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Kola O. Odeku

Edson L. Meyer

Obeng Mireku

JLH Letsoalo

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# IMPLEMENTING A RENEWABLE ENERGY FEED-IN TARIFF IN SOUTH AFRICA:

## THE BEGINNING OF A NEW DAWN

by Dr. Kola O Odeku, Professor Edson L Meyer, Professor Obeng Mireku, and Professor JLH Letsoalo\*

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### INTRODUCTION

The notion that nothing is possible belongs to those who are reluctant or unwilling to take the first bold steps. South Africa has taken a bold step in the right direction, which may unlock various potential opportunities for renewable energy in South Africa. On March 31, 2009, the National Energy Regulator of South Africa (“NERSA”)<sup>1</sup> announced the long-awaited Renewable Energy Feed-in Tariff (“REFIT”) Regulatory Guidelines. South Africa, in order to source and use energy in a sustainable way, has focused on renewable energy as opposed to energy from conventional sources.<sup>2</sup> REFITs “are, in essence, guaranteed prices for electricity supply rather than conventional consumer tariffs.”<sup>3</sup> The underlying basic economic principle underpinning this system is the “establishment of a tariff (price) that covers the cost of generation plus a ‘reasonable profit’ to induce developers to invest.”<sup>4</sup>

In October 2009, NERSA approved REFIT Phase 2 based on the Levelized Cost of Electricity (“LCOE”).<sup>5</sup> The newly approved regulatory framework adds new technologies to the existing REFIT guidelines, namely, biomass, biogas, concentrated solar without storage, photovoltaic (“PV”), concentrating photovoltaic, and concentrated solar power (central tower).<sup>6</sup> Though the guidelines were generally welcomed by the role players in the renewable industry, the overarching contention was the omission of PV from the March 2009 RREFIT guidelines.<sup>7</sup> Consequently, Phase 2 of the guidelines addressed this concern and includes large-scale PV that is greater than 1 megawatt (“MW”)) due to economies of scale.<sup>8</sup> It is expected that during the annual REFIT review, small-scale PV technology would be considered and added.<sup>9</sup>

The first and the second phases of the REFIT guidelines are the culmination of a study initiated in 2007 by NERSA<sup>10</sup> to facilitate the introduction of renewable energy generation into the electricity network in order to meet the target of 10,000 gigawatt hours (“GWh”)<sup>11</sup> from renewable energy sources, and possibly surpass the target prior to the 2013 due date set by the 2003 Government White Paper on Renewable Energy.<sup>12</sup> Articulating the cost benefit of REFIT to the investors, NERSA likens it to the cost recovery used to regulate utilities, which is based on the cost of capital.<sup>13</sup> There have been aggressive moves and attempts by the proponents of REFIT to rename the mechanism “Renewable Energy Payments” in order to stop using the term tariff. However, these efforts proved unsuccessful and the name still remains.<sup>14</sup>

REFITs are common in many countries and are aimed at encouraging renewable energy generation by making renewable energy generators financially viable.<sup>15</sup> The REFIT approach makes strategic sense in South Africa because it will serve as a powerful tool to address rapid climate disruption.<sup>16</sup> REFIT is now promoting growth of renewable energy and private sector and donor financing at the same time.<sup>17</sup>

Against this backdrop, South Africa has joined a number of countries that have already introduced regulatory frameworks on REFIT.<sup>18</sup> With the proper political and administrative will, the current steps taken towards aggressive implementation promise to be a success—particularly as the system was adopted by South Africa from countries that have successfully introduced and implemented REFIT.<sup>19</sup> Germany, Spain, and Denmark are among the countries that have successfully used legislation to promote the least expensive and fastest growth of renewable energy.<sup>20</sup> As a result of substantial successes achieved through renewable tariffs, massive increase in investments in renewable electricity generation has occurred and these countries have produced “more installed generating capacity and more robust competition among manufacturers.”<sup>21</sup> Moreover, the tariffs have stimulated more renewable technology development, not withstanding some problems encountered at the commencement periods.<sup>22</sup>

