Review of South Africa's Solar Water Heating Rebate Programme

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Abstract

Beset by power outages and a long-term electricity supply shortfall, Eskom, the South African national electricity utility, introduced a cash rebate for installing residential Solar Water Heaters (SWH) in 2008.

This rebate targeted the residential sector as it accounts for 35% of electricity demand in peak hours. Almost all residential hot water in South Africa is heated by electric resistance elements and the electricity use for this accounts for approximately 40% of monthly electricity consumption for middle income households. The rebate programme set an ambitious target of 925 000 SWH installations by 2013, but was suspended in 2015 with only 102 498 rebate payments made, 11% of the initial target. By any metric, achievement of 11% of the target set, is poor, however, South Africa had an existing SWH industry in 2008, with growing volumes, albeit from a small base. Ultimately the SWH rebate programme managed to stimulate the supply-, but not the demand-side of the market, causing long-term damage to the SWH industry. In this paper, an overview of the Eskom rebate programme is given, after which the programme is measured against international best practices to achieve success, namely; i) Quality installation standards; ii) Certainty and long term commitment; iii) System performance targeted to avoid over-sized / over- priced systems; iv) Strong marketing campaign; v) Holistic contractor training and customer education and; vi) Mandatory regulations for new buildings.

The study found that only one of the best practices was adequately met, leading to the conclusion that the programme was ineffective and should be withdrawn. If it is to be re-introduced, it is recommended that the new programme is carefully planned to address identified weaknesses.

The result of this study reaffirms the need for strong planning and commitment in all government support programmes. Failing which the support programme is likely to not only fail to reach its original objectives, but damage the long term prospects of the existing industry.

Introduction, Contextual Background and Methodology

Country Facts

South Africa is a middle-income, emerging country with an abundant supply of natural resources, both renewable and non-renewable. The country has large deposits of coal, which it has successfully exploited to generate 85% of its net maximum electricity capacity of 42 GW **[1]**. The national utility, Eskom, generates more than 95% of the country's electricity. Eskom has long prided itself for being stable, meeting and exceeding internationally accepted reserve margin norms and having the lowest tariffs in the world. A combination of factors, including but not limited to: the country's electrification programme which started in the late 1990's; increased electricity demand due to economic growth; and construction delays of two new coal generation plants in the 2000's resulted in national rolling blackouts in 2008.

Supply remains constrained with blackouts being experienced regularly with the situation only expected to improve by 2018, when the two new coal power plants (9 600 MW) and the country's flagship renewable energy programme (>5 000 MW) are fully commissioned.

Solar Water Heater Facts

Solar water heaters are made up of a collector and a tank, but there are many different configurations in the market. For the purposes of this study, the only technology distinction made is between low pressure (LP) and high pressure (HP) systems.

In the South African SWH market, the middle to high income market is almost exclusively HP systems, these systems are made up of a solar collector and a pressurized tank with an electrical back up element. The low income SWH market is dominated by LP systems, consisting of a solar collector and a low pressure tank, typically with no back up electric element. The price differential between the two is typically a factor of five, but high-end imported HP systems can cost as much as 10 to 15 times more than a low pressure system.

Energy savings from SWH are derived from two sources, the equipment and how it is operated. Poorly installed or inferior quality will have a direct consequence on the performance of the unit. Likewise, changing usage habits to align with the sun's heating cycle will increase energy savings significantly.

Study Objectives

The objective of the study was to frame key success factors common to internationally successful SWH rebate programmes and compare these to what occurred in South Africa. The research identified the events that took place and provides an international case study of the South African experience.

In 2005, Eskom introduced a Demand Side Management (DSM) Programme to reduce peak and overall electricity demand. This programme was funded via a surcharge on the electricity tariff, which was approved by the National Energy Regulator of South Africa (NERSA). The onus was on Eskom to demonstrate actual electricity savings to NERSA and the rate per MW saved was fixed in advance under the Multi-Year Price Determination (MYPD) application for annual tariff increases. In 2008, under this DSM programme, Eskom announced a rebate for the conversion of 925 000 **[2]** electric resistance water heaters to high pressure (HP) SWH in residential houses over a five-year period. This conversion was expected to yield 3 500 GWh of electricity savings annually. In 2009, the Department of Energy (DoE) announced the National SWH Programme that introduced low pressure (LP) SWH to the existing HP programme and set a combined target of 1 million installed units by 2014. Both the HP and LP programmes would be administered by Eskom, each programme administered by a separate team. In 2015, seven years after the launch of the first programme only 102 498 HP SWH systems had been installed under the rebate programme. In early 2015, the DoE announced that it would be taking over the HP SWH rebate programme. By January 2016 there were no rebates available for HP SWH. The objective of this study is to ascertain the reasons why Eskom was only able to achieve the installation of 11% of its original target of 925 000 HP systems. Asthe LP SWH programme had a different structure, whereby the rebate took the form of large scale free installations to indigent households, it is excluded from this study.

Research Methodology

Data and information was sourced; 1) From a review of existing local and international literature, including published research papers; industry publications and reports and relevant government documents. 2) Via an electronic survey to all SWH industry participants, including manufacturers; distributors; installers; academics and any entity directly connected to the industry. The researchers had contact details for 458 individuals / companies. In addition, the SWH industry association (Sustainable

Energy Society of South Africa or SESSA) sent an invitation to all their members (163) to complete the survey. There was most probably an overlap for some of these contacts, but as SESSA was not willing to share their mailing list, this was not possible for the researchers to validate. 3) Twenty semi-structured interviews with the primary role-players directly involved and on both 'sides' of the rebate programme, i.e: design and implementation (Eskom and its consultants; the South African Bureau of Standards and others) and rebate beneficiaries (claimants).

Literature Review of Financial Incentives (FI) and International SWH Programmes

Overview

Energy performance improvements in residential appliances are an essential part of any Government's portfolio of energy efficiency policies. Programmes that replace cost-ineffective, energy wasting products with cost effective, energy-efficient technologies, have been in place for many years and are being adopted by an increasing number of countries. Programmes that aim to increase the market penetration of efficient technologies can be voluntary, mandatory, or both. Programmes that are carefully considered and well implemented can offer large energy savings in a cost effective manner, while still treating all consumers equally.

The most effective way to shift the market towards more energy efficient equipment is achieved when the available instruments, such as R&D; incentives and financing; regulations and voluntary programmes, are used in conjunction with other policy instruments **[3]**. Ultimately, a successful strategy will combine various instruments that result in a permanent market transformation.

Critical Success Factors for the Large Scale Uptake of SWH

Most appliances achieve improved energy performance as an additional feature (usually at a cost premium), but are essentially a like for like replacement. However, programmes to promote the uptake of SWH focus on different instruments to those used for residential appliances as the SWH, technology is significantly different to the electric water heater it replaces, especially from the consumer point of view. Some of these differences are;

- Electric water heaters are not accessed regularly and are aesthetically unattractive to many households, they are thus installed out of sight.
- To maximise energy savings: SWH need larger tanks; usage habits must be modified or timers installed to stop the electrical back up element from heating the water before the sun is able to do so.
- SWHs are significantly more expensive and more complex to install than electric resistance heaters.

Menanteau **[4]** identifies three policy measures to assist the SWH market: 1) They must reduce the barrier to investment and improve cost effectiveness (direct subsidies, low-interest loans, tax exemptions, third-party financing, etc); 2) Regulations must compel all new buildings to install SWH; and 3) Technical standards and quality labels must be introduced. These measures are more effective when they are combined to create synergy between policy measures. Examples include: 1) Linking direct subsidies and access to loans to improve cost effectiveness while limiting investment constraints; or 2) Making access to economic incentives contingent upon the use of products with quality labels to encourage the diffusion of high-performance installations.

A study by Jones and Mowris **[5]** that examined the attributes of internationally successful SWH incentive programmes and case studies of European and American programmes, identified five best practices to achieve success: The first is the inclusion of quality installation standards. The second requirement is the establishment of a long term incentive programme to provide certainty to the market. The third aspect relates to this incentive, which must be designed around system performance as opposed

to size and cost. In fourth place, the programme must be supported by a strong marketing campaign; and finally, contractor training and customer education should include information about comprehensive hot water energy efficiency measures. The same study identified actions which will jeopardise a programme and which must be avoided. Such actions include stopping and starting a programme as this causes more damage to the industry than not having an incentive at all. Also, discussing or even announcing a future scheme results in a decline in sales while the market delays investment until the programme is in place.

