Model



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- Using the DOE SOP- Standard Offer Programme approach
- Project finance leveraged from private sector including insurance and banking sector – High Pressure units
- Model is underpinned by the need to force price down by up to 50%





Amendments to regulations, regulatory interventions

- Invoke New building codes from compulsory renewables – *legislation in place*
- Possible amendment to policy on upgrade/retrofit of existing buildings – *not in place (DPW/dti/SABS)*
- Look at component level import duties vs import of complete SWH system - identify loopholes allowing cheaper imports to enter at lower duties and inform any amendment to regulations.
- Review standards that will define local content - use the *designation* to action this aspect – dti in process

Guarantees for installed solar heaters



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- Specific guarantee / after-sales requirements built into the contract
- Easier management of quality assurance- all must be SABS approved
- In contracting model a retention approach is adopted. Contract with manufacturers & installers separately.
- In SOP- payment is retrospective to CO2 emission reduction due to working units.
- Use the community trained persons in installations.

Set-asides for cooperatives



- The contract process ensures the achievement of government's socio-economic objectives:
 - Avoids exclusion of new entrants
 - Incorporation of co-operatives or provincial resources
 - Promotes BEE
 - Creates opportunities for new smaller component-level sub-tier suppliers and installers from community
 - Development support by government including seda, Khula, IDC (part of their R22bn program) etc



Way forward

- Engaged with SAIA - pricing/premiums issue- clear HP strategy - study to determine specific policy issues by govt.
- Successfully combining industrial development with infrastructure development – several companies upscaling
- NT MTEF allocation completed by PSC – 1c announced – part of R4.7Bn DSM allocation to DOE.
- PSC is finalising the guidelines for execution of the contracting model rollout plan by Eskom – localisation, review, provincial mix, milestones, reporting
- Eskom will implement – awaiting tender submissions after next PSC meeting



Siyabonga



Components of an Evacuated Tube
Solar Water Heating System