### POLICY FRAMEWORK SUPPORTS AND BENEFITS OF REFIT

“Within a policy framework, the development of renewable energy in South Africa is supported by the White Paper on Renewable Energy, which has set a target of 10,000 GWh [of] renewable energy to [contribute to the final] energy consumption by 2013.”<sup>23</sup> REFIT is anticipated to run over fifteen years until 2022,<sup>24</sup> beyond the 2013 target of 10,000 GWh set by the

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\* Dr. Kola O Odeku is Senior Lecturer, School of Law, University of Limpopo, Turfloop Campus, South Africa and a Fellow, Fort Hare Institute of Technology, University of Fort Hare, Alice, South Africa. Special thanks to Eskom Tertiary Education Support Programme (“TESP”) South Africa for providing funds to undertake this research.

Prof. Edson L Meyer is Director, Fort Hare Institute of Technology, University of Fort Hare, Alice, South Africa.

Prof. Obeng Mireku is Dean, Faculty of Management and Law, University of Limpopo, Turfloop Campus, South Africa.

Prof. JLH Letsoalo is Acting Director, School of Law, University of Limpopo, Turfloop Campus, South Africa.

Department of Minerals and Energy (“DME”) in the 2003 White Paper on Renewable Energy.<sup>25</sup> The “DME’s macroeconomic study of renewable energy, developed under the now completed Capacity Building in Energy Efficiency and Renewable Energy (“CaBEERE”) project, has established that the achievement of this target would provide a number of economic benefits, including increased government revenue amounting to R299 million, increased GDP of up to 1 billion [rand] per year and the creation of an estimated 20,500 new jobs.”<sup>26</sup> “In addition, the development of renewable energy beyond the 10,000 GWh target holds further employment benefits and would maximize the number of jobs created” per terawatt hour (“TWh”).<sup>27</sup>

One of the activists for the promotion and deployment of wind energy for electricity generation saluted the courage and the bold step taken by South Africa and described the REFIT as a laudable project.<sup>28</sup> Stefan Gsänger, the Secretary General of the World Wind Energy Association said in a release that “South Africa is the first African country to introduce a feed-in tariff for wind energy. Many small and big investors will now be able to contribute to the take-off of the South African wind industry. Such decentralized investment will enable South Africa to overcome its current energy crisis. It will also help many South African communities to invest in wind farms and generate electricity, new jobs and new income.”<sup>29</sup>

Furthermore, REFIT has many advantages over other mechanisms in spite of the extra initial cost.<sup>30</sup> In order to ensure stable return on investment by the investors renewable power prices should not be subjected to the forces of demand and supply in the market place.<sup>31</sup> Guaranteeing profits for project developers will serve as an impetus for the investors to expand the business by applying for credit/loan facility from banks and other financial institutions since repayments are guaranteed from the sale of electricity.<sup>32</sup>

## **SOUTH AFRICA’S RENEWABLE ENERGY FEED-IN TARIFF: AN OVERVIEW**

### **BACKGROUND TO INITIATIVES TAKEN BY ROLE-PLAYERS**

REFIT was introduced in South Africa to progressively reduce carbon-based power generation by creating a move towards sustainable energy sources, along with socio-economic and environmentally sustainable growth.<sup>33</sup> Endless debates in Parliament about energy crises, global footprints, endangered species, and new coal-fired power stations had done little to solve South African problems. Stemming from this lack of progress, efforts to decrease greenhouse gas emissions fostered a movement known as e-Parliament Renewable Energy Activists (“eREACT”) by some parliamentarians with the objective of shifting the government’s focus away from coal and nuclear towards renewable energy.<sup>34</sup> The introduction of REFIT was initially met with stiff opposition from those entities that believed in business as usual.<sup>35</sup> But, in 2008, South Africa endured a serious energy crisis when the national energy supplier, Eskom, failed to meet electricity demand.<sup>36</sup> As a result, eREACT was able to influence future decisions and present the financial viability of developing renewable energy in South Africa.<sup>37</sup>

This initiative commenced the bold step towards the establishment of the current energy generation mix in South Africa. South African Member of Parliament Dr. Ruth Rabinowitz, explaining the stiff opposition encountered in the Parliament, said that at the hearing of the private members’ legislative committee in the South African Parliament on the REFIT, “in spite of overwhelming support from NGO’s, businesses, academics, local governments and civil society, both the DME and Eskom were opposed to the idea of separate REFIT legislation” claiming that the Guidelines had already been drafted and would be introduced to the public in early 2009.<sup>38</sup> “Their resistance to Parliament’s involvement is hardly surprising since the Eskom monopoly is unlikely to suddenly give way to diversity, flexibility and open competition.”<sup>39</sup> The firm commitment and perseverance of parliamentarians who believed that South Africa should jettison the notion of using cheap coal to generate electricity and shift to renewables eventually led to the promulgation of the regulatory guidelines.<sup>40</sup>

### **THE GUIDELINES IN CONTEXT**

The most potent legislative mechanism being used worldwide to introduce and implement the use of renewable energy to generate energy is feed-in tariff. South Africa has just joined the numbers of the countries that are using renewable energy to generate power. It is the responsibility of NERSA to ensure that the energy utility, Eskom, purchases energy from the generators at a fixed price, provided they conform with the standard prescribed by NERSA.<sup>41</sup> The guidelines contain twelve sections. Section 1 provides a general introduction, while sections 2 and 3 highlight the purpose, scope, and objectives of the guidelines in detail. Purchase obligations of all players and stakeholders are outlined in section 4, while sections 5 and 6 deal extensively with the qualification criteria and the application process respectively. Section 7 enumerates tariffs applicable to different technologies. The rights and obligations of qualified renewable power generators, regulator, and renewable energy purchasing agency (“REPA”) are provided for in sections 8, 9, and 10 respectively. While section 11 provides for the monitoring, reporting, and review mechanisms, section 12 provides for appropriate applicable law to resolve dispute arising from the guidelines. Any ensuing dispute must be resolved in accordance with section 5 of the Electricity Regulation Act 2006 of South Africa (including the Regulations).

### **EXPOSITION, ANALYSIS, AND CRITIQUE OF THE GUIDELINES**

#### *Introduction, Purpose, Scope, and Objective*

Section 1 of the guidelines provides an overview of why the government has opted for renewable energy provisions side by side with the current conventional energy. One of the key reasons is that renewable energy resources in South Africa are enormous.<sup>42</sup> In a move to enlarge the market implementation, government has now, through NERSA, introduced REFIT.<sup>43</sup> “This is quite similar to the concept of cost recovery used in utility rate regulation based on the costs of capital”<sup>44</sup> invested in

each technology deployed.<sup>45</sup> With regards to cost, using the technique of degression, both the grid interconnection and metering are covered by REFIT.<sup>46</sup> The overarching benefit of this is that the costs are spread across electricity customers and the tariff is reduced overtime.<sup>47</sup> The essence of this technique is to mount pressure on the generators to continue to lower the costs of generating electricity from REFIT so that it will be affordable.

The IPPs will be remunerated based on the renewable energy power they feed into the national grid.<sup>48</sup> The guidelines allow IPPs operators to receive preferential rate in a pay-for-energy-delivered contract allowing them to earn payment over and above conventional prices.<sup>49</sup> It is hoped that REFIT system will create and foster an enduring and economically sustainable renewable energy industry in South Africa.<sup>50</sup>

The scope and objective of the guidelines are outlined in section 3.<sup>51</sup> Section 3.1 provides for the applicable rules and requirements governing license applications and the issuing of approved licenses to energy developers.<sup>52</sup> Section 3.2 gives NERSA the mandate to determine the prices and the conditions under which generated electricity may be supplied.<sup>53</sup> Sections 3.3 and 3.4 provide that all subsequent relevant Acts of Amendment would also be applicable in conjunction with relevant license procedures.

The underlying economic basis of section 3.2 is that economic principles of supply and demand do not affect prices because NERSA has the absolute authority to determine the rates. The rationale for this is that these prices have been chosen to promote and increase investment in renewable energy, allow small enterprises to make substantive entry into the market, and operate by generating electricity for sale. This model is suitable to developing countries in view of the fact that energy markets are small in number and dispersed.<sup>54</sup>

But these guidelines could be amended by subsequent Acts under section 3.3,<sup>55</sup> which raises some concerns. The section sets no boundaries on what type of amendments are permitted.<sup>56</sup> A preferred approach would be to exempt certain provisions from future amendment. One provision that, if amended, would undermine the entire regulation is the guarantee of payments over a specified period of time. This is assuredly the only way an investor can realize the projected return on investment. Notwithstanding the fact that there is no explicit prohibition on amending any section, the fears of the investors have been allayed by virtue of section 3.5(ii), which states that one of the key objectives and principles of REFIT is the establishment of “a guaranteed price for electricity generated from renewables for a fixed period of time that provides a stable income stream and an adequate return on investment.”<sup>57</sup>

### *Obligation to Purchase*

Section 3.5(iv) enables access to the grid and obligates Eskom to purchase power generated by IPPs. Eskom is designated as the Single Buyer and appointed as the Renewable Energy Purchasing Agency (“REPA”) under sections 4 and 4.3. To be eligible the generator must follow the rules and procedures of the regulatory body duly licensed under section 5.4 and

fulfill all the license conditions under Section 5.5. While Eskom must purchase electricity from the IPPs at set rates, under section 4.4 the IPPs can also sell renewable energy to buyers outside of REFIT.<sup>58</sup>

If a particular generator receives a license and fails to produce electricity for any reason, NERSA faces no obligations to the generator and Eskom cannot be compelled to act on its purchasing obligation.<sup>59</sup> Consequently, the maxim *nemo dat quod non abet* meaning you cannot give what you do not have applies to the generator if it fails to produce electricity.

### *Financial Implications for Consumers*

Section 3.5(v) mandates the establishment of an equal playing field with conventional electricity, but this provision is ambiguous in both context and content.<sup>60</sup> The meaning of “an equal level playing field” is not defined in the guidelines and this may result to different interpretations. Section 3.6 allows for future inclusion of more technologies, bands within technologies, and incentives for projects in different geographical areas.<sup>61</sup> Section 4.5 provides that the financial subsidy required to offset the difference in the cost of energy purchased under REFIT and the Avoided Cost will be borne by all Eskom electricity customers through existing “pass-through” arrangements for costs of independent power production.<sup>62</sup> While this provision makes good economic and financial sense, a cursory look at the section shows that neither the poor nor the rich are exempted from the “pass-through” arrangements.<sup>63</sup> The implication of this is that various customers of Eskom, irrespective of their resources, will bear the financial burden. In South Africa, both advanced and developing economies operate alongside one another. Those who live in perpetual abject poverty outnumbered the rich elites.<sup>64</sup>

The huge disparity of income in South Africa is reflected in limited access to electricity, with the majority of the population in rural areas living without modern electricity.<sup>65</sup> Even where there is access, electricity is not usually affordable and is considered a luxury by most residents. Even in those areas serviced by a grid, there have been reports of persistent default or non-payment of electricity bills and in some instances, these people have improvised and connected to the grid illegally.<sup>66</sup> The drafters of the guidelines should have excluded indigents and the poor from the current additional burden of paying more for electricity.<sup>67</sup> Governments in countries such as Denmark, Australia, and a number of U.S. states are sensitive to the plight of indigent citizens who would not be able to afford electricity. Consequently, various concessions in the form of subsidies and incentives such as reduction in bills, special loans, extra rebates and so on, are being offered to unemployed, elderly, disabled, and low-income households.<sup>68</sup> As noted earlier, section 3.3 authorizes amendments; the guidelines should be amended to offer a range of concessions to the poorest of the poor, as has occurred in the United States, Australia, and Denmark.

### *Qualification Criteria for the Generator*

Section 5 lists the qualification criteria for renewable generators. Section 5.1 defines renewable energy, and section

5.2—read together with the newly published phase 2<sup>69</sup>—sets out the specific types of renewable energy technologies that qualify for participation in the REFIT scheme. Section 5.3 requires NERSA to consider adding additional technologies to the list of qualifying generators.<sup>70</sup>

By virtue of section 5.5(i), renewable energy generators may generate electricity from non-renewables. But the generators must report the quantities of electricity generated from these two different sources.<sup>71</sup> Section 5.5(ii) provides for monitoring and verification to ensure credible production of renewable energy.<sup>72</sup> Failure on the part of any electricity generators to comply or act in accordance with sections 5.5(i) or 5.5(ii) leads to the imposition of sanctions under section 5.5(iii), including termination of the REFIT license.<sup>73</sup>

Importantly, under section 5.7, REFIT does not include any electricity generated off-grid.<sup>74</sup> Rather, “REFIT only includes power generation from generators connected to the Transmission System and Distribution System and excludes off-grid power generation.”<sup>75</sup> Although this is the current scheme, in the near future advancement in technology innovation and diffusion might allow for the consideration of off-grid.<sup>76</sup>

### *Application Process*

Sections 6.1 to 6.4 require the renewable electricity generator to state the specific REFIT technology and tariff category for electricity produced in accordance to section 6.2. This will enable regulatory authority to “specify the technology, the tariff approved, duration of the REFIT, and other specific licensing conditions” in compliance with section 6.4.<sup>77</sup> The purpose of this section is to ensure that applicants state the type of technology used, due to different prices for electricity produced from each technology.<sup>78</sup> It is expected that the majority of the applicants will use technologies that are economically beneficial in terms of cost and maintenance, and at the same time reap the so-called “reasonable profit” because this will continue to guarantee return on investment and the continuity of the venture.

### *Tariffs*

Section 7.3 protects the licensees against inflation in each year of operation and allows for an adjustment to the tariffs once per annum using the consumer price index (“CPI”) or another suitable inflation index.<sup>79</sup> Section 7.4 requires monitoring of the performance and the impacts of each technology, as well as analysis of reports from the monitoring to ascertain whether there is any need for review.<sup>80</sup> Irrespective of whether or not inflation occurs, a full tariff review will take place every year for the first five-year period of implementation and every three years thereafter.<sup>81</sup> Section 7.5 stipulates that the resulting tariffs will only be applicable to new projects.<sup>82</sup> Section 7.6 provides for future pricing of electricity produced by the generators. Consequently, at the end of the contracted REFIT tariff, the generator will be required to negotiate tariffs under current market conditions.<sup>83</sup> The implication is that the economic principles of demand and supply will dictate prices to be charged by the regulator. While this is beneficial to the regulator, it does not foreclose the appropriate intervention by the regulator at any point in time—this

is achievable in view of the fact that the generators still have to negotiate tariffs under market conditions. The significance of these tariffs is that they will stimulate the inflow of investment into the renewable sector and increase the pool of capital in the sector, which may be used to promote the innovation and advancement in renewable technology.<sup>84</sup>

### *Rights and Obligations of Generators, Regulators, and REPA*

Sections 8, 9, and 10 of the guidelines explicitly provide for the rights and obligations of all parties.<sup>85</sup> Any meaningful discussion on rights and obligations must necessarily be founded on conceptualization of both terms. The description of rights as enshrined in the guidelines recognizes the legal rights of the generators to be entitled to an amount that will ensure their investments are properly protected, connected to the grid, and able to provide a reasonable return on investment. In the same vein, regulators are expected to act responsibly by virtue of section 8.5, which mandates that all the parties be on an equal level.<sup>86</sup>

It must however be mentioned that failure to act as stipulated under section 8.5 of the guidelines imposes an obligation on the regulator to apply the appropriate sanction that could lead to termination of the erring generator’s license.<sup>87</sup> This is the only reason why the right of the generator could be restricted. Conclusive and well founded evidence that a generator has acted contrary to section 8.5, for instance by generating electricity from non-renewable technology mentioned in the guidelines without a full disclosure to the regulator, will automatically affect all the inherent rights in the guidelines and allow for imposition of the appropriate sanction.

### *Monitoring, Reporting, and Review.*

In accordance with sections 11.1 to 11.10, the regulator will closely monitor the overall activities of the players and stake holders enshrined in the REFIT. Monitoring, collection, and maintenance of data on energy purchased under REFIT are outlined in section 11.2, and the publication of summary of the progress report by June 1st of every year is required by section 11.4. Section 11.4(iii) mandates the regulator to disclose the financial impacts of REFIT, which includes both the increase in electricity prices and the additional overall cost to consumers.<sup>88</sup> This proviso serves as a basis for determining whether the poor and previously disadvantaged people are able or not able to access electricity services due to the additional cost imposed on them. If the majority of the poor are unable to access and use electricity based on the increase in cost, one of the fundamentals of poverty reduction and eradication, as enshrined in the principles set out in the Millennium Development Goals, will not be achieved.<sup>89</sup> One of the ways to assist the poor in realizing their economic and social aspirations is to offer them concessions on electricity. It is suggested that in the interim, costs should be passed on to the affluent in the hybrid residential and industrial areas of urban South Africa. Various electrical appliances and industrial equipment that are not energy efficient are used in these areas. Increasing the costs of electricity for the more affluent might encourage them to use energy efficient appliances. An

additional benefit of this differential pricing would ultimately be less pressure on the transmitters from reduced energy use.

### *Resolution of Disputes and Remedies*

Section 12 provides that any disputes arising from the operation of REFIT would be resolved as laid down in sections 42 to 43 the Electricity Regulation Act 2006.<sup>90</sup> Before the commencement of any dispute resolution, the Minister is compelled by virtue of section 42(3) to prescribe the procedure to be followed for the mediation and the fees to be paid.<sup>91</sup> However, mediation or arbitration of disputes occurs only at the request of the parties to the dispute by virtue of section 42(4).<sup>92</sup> While section 42(1)(a) compels the regulator to appoint a mediator in a dispute between licensees if so requested by both parties to the dispute, sections 42(1)(b) and 42(2) give discretionary power to the regulator to appoint a suitable person to mediate.<sup>93</sup>

However, if any party disagrees with the outcome of the decisions regarding adjudication as provided in section 42, such party, under section 43, can seek remedies pursuant to section 10 of the National Energy Regulation Act of 2004, and specifically invoke sections 10(3)(4)(a)(b) which provide that:

Any person may institute proceedings in the High Court for the judicial review of an administrative action by the Energy Regulator in accordance with the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000). Any person affected by a decision of the Energy Regulator sitting as a tribunal may appeal to the High Court against such decision. The procedure applicable to an appeal from a decision of a magistrate's court in

a civil matter applies, with the changes required by the context, to an appeal contemplated in paragraph (a).<sup>94</sup>

Section 10(1)(a) of the Act recognizes the supremacy of the Constitution of the Republic South Africa.<sup>95</sup> Hence every decision of the regulator or of the mediator, arbitrator or any person appointed by the regulator, must be consistent with the provisions of the Constitution and applicable laws. The legal implication is that any party who is not satisfied with the decisions arising out of section 42 of the Electricity Regulator Act, can appeal for review of the decision, and ultimately appeal constitutional rights up to the Constitutional court.

### CONCLUSION

The establishment of REFIT in South Africa provides an excellent opportunity for South Africa to increase the use of renewable energy and enhance the growth of the sector both nationally and internationally. Most of the renewable energy considered for the initial implementation has been included as a result of experiences and success stories in countries that have introduced and implemented REFIT. However, there is need for extensive and expansive improvements in areas such as, namely, harmonization of various policies on renewable energy, enhancement of the standard to achieve sustainability, dissemination of information on the benefits of renewable energy to attract investors, making stakeholders be more proactive, and creating enabling policy and law for concessions and incentives that will continue to bring down the cost of investment and make cost of electricity affordable. 

## Endnotes: Implementing a Renewable Energy Feed-In Tariff in South Africa

<sup>1</sup> NATIONAL ENERGY REGULATOR OF SOUTH AFRICA (NERSA), SOUTH AFRICA RENEWABLE ENERGY TARIFF (REFIT), REGULATORY GUIDELINES (2009) [hereinafter REFIT].

<sup>2</sup> Nthambeleni Gabara, *South Africa: NERSA Announces Renewable Energy Feed-in*

*Tariffs*, ALLAFRICA (Mar. 31, 2009), <http://allafrica.com/stories/200903310659.html>. *But see* Suzanne Goldenberg, *World Bank's \$3.75bn Coal Plant Loan Defies Environment Criticism*,

GUARDIAN, Apr. 9, 2010, <http://www.guardian.co.uk/business/2010/apr/09/world-bank-criticised-over-power-station>.

<sup>3</sup> REFIT, *supra* note 1, at 1.

<sup>4</sup> *Id.*

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*; *see also* NERSA, PHASE 2 OF REFIT BASED ON THE LEVELISED COST OF ELECTRICITY (2009).

<sup>7</sup> REFIT, *supra* note 1, at 16; *see also* Christy van der Merwe, *Renewable Energy Industry Players Make Refit Submissions to Nersa*, ENGINEERING NEWS (Sept. 3, 2009), <http://www.engineeringnews.co.za/article/renewable-energy-industry-players-make-refit-submissions-to-nersa-2009-09-03>.

<sup>8</sup> *See* Christy van der Merwe, *Regulator Includes More Renewable Technologies in Refit, Outlines Purchase Agreement*, ENGINEERING NEWS (Jul. 20, 2009), <http://www.engineeringnews.co.za/article/regulator-includes-more-renewable-technologies-in-refit-outlines-purchase-agreement-2009-07-20>.

<sup>9</sup> *Id.*

<sup>10</sup> NERSA, CONSULTATION PAPER RENEWABLE ENERGY FEED-IN TARIFF 4 (2008) [hereinafter NERSA CONSULTATION PAPER], <http://www.nersa.org.za/Admin/Document/Editor/file/NERSA%20REFIT%20%20consultation%20paper%2002%20Dec%202008.pdf>.

<sup>11</sup> An electrical unit equal to one billion (10<sup>9</sup>) watts (1,000 megawatts) used for one hour.

<sup>12</sup> DEP'T OF MINERALS & ENERGY (DME), GOVERNMENT WHITE PAPER ON RENEWABLE ENERGY (2003) [hereinafter DME WHITE PAPER], [http://unfccc.int/files/meetings/seminar/application/pdf/sem\\_sup1\\_south\\_africa.pdf](http://unfccc.int/files/meetings/seminar/application/pdf/sem_sup1_south_africa.pdf); *see also* Dirk Visser, *Renewable Feed-in Tariffs Announced*, UNIV. OF CAMBRIDGE PROGRAMME FOR SUSTAINABLE LEADERSHIP (Apr. 1, 2009), <http://www.cpsl.co.za/2009/04/renewable-feed-in-tariffs-announced>.

<sup>13</sup> NERSA CONSULTATION PAPER, *supra* note 10, at 4.

<sup>14</sup> Benjamin Sovacool, *The Importance of Comprehensiveness in Renewable Electricity and Energy-Efficiency Policy*, 37 ENERGY POLICY 1529, 1535 (2009).

<sup>15</sup> *NERSA Announces the Long Awaited Renewable Energy Feed-In Tariffs*, ESKOM INTELLIGENCE BRIEF (ESKOM, Johannesburg, S. Afr.), Mar. 31, 2009.

<sup>16</sup> Kolawole Odeku & Edson Meyer, *Climate Change: Strengthening Mitigation and Adaptation in South Africa*, in JOINT ACTIONS ON CLIMATE CHANGE: CONFERENCE PROCEEDINGS 272 (R.D. Andersen & M. Lehmann eds., 2009), [http://diggy.ruc.dk/bitstream/1800/4339/1/Conference\\_Proceedings\\_JAOCC\\_2009\\_final.pdf](http://diggy.ruc.dk/bitstream/1800/4339/1/Conference_Proceedings_JAOCC_2009_final.pdf).

<sup>17</sup> ADELE FAURE, CLIMATE CHANGE: WHO'S DOING WHAT IN SOUTH AFRICA? 5 (2009), [http://durbanportal.net/ClimateChange/Reports/SA\\_Climate\\_Change\\_Mapping\\_Report\\_Final.pdf](http://durbanportal.net/ClimateChange/Reports/SA_Climate_Change_Mapping_Report_Final.pdf).

<sup>18</sup> Paul Gipe, *South Africa Introduces Aggressive Feed-in Tariffs*, RENEWABLE ENERGY WORLD (Apr. 1, 2009), <http://www.renewableenergyworld.com/real/news/article/2009/04/south-africa-introduces-aggressive-feed-in-tariffs>.

**Endnotes:** Implementing a Renewable Energy Feed-In Tariff in South Africa *continued on page 89*

## ENDNOTES: IMPLEMENTING A RENEWABLE ENERGY FEED-IN TARIFF IN SOUTH AFRICA: THE BEGINNING OF A NEW DAWN

*continued from page 49*

<sup>19</sup> Jonathan Faurie, *Will Proposed Feed-in-Tariffs be Sufficient to Kickstart New Energy Economy?*, ENGINEERING NEWS ONLINE (Jan. 30, 2009), <http://www.engineeringnews.co.za/article/will-proposed-feedin-tariffs-be-sufficient-to-kickstart-newenergy-economy-2009-01-30>.

<sup>20</sup> ALLIANCE FOR RENEWABLE ENERGY, <http://www.allianceforrenewableenergy.org/why-reps.html> (last visited Mar. 12, 2011).

<sup>21</sup> PAUL GIPE, RENEWABLE ENERGY POLICY MECHANISMS 1 (2006), <http://www.wind-works.org/FeedLaws/RenewableEnergyPolicyMechanismsbyPaulGipe.pdf>.

<sup>22</sup> *Id.*

<sup>23</sup> REFIT, *supra* note 1, at 1.

<sup>24</sup> NERSA's Feed-in Tariff: Will It Work for SA?, 25 DEGREES IN AFRICA (Mar. 2009), [http://www.25degrees.net/index.php?option=com\\_zine&view=article&id=295:nersas-feed-in-tariff-will-it-work-for-sa&Itemid=58](http://www.25degrees.net/index.php?option=com_zine&view=article&id=295:nersas-feed-in-tariff-will-it-work-for-sa&Itemid=58).

<sup>25</sup> DME WHITE PAPER, *supra* note 12.

<sup>26</sup> NAT'L ENERGY REGULATOR OF S. AFR., SOUTH AFRICA RENEWABLE ENERGY FEED-IN TARIFF (REFIT) REGULATORY GUIDELINES 16 (2009).

<sup>27</sup> *Id.* A terawatt hour is an electrical unit equal to one trillion (10<sup>12</sup>) watts (1,000,000 megawatts) used for one hour.

<sup>28</sup> Gipe, *supra* note 18.

<sup>29</sup> *Id.*

<sup>30</sup> Sovacool, *supra* note 14.

<sup>31</sup> Wilson Rickerson et al., *If The Shoe FITs: Using Feed in Tariffs to Meet US Renewable Electricity Targets*, ELECTRICITY J., May 2007, at 79.

<sup>32</sup> Sovacool, *supra* note 14.

<sup>33</sup> REFIT, *supra* note 1, at 4.

<sup>34</sup> *eReact Making Progress in South Africa*, E-PARLIAMENT.NET (Jul. 21, 2008), <http://www.e-parl.net/eparliament/general.do?action=news&id=125>.

<sup>35</sup> Ruth Rabinowitz, *REFIT and Incentives Bills* (Dec. 18, 2008) (on file with author).

<sup>36</sup> *eReact Making Progress in South Africa*, *supra* note 34.

<sup>37</sup> *Id.*

<sup>38</sup> Rabinowitz, *supra*, note 35.

<sup>39</sup> *Id.*

<sup>40</sup> *See id.*; Gipe, *supra* note 18; *eReact Making Progress in South Africa*, *supra* note 34; *Turning Point for 'Green' Energy*, FIