



South African Wind Energy Association
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**SAWEA RESPONSE TO
THE NERSA CONSULTATION PAPER
“REVIEW OF RENEWABLE ENERGY FEED - IN TARIFFS”**

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1. SAWEA's VISION AND THE IRP 2010

SAWEA is the leading trade and professional body representing the wind industry in South Africa. Acting as the voice of the South Africa's wind industry, SAWEA's primary purpose is to promote the sustainable use of wind energy in South Africa acting as a central point of contact for information for its members and as a group promoting wind energy to government, industry, the media and the public whilst facilitating the exchange of technical information, expertise and experience in the wind energy sector. SAWEA's members comprise of both national and international developers, manufacturers and stakeholders working in the industry and aggregates a substantial amount of knowledge and expertise in a wide range of areas.

In 2010 and in anticipation of the IRP 2010, SAWEA published a comprehensive paper titled: "*Our Sustainable Future - The Case for Wind Energy*" which is available at <http://www.sawea.org.za/images/stories/SAWEA%20docs/IRP%20-%20SAWEA%20Response%2012%20May.pdf>. The document investigates all relevant aspects and concludes that a wind roll-out well in excess of the present IRP 2010 is achievable.

The wind industry thus embraces the challenges posed by the IRP 2010 and is confident that once the regulatory framework is ready and the first procurement under REFIT has occurred, wind power will deliver and exceed the targets implicitly set for it by the IRP 2010.

The existence of a favourable REFIT tariff and certainty around future adjustments to the REFIT tariff are essential pillars in the broader regulatory framework referred to above.

2. NERSA'S MANDATE AND THE RECALCULATED REFIT TARIFF FOR WIND

As correctly stated on page 6 of the consultation paper issued by NERSA, the Regulator is guided by the following objects of the Act:

- a) *to achieve the efficient, effective, sustainable and orderly development and operation of electricity supply infrastructure in South Africa;*
- b) *to ensure that the interests and needs of present and future electricity customers and end users are safeguarded and met, having regard to the governance, efficiency, effectiveness and long term sustainability of the electricity supply industry within the broader context of economic energy regulation in the Republic;*
- c) *to facilitate investment in the electricity supply industry;*
- d) *to facilitate universal access to electricity;*
- e) *to promote the use of diverse energy sources and energy efficiency;*

- f) to promote competitiveness and customer and end user choice; and*
- g) to facilitate a fair balance between the interests of customers and end users, licensees, investors in the electricity supply industry and the public.”*

In our opinion paragraphs (f) and (g) above describes NERSA’s role in the narrow sense which is to ensure inter alia that customers pay no more than is necessary for their power.

NERSA’s broader role is described by paragraphs (a) – (e) above and if read with the White Paper on Energy (1998) and White paper on Renewable Energy (2002) in the present context can be paraphrased as ensuring that Renewable Energy and IPP’s are launched and entrenched in the electricity sector in South Africa .

SAWEA firmly believes that the regulation of the REFIT tariff falls within the NERSA regulatory mandate and supports NERSA’s work, past and present, in doing so. SAWEA moreover supports the periodic review of the REFIT prices, as assumptions are likely to need updating from time to time. The prices will have to be periodically adjusted, sometimes up, sometimes down. We support the principle that the price for projects already procured should not change under any circumstances.

SAWEA does not believe that it is necessary or productive to revisit the assumptions underpinning the REFIT but does believe that care must be taken to ensure that the calculations done are consistent with the parameters.

It is submitted that NERSA should take considerable care to ensure that the execution of its narrow mandate does not prejudice the execution of its broader mandate. Thus, periodic adjustments of the tariff should not undermine investor confidence or discourage investment in the Renewable Energy sector in South Africa. On the contrary, it should be done in a manner the entrenches the methodology of calculation so that in time the process becomes ever more predictable.

For the reasons mentioned in the remainder of this document it is SAWEA’s conviction that the amended tariff should only apply for procurement done for the years 2014- and NERSA is requested to rule accordingly.

There are certain technicalities in the NERSA recalculation of the tariff that SAWEA does not believe to be correct. If these are corrected and used for procurement in the years 2014-, SAWEA believes that the recalculated figure should in any event be quite close to the 2009 figure. NERSA is requested to maintain the wind tariff as it was for wind power procured until 2013 while using the correctly recalculated tariff for the years 2014 and further on, until such time as the next adjustment is made.

3. QUALITATIVE RESPONSE

In this section, policy related comments will be made while quantitative comment will be raised in section 4 below.

3.1 Ancillary benefits funded by the REFIT

It is crucial for the South Africa economy in general that procurement under the REFIT programme is initiated in order to:

- Move speedily toward the 10 000GWH target as set by Government;
- Position South Africa as a rapid adopter of RE as the country prepares to host COP17;
- Secure the range of benefits that will be associated with, and flow from, the implementation of the REFIT as developers and IPP's meet the government procurement criteria, such as:

The points mentioned above are often discussed but what is sometimes overlooked is that the REFIT will bring to South Africa a number of other benefits. Some of these are:

- Benefits from IPP's/developers funding of BBBEE transactions – many BBBEE and emerging enterprises do not have either the resources or the financial muscle to fund participation in BBBEE transactions in a new market where the barriers to entry and financial risks are high, and the returns will only accrue after loans/debts are repaid. The REFIT enables developers to fund BBBEE transactions and ensure a flow of benefits to new entrants in the South African power sector. As an example, a BBBEE transaction can cost upward of ZAR 3million to implement;
- Financing costs for the new transactions, taking into account the risk premiums associated with the SA finance sector, means this would also normally act as a barrier to entry for new players. THE REFIT assists developers in overcoming this barrier and developing new finance mechanisms to enable new entrants to enter the market with limited financial risk to themselves;
- Contributing to Local Economic Development and Enterprise Development-many projects are located in areas where economic development is at best struggling along (e.g. rural areas of the Northern, Eastern and Western Capes). The REFIT allows a project the opportunity to ensure that local suppliers are brought in alongside more experienced players, thus developing a new sector for such SMME's, where these are available. Where they are not available, there is an opportunity to work alongside DFI's to provide matching funding to initiate such opportunities. A portion of the REFIT goes toward this development.

In summary, over and above the obvious benefits that accrue to South Africa (such as emissions reductions, reductions in water consumption, de-risking of the SA economy by using less volatile priced fossil fuels, lesser transmission losses) a range of other benefits accrue to South Africa and these are delivered via the REFIT mechanism, in particular agricultural development; rural development and transformation; BBBEE, skills development, industrial development and manufacturing in South Africa.

3.2 Assumptions under-pinning REFIT

As mentioned above, SAWEA will proceed on the basis that the assumptions under-pinning the REFIT are correct. SAWEA as a general principle believes that these can be likened to the Constitution of a country in that it provides long-term certainty that over-rides the imperatives and uncertainties of the day. Investors in wind power globally face certain risks like exchange rate fluctuations but have (by choosing to work in the industry) accepted these risks and have generally developed tools and strategies to manage the risk. If the "formula" under-pinning the REFIT is well-known and reasonably sacrosanct it will lead to investor confidence and the astute investor will at any given point in time be largely able to predict at what level NERSA will next set the tariff. This again would mean that a price-determination becomes a fairly routine matter devoid of surprises, conflict and strife and that the industry continues with "business-as-usual" even as key inputs like the exchange rate may change.

What needs to be avoided is that each public hearing regarding a price recalculation turns into a fresh battle between various interest groups to revisit the very basis or even the right to exist of the REFIT.

The assumptions may have to be amended from time to time but only if there is compelling reason to do so. SAWEA is not aware of compelling reasons at this time and suggests that the assumptions be kept intact.

Attention is drawn to the draft REFIT scorecard that was published last year and that included amongst other things the following:

- Acceptance of a standardised PPA
- Local economic development
- BBBEE
- "Viable network integration requirements"
- Under-written debt
- Preference for small distributed generators over centralised generators

While a final REFIT scorecard is awaited it is pointed out that all the above criteria have the potential to affect the cost base of the developer and that should these criteria be included in the final scorecard this would indeed be a compelling reason to amend the assumptions under-lying REFIT. As the scorecard is unlikely to change thereafter it would however only occasion a once-off revisiting or broadening of the REFIT assumptions.

3.3 Changes experienced by the wind industry since the 2009 REFIT determination

It is important to keep in mind that in the time since the 2009 REFIT determination, a number of factors have changed and that most of them have been negative for the industry. Amongst these are:

- It appeared that the REFIT would not be paid to any developer producing the power (as it happens in most European countries) but only to those selected through a tender process. This created significant additional risk for investors as they faced the prospect of spending very significant capital on the development of projects and then not being successful in the bidding process.
- The fact that a bidding process was to be followed, required a number of regulatory processes to dove-tail and required a number of others to be in place (more detail below). To this day this has not occurred and no procurement has started in the intervening two years. This has delayed the industry and compromised investors who have to account to their stakeholders and often have to “turn the money around” in a certain period of time.
- While it was always clearly communicated that the REFIT tariff would be adjusted from time to time, it was assumed in the industry that this would not occur before the first round of procurement had been completed, and for this reason very significant resources have been committed precisely to secure some Megawatts in the first round while there was certainty. It is estimated that the wind industry has spent in excess of ZAR 400 million getting ready for the first procurement round.

The changes experienced did not discourage investment in the industry because the tariff was attractive and it was believed that the tariff would hold until after the first procurement round.

3.4 The IRP 2010 and the roll-out of wind power in South Africa

The IRP 2010 places a significant responsibility on the wind sector to contribute an additional 8,400 MW of wind power to the national grid. This is a role that the wind industry embraces. The industry is of the firm belief that the first 1,000 MW's of wind procured under the REFIT programme will make or break the industry. At present there is very significant international and local interest in the wind industry in South Africa, tempered by caution over the problems experienced with previous procurement drives like the Peakers, the PNCP, and the MTPPP, all of which sent very mixed and mostly negative investment signals to the IPP investment community.

There are bold and profoundly important initiatives afoot to ensure that the shape the development of the wind industry takes is one that serves the broader needs of the country like job creation, local manufacturing and BBBEE – all while maintaining and strengthening energy security and grid stability. The tone for all these initiatives will be set by the events of first procurement round and those that follow immediately thereafter. It is likely that by the time the first 1,000 MW of wind power has been procured, the international and local investment sentiment will have settled into a predominantly positive or negative one. If positive, the foundation would have been laid for the successful roll-out of wind power to the full extent of the IRP 2010 and beyond. If negative, skills and equity would perpetually be in short supply, as would the ability of the industry to discharge its responsibilities in terms of the IRP 2010. Government would be at risk in terms of non-delivery on its own targets.

3.5 Correct investment signal

On the contrary, a strong “success” signal upfront and a quick roll-out of wind power to the point of critical mass will draw investment, optimise the chances of job creation and local manufacturing and facilitate BBBEE participation in the REFIT wind programme.

It is also important to keep in mind that the present level of the REFIT has caused wind developers to develop in a particular manner. At a more marginal price, developers would have sought optimal wind regimes in order to increase load factors to the upper limits of what is technically feasible. With the present tariff and especially given Eskom’s limited ability in the medium term to supply new lines and sub-stations to remote wind farms that may need them, the big developers have generally sought good (rather than extraordinary) wind regimes on easy terrain, close to sub-stations and existing lines. The drive was to secure sites where wind farms can be executed at scale and where logistics and grid connectivity will be manageable. A much lower tariff would nullify the logic explained above and favour wind farms in exceptional wind regimes where logistics are difficult and where deployment at scale is not possible. These have generally not been targeted and are not ready for execution, not least because of environmental concerns.

With COP 17 to be held in South Africa in November there will be considerable international scrutiny of the progress made in renewables. At best what our country will have to report is that the roll-out has been delayed and that the total installed renewable energy in the country remains below 100 MW out of an installed capacity in excess of 40,000 MW. It is however possible that a clear REFIT procurement road map at an acceptable tariff with certainty into the future can be put forward as clear proof that renewable energy is well on its way in South Africa.

SAWEA sees this as imperative.

3.6 Status of procurement process

SAWEA is compiling a Gantt chart plotting the critical items and progress relating to the procurement process and hope to present this at the public hearing in the first week of May.

4. QUANTITATIVE RESPONSE

This section benefited from input from the IDC, amongst others.

4.1 Weighted average cost of capital

The weighted average cost of capital should be (higher) 11.9% rather than 9.8%, driven by a nominal cost of debt of 13.5% rather than 9.93%. The higher interest rate is mainly as a result of the shape of the long-term yield curve, the economy being at the low end of the interest rate cycle and the associated cost of interest rate fixing for long tenures of debt.

Table 1: Make-up of Nominal Cost of Debt

Component	Comment	Value
1. JIBAR base rate	This is closely linked to the repo rate, and while it is low at the moment (3-month JIBAR= 5.57%), it is arguably at the bottom of the cycle and will increase in the medium term. The Forward Rate Agreement ("FRA") rates which reflect the market expectation is quoted at 6.68% for 12 months and 7.53% for 18 months. (Thus, by the time a REFIT project reaches financial close, the JIBAR base rate will have moved between 100bps and 200bps.) The long-term yield curve is used for the period beyond 24 months.	8.8% (Based on 6 month Jibar for a 15 year term)
2. Hedging costs	To safeguard the borrower against interest rate volatility, lenders usually insist that an interest rate hedge is put in place for the tenure of the debt (15 to 17 years) period which adds to the all-in base rate of debt. An interest rate swap, as quote by a commercial bank based on a starting date 12 months from now and a 15-year maturity date will cost 9.5% as reflected in the total "cost of funds" below.	0.7%
Cost of Funds		9.5%¹
3. Bank liquidity cost	Some commercial banks may disaggregate according to these three components but more often, will quote and all-in margin.	4.00 %
4. Bank statutory costs		
5. Credit margin		
Total	All-in nominal cost of debt	13.5%

¹ The comparative IDC cost of funds around 10% comprised of the 15-year JIBAR base rate and IDC credit risk (100bps to 120bps)

The NERSA document proposal on financial assumptions are reflected in the table below with the "2009" and "2011" figures as per the said document and "**Recalculated 2011 figure**" in the right hand column.

Table 2: REFIT Financial Assumptions: Recalculating WACC

Financial Parameter	UNIT	2009	2011	Recalculated 2011 figure
Debt	%	70	70	70
Equity	%	30	30	30
Nominal Cost of Debt	%	14.9	9.93	13.5
Inflation	%	8	6	6
Real Cost of Debt before Tax	%	6.39	3.71	7.08
Tax Rate	%	28	28	28
Real Return on Equity ROE after Tax	%	17	17	17
Weighted Average Cost of Capital (WACC) After Tax	%	12	9.8	11.9

4.2 The proposed NERSA revision suggests that only certain elements be inflated by CPI. SAWEA maintains that the entire tariff should rather escalate at CPI, as was previously (2009 REFITs) the case. The most important reason for this is that the assumptions/methodology in the periodic REFIT calculation should for the sake of investor confidence not change, but there are other cogent reasons:

4.2.1 The REFIT programme has attracted foreign interest and is likely to attract foreign investment. Allowing the full tariff to escalate at the annual CPI, protects foreign investors against currency devaluation and also allows operating and maintenance costs to be paid in hard currency where applicable (it is envisaged that lenders will insist on long-term Operating & Maintenance contracts with foreign entities such as turbine suppliers).

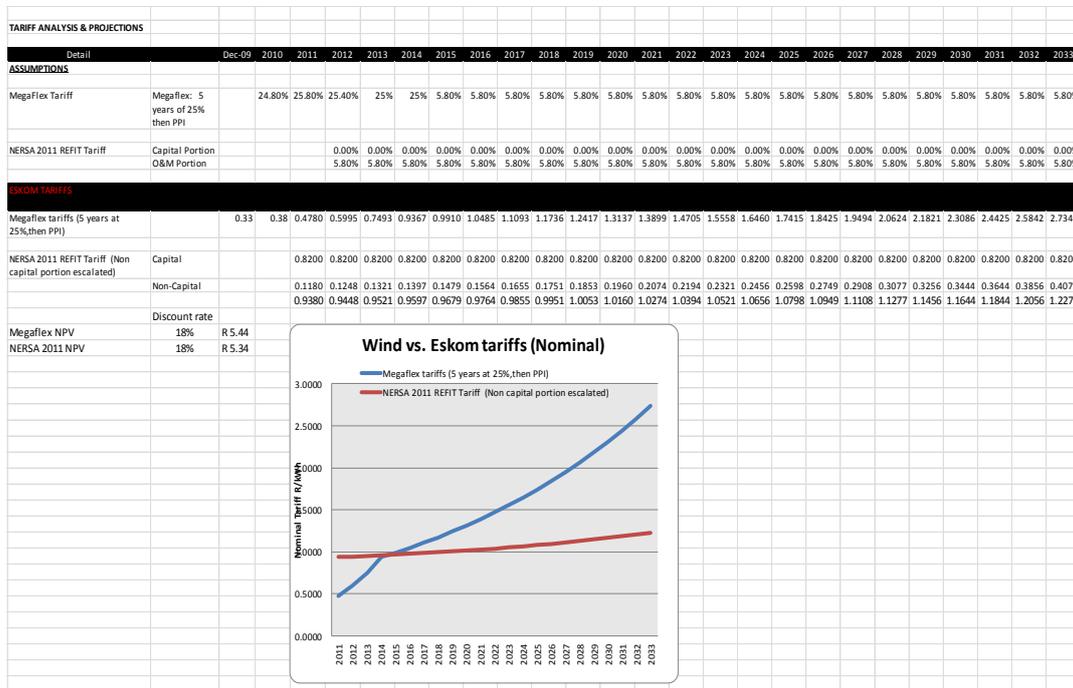
4.2.2 In the determination of the tariffs for the different technologies, the target shareholders' return is pegged at 17%. Allowing very little escalation (as is proposed under the revised REFIT rules), has the effect that the starting rate needs to be higher compared to a lower starting tariff if full CPI escalation is applied to the tariff to achieve the same shareholders' return. This means that a higher "subsidy" needs to be applied through the anticipated cost recovery mechanism.

4.2.3 The additional benefit of allowing 100% of the tariff to escalate at CPI is that it removes the uncertainty i.e. not knowing what the CPI is actually going to be over the 20-year span of the Power Purchase Agreement. A non-CPI-adjusted is calculated by pegging the shareholders' IRR at 17% and assuming a CPI number (hard-coded in the calculation formula) for calculating the NPVs of future amounts. This could lead to either an over-stating of the tariff if the CPI number is assumed higher than actual (the actual number can only be known historically) or an under-statement of the tariff if the CPI number is assumed lower than the actual CPI. It is therefore better to allow 100% of the tariff to escalate at CPI.

4.3 Comments on the tariff compared to Megaflex

As appears from the spreadsheet below the present value of a twenty year contract at Megaflex is likely to be higher than the REFIT tariff. This would mean that wind projects are subsidising the consumer rather than the other way round. It is submitted that all the imperatives surrounding climate change and clean energy dictate that the NPV of the REFIT contract should not drop below the NPV of a megaflex contract. It is further submitted that a REFIT tariff at the level used below would see the majority of wind farms proceed under bilateral PPA's with a willing buyer and willing seller rather than under REFIT.

The spreadsheet will be presented at the public hearings.



4.4 Other comments and potential errors in the modelling of the recalculated REFIT

- The O & M figure of 0.118 R/kWh (page 28, table A1 in the consultation paper) appears low. Our international members think a range of ZAR 0.14-0.16 is fair and accords with their experience.
- The percentage changes reflected in Table 5 are calculated on an absolute basis and should rather be calculated on an inflated 2009 number.
- Installed capex costs are likely to be as high as USD 2.3M/MW.

5. SUMMARY

SAWEA supports the principle that REFIT tariffs are reviewed from time to time to take account of changed parameters. On a broader level SAWEA supports NERSA's execution of its mandate to facilitate the well-being of the energy sector in South Africa. We believe that, after a decade of very limited success, the rapid establishment of a wind industry in South Africa is of paramount importance in the success of the IRP 2010 and also in the discharge of South Africa's obligations in terms of the United Nations Framework Convention on Climate Change and Kyoto Protocol. In order to facilitate the rapid establishment of an industry and given that the industry expectation has been (and vast amounts have been spent in the belief) that the first procurement would take place at the REFIT tariff announced in 2009, it is suggested that the recalculated tariff should only apply for the years 2014 and further.

On a quantitative level SAWEA believes that NERSA should establish as a principle that the assumptions and methodology of REFIT calculation are very stable and not revisited at every occasion where a recalculation is done. The outputs of a recalculation should be extremely predictable and transparent in order to engender investor confidence and avoid the perennial wasting of human energy by repeated lengthy debate about the merits of the REFIT and how it is calculated. For this reason SAWEA has not suggested any changes to the methodology of calculating the REFIT as established in 2009. However, it is submitted a correct recalculation of the wind REFIT tariff yields a value close the 2009 value.

Finally, it is pointed out that certain of the criteria for IPP selection mooted in the draft scorecard published in 2010, if recurring in the final scorecard, will have cost implications not presently accounted for and are likely to dictate an amendment to the assumptions/methodology of calculation of REFIT.