Financial Incentives

Globally, investment by residential consumers in energy efficient equipment is far below the cost effective level **[6]**. Identifying and addressing the barriers to low investment is the primary objective of energy efficiency government policies. These barriers are diverse and can vary from country to country, but for SWH the high upfront cost compared to electric water heaters is key. In parallel to removing market barriers, Financial incentives (FIs) can remedy some market imperfections. As energy prices paid by consumers do not include externalities, such as environmental and social costs, FI to consumers can correct under investment in EE **[6]**. The two most common approaches to structure financial incentives are government / international agency subsidies and legislation.

Funding Financial Incentives. Incentive programmes are expensive, as they require the payment of money for each qualifying unit sold as well as an administration cost to manage the programme. For FI programmes to achieve the objective of transforming markets, schemes must be viable over the long-term and this requires fixed and committed funding. Government programmes are typically funded by the general budget, financed by taxpayers. **[7]** Table 2 summarises the various FI options:

Table 1: Financial Incentive Options

Direct Incentives	
Tax Incentives	A tax credit reduces the taxes paid by the consumer.
Rebates	The different components of the value chain are targeted. Downstream incentives give consumers a price reduction to purchase an EE appliance. Midstream programmes target retailers and distributors, while upstream programmes pay the rebate directly to the manufacturers.
Early Retirement Programmes	Existing inefficient equipment is replaced with higher efficiency equipment before the end of their useful life.
Indirect Incentives	
Reward Programmes	Holistic programmes that promote low carbon lifestyles by raising consumer awareness and responsibility are prevalent in South Korea and Japan.
Subsidised Loans	These can take the form of low interest government loans or On-Bill financing.

A common failing of government incentive programmes is that insufficient time, effort and resources are allocated to evaluate their performance. This is especially true if the programme seeks to address multiple goals emanating from different ministries. **[7]**

Appropriately designed FI programmes can be a cost effective way to manage energy demand growth and if successfully implemented, can avert the need for new power stations and manage peak demand. Additional benefits can also accrue such as jobs, competitiveness, environmental benefits etc.

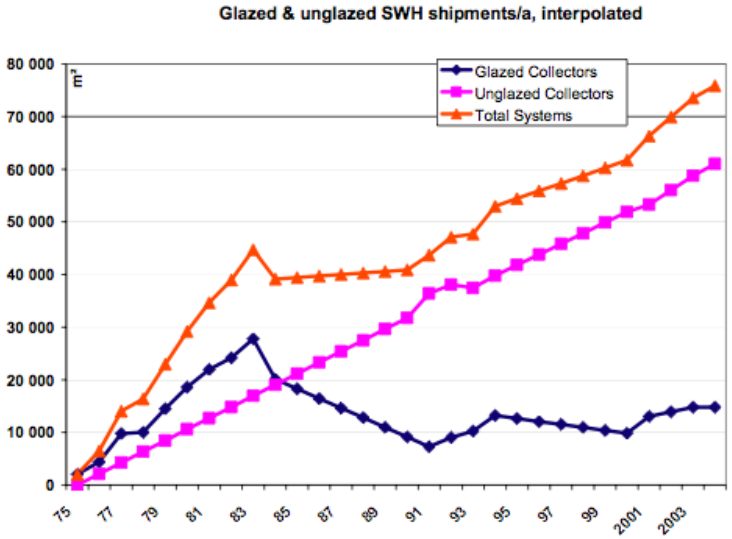
The upfront costs of funding these programmes can be recouped from taxes or other government funds. A variety of options exist to raise these funds. FI programmes can be implemented by the government, utilities or agencies. Success is more likely if the government shows political will through clear mandates, dedicated and secure budgets; and long term strategies. Moreover, the programme must be carefully designed, implemented and managed by a dedicated team with the necessary skills and financial resources. Programme evaluation is crucial and must occur regularly with corrective action taken, if necessary.

History of SWH Industry in SA – Pre and Post introduction of the rebate

SWHs have a long history in South Africa dating back to the early 1970's. Their history is covered in two phases. Phase I describes the period up to the introduction of the SWH rebate programme and Phase II covers the rebate period itself.

Phase I: Pre Eskom SWH rebate Programme - 1978 to 2008

Following the international energy crisis in the 1970s, the South African Government supported, promoted and funded the SWH industry. The market comprised six companies and by 1983 about 27 000m² of solar collectors was being installed annually – Figure 1, making South Africa a world leader **[8].** The market stagnated from 1983 as government funding was decreased and later terminated. The market decreased again after a major cold snap in the country's biggest city, Johannesburg destroyed a large percentage of systems when temperatures dropped to -5°C in just a few hours. This coincided with a decrease, in real terms, of tariffs as the country shifted into an over-supply of electricity. The SWH market stalled and the advantages of mass markets never materialised, leading to the second phase of the industry's evolution.



Source: **Holm (2005)**

Figure 1: Glazed and unglazed SWH shipments in SA (m²)[1]

The withdrawal of supportive policies resulted in the market collapsing **[9]** and stagnating to a mere 13 000m² **[10]** of annual installations, where it bottomed out in 1991 (Figure 1). The demand for unglazed collectors (98% of which are used for swimming pools) continued to grow during this period.

The World Summit on Sustainable Development, held in Johannesburg in 2002, sparked renewed interest in renewable energy options. In the following year (2003), the Department of Minerals and Energy

[1] Collector area per SWH can be roughly calculated at 3-4m². Unglazed collectors mostly refer to the plastic piping used to heat swimming pools and are not relevant here.

released the *White Paper on Renewable Energy*. In 2004, the Renewable Energy Market Transformation Project (REMT) **[11]** identified SWH as a 'low hanging fruit' that could contribute as much as 23% to the 2013 RE target. The National Energy Efficiency Strategy (NEES) of 2005 **[18]** set a national voluntary target for energy efficiency improvement of 12% by 2015 (using a 2000 baseline). The electricity supply crisis that resulted in devastating rolling blackouts in 2007 and 2008, made better demand side management an imperative. The renewed interest in the industry sparked some early growth: from 2005 to 2008 growth averaged 72% year-on-year **[12]**.

As can be seen in Figure 1, the glazed SWH industry had stabilised by 2002 and started to show signs of growth. The market was characterised by a few profitable companies, in a small but growing market. Most of these companies operated regionally or within municipal boundaries and consisted of importers, manufacturers and installers. Cawood and Morris **[10]** identified 6 market participants. Holm's **[8]** market survey identified 11 participants in 2005.

Phase II: Eskom SWH Rebate Programme

The SWH rebate programme in South Africa consists of two phases. The first is the Eskom programme (2008-2010) and the second the national SWH programme (2010-2015). Eskom administered both programmes.

Eskom SWH Rebate Programme 2008-2010. Within weeks of the February 2008 rolling blackouts, Eskom launched a SWH rebate scheme as part of the Power Conservation Programme. This SWH rebate programme aimed to convert 925 000 electric geysers to SWHs over a five-year period, to save 3 500 GWh of electricity annually. The programme targeted middle- to high- income groups and the programme was limited to HP. Only registered installers would qualify for the rebate and to do so, they had to: 1) Meet minimum standards as set out by the SA Bureau of Standards (SABS); 2) SWH storage had to better the allowable standing loss (kWh/24 hours) of electric water heaters by 25%; and 3) Have a load control device (timer) installed by a registered electrician. Initially, the installer was required to claim the rebate from Eskom, but this was changed to the household submitting a claim when it was recognized that installers' cash flow was adversely affected by the 6-8 week processing period. This was a positive and necessary change as it resolved the issue for the installers and also 'forced' Eskom to reduce the time required to process claims as it was now dealing directly with the public. There was no evidence to suggest that this change had an adverse effect on the number of SWH installations.

The first year of Eskom's rebate scheme saw little growth in market demand – with less than 1 000 installations via the scheme in 2008 (South African Government, 2009a: 15-16). To stimulate demand, the Eskom rebates were increased by 50-120% in January 2010. By stimulating demand, Eskom believed that: 1) Prices would reduce because of economies of scale and installers reducing their margins to increase market share; and 2) More households would participate in the programme. Once a level of critical mass was reached that was sufficient to support the industry, the rebate would be reduced. Figure 2 shows how Eskom was planning to implement the annual rebate reductions. The decrease would have been calculated according to Eskom electricity increases each year **[13]**.

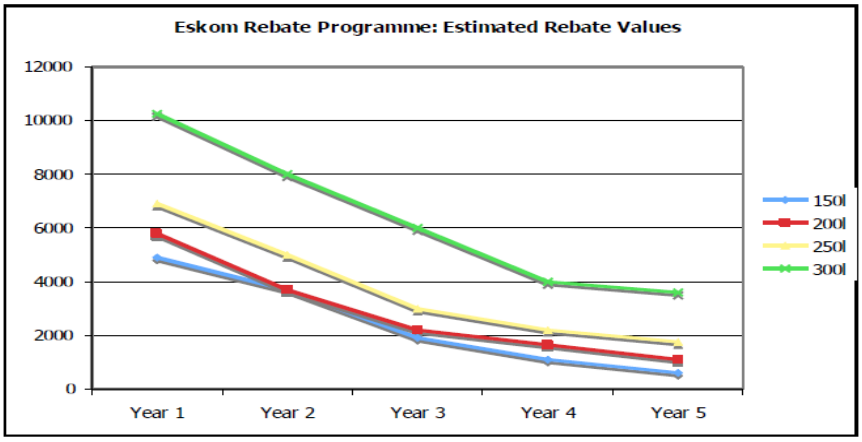


Figure 2: Eskom Rebate Plan, illustrating the expected decline in the approximate value (in South African Rand) of the rebate per collector size, over a five-year period[2]

National SWH Rebate Programme. The Minister of Energy announced the National Solar Water Heating Programme (NSWHP) in 2009. This programme had a medium-term target of installing one million SWHs by 2014. The NSWHP implementation plan identified three residential markets based on household income levels and current delivery of water heating services: upper income households (the majority which have electric water heaters); middle/low income households (with and without electric water heaters); and, low-income householders, (most of which do not have electric water heaters and some of which do not have access to electricity). **[14]**. The Department of Trade and Industry (dti) estimated that the local manufacturing industry could produce 20 000 units per annum. In November 2011, the building regulations (SANS 10400-XA) were modified so '*that not more than 50% of the annual volume of domestic hot water may be heated using electricity*' to make the installation of SWH, heat pumps, gas or similar mandatory on all newly built and renovated buildings. Table 2 lists the various programme targets.

Performance of the SWH Rebate Programme

The high pressure SWH rebate programme was managed by Eskom from its launch in Q1 2008 until Q2 of 2015. To start, the rebate programme only considered HP systems for middle to high-income households. LP systems for low income households were introduced in 2010. Table 2 summarises how the target volumes and dates evolved during this period. When the programme was terminated in Q1 2015, only 102 498 HP systems had been installed under the rebate programme, or 11% of the original target including an additional two years.

Table 2: SWH Rebate programme targets

Year	System Type	Installation Target	Target Year	Announced by
2008	High Pressure	925 000	2013	Eskom
2009	HP and LP	1 000 000	2014	Minister of Energy
2010	HP and LP	1 000 000 5 000 000	2015 2020	State President – Official launch of NSWHP

[2] ZAR EUR average annual exchange rates: 2008 ZAR12; 2009 ZAR11.67; 2010 ZAR 9.70; 2011 ZAR 10.08; 2012 ZAR 10.55; 2013 ZAR 12.82

2015	HP and LP	1 000 000	2016	Memorandum of Agreement between Eskom and DoE

Over the course of the rebate programme, the following is evident:

- The target dates and volumes were changed three times.
- A new technology was added.
- The rebate was increased regularly and arbitrarily.
- Only 11% of the original target for HP systems was met.

Prior to the announcement of the SWH rebate programme, there were less than 20 SWH companies **[8]**, by 2009 there were 100 companies and by 2010, once the NSWHP programme had been announced, the Sustainable Energy Society of South Africa (SESSA), had over 450 registered SWH members[3]. However, whereas the rebate succeeded in stimulating the supply side of the SWH industry, it failed to stimulate the demand. Companies were now competing for the same small market.

In conclusion, the rebate programme did not meet its objectives and performed poorly. The market size was estimated at between 10 and 15 thousand units per year **[8]** prior to the rebate, and rebate claims peaked in 2011 (16 650 units), but total SWH sales were higher, as SWH were also sold outside of the programme. However, it is estimated that the sales outside of the programme was probably not more than 20% of sales on the rebate system as it is presumed by the researchers that all rational consumers would have chosen to buy a SWH through the programme to benefit from the rebate. In addition, the slightly increased sales volumes were now shared by a few hundred companies, as opposed to being shared by the 20 who were operating prior to the rebate. In 2015 many of the original companies, as well as companies that entered the market because of the rebate, had withdrawn or gone out of business[4]. In addition, it appears that the SANS 10400-XA [5]regulations making >50% of hot water to be sourced by non-electrical resistance elements mandatory on newly built or renovated houses, is not contributing materially to SWH sales either.

Evaluation of the Eskom SWH Programme

The literature review identified five best practices to achieve success **[5].** Menantaneu's call for regulations to mandate SWH is added to this list. The proposed approach to what actually happened in the Eskom programme is analysed in Table 23. The information has been sourced from an industry survey and interviews.

Table 3: Comparison of identified 'success factors' to Eskom SWH Programme

Success Factor	Performance of Eskom SWH Programme in relation to 'success factor'	Research Finding
1: Quality Installation Standards	Adherence to the national standard was a requirement. However, the standards are local (formulated by industry) raising	The national standard did increase consumer confidence, but as they were largely

[3] It was an Eskom programme requirement for companies to be members of SESSA.

[4] All four companies that took part in the original pre-rebate pilot government SWH rebate programme suffered serious decline in business since 2007, with one company liquidated, another closing its manufacturing section, one other forced into selling and the last currently only focusing on the industrial and commercial market.

[5] This is due: 1) Municipal building control officers not being aware of the new regulatory requirements; 2) households opting for alternate technology, such as heat pumps or gas; or 3) plans being approved subject to the installation of a SWH which is not installed but as the houses are not inspected no enforcement takes place

	questions regarding vested interests. International standards were largely ignored. Component testing is not permitted. System tests are onerous, time consuming and expensive (> €8k / system). As large sales volumes never materialised, many companies could not afford to certify all their products. The certification process was also time consuming and unnecessarily complex.	inappropriate, they have created new barriers. Specifically, increased production and administration costs.
2: Rebates must be certain and long term	From the programme inception, Eskom would not commit to the value or the duration of the rebate. Industry requested assurances on numerous occasions, but were told that due to the funding process requirements from the National Energy Regulator (NERSA) this was not possible. The rebate was: • Introduced: February 2008 • Doubled: January 2010 • Reduced: February 2011 • Increased: October 2012 • Suspended: March 2015	The effects of the uncertainty cannot be quantified but there is sufficient anecdotal evidence to suggest that investments in new SWH companies (installation and / or manufacturing plants) were delayed or withdrawn and that larger companies abstained altogether. The greatest damage caused was to the consumer, who received mixed and confused messages.
3: Target system performance to avoid over-sized / over-priced systems	The size of the rebate was linked to the thermal efficiency (Q-factor) – and thus the anticipated energy saving – of the system installed **[15].** Eskom was on record that higher Q-factor will receive a higher rebate. A 2012 Eskom survey **[16]** found that although satisfied (84%), 66% could not quantify their savings.	There was no evidence to suggest that installers were selling over-sized or over-priced systems. However, 66% of all rebate recipients were identified as free riders i.e. households intending to install a SWH regardless of the availability of a rebate [16]. Having committed to installing a SWH, they could have 1) used the rebate to buy a bigger system; or 2) Purchase at the full price and take the rebate as a 'discount'
4: Strong marketing campaign	The 2012 Eskom survey **[16]** found that although 84% of households were aware of the rebate programme, primarily from media (40%), suppliers (19%) and word of mouth (17%) the communication campaign was poor to average. The findings were accepted by Eskom who committed to,	Having committed to a comprehensive campaign, little to no action was taken. The reasons are not known.

	amongst other things, to make the campaign more visible; focus on the high income market rather than introducing the technology to all sectors of the population and; develop a specific campaign to target the building profession.	
5: Holistic contractor training and customer education	Training received the necessary attention by the Plumbing Institute Registration Board (PIRB), and in total over 8 000 plumbers were trained on how to install a SWH. As sales volumes did not materialize, these individuals were lost to the industry.	The success factor of contractor training was met. The extent to which customer education materialised and energy savings from a SWH were maximised is not known
6: Mandatory regulations for new buildings	SANS 10400-XA came into effect in November, 2011 and made it mandatory that '*Not more than 50% of the annual volume of domestic hot water may be heated using electricity'* Building plans in South Africa are approved by local authorities, most of who did not fully understand the new regulations. The sector was also adversely impacted by the global financial crisis of 2009.	The training of building control officers has improved since 2011 and plans are passed on the understanding that SWH will be installed. This is not often the case and a lack of site inspections has resulted in poor compliance with the regulation.

Conclusion

In 2008, Eskom set a target of 925 000 SWH installations, equating to 3 500 GWh / annum. In April 2012, Eskom reported that they had installed 123 408 SWH, made up of 38 731 HP and 84 677 LP. Cumulatively they were delivering 60 GWh of savings per annum **[17]**. Even if no electricity saving is assumed for LP, the resultant saving is a fraction of what was originally anticipated.

It is unlikely that this under-performance can be attributed to one factor. A comprehensive technical study or internal Eskom monitoring and verification (M&V) reports could shed more light on the technical performance of the installed units. Achieving energy savings from SWH is based on two factors. The first is the unit itself – where the primary requirements are: quality; installed correctly; favourable orientation; un-obscured; and appropriately sized. The second has to do with usage. An over-reliance on the electric back-up element will yield marginal savings. It is thus crucial that the entire household is aware of how to maximise savings and change their habits (as much as is practically possible). The rebate programme tried to influence usage through the requirement of a timer that disconnected the element during morning and evening peaks. These timers are easily changed or bypassed by households, resulting in sub-optimal savings.

From this research, it is concluded that the rebate programme in its current format was ineffective and should be withdrawn. Should the government of South Africa decide to re-introduce a FI for SWH, the recommendation is that this new programme is carefully planned, considers the weaknesses of the previous programme and takes appropriate steps to address them. At a minimum:

- National standards require a review to make them relevant and affordable.

- The rebate must offer a net decrease in the price of the SWH. Should additional programme requirements add to the cost of a SWH, this should be taken into consideration.
- The programme must have committed funding for a pre-specified period of time, ideally for 5 years.
- The FI should not be arbitrarily increased and decreased – the market seeks surety, stability and certainty.
- Consumer awareness and marketing should be substantially increased. This was possibly the biggest weakness of the rebate programme, as per the Eskom survey [12] and substantiated by the research findings.
- Agree to the level of involvement with industry associations upfront and build a relationship based on trust. Recognise the role they can play and the funding challenges they face, especially when all their members are SMEs.
- Consider international experiences and learn from these. International agencies can also provide valuable assistance.
- A rebate programme requires a robust M&V and feedback programme to confirm actual savings and provide information for the project team.
- Rebates for HP SWH are not required in South Africa. If there is funding available that has been specifically allocated to HP SWH, our recommendation is that it would be better spent on comprehensive market awareness programmes.

The findings of this research, which may benefit SWH rebate programmes being planned in other countries, is a strong recommendation for the programme design planning to carefully consider international best practise and lessons learned, while ensuring that the programme has sufficient flexibility to introduce changes if weaknesses are identified.

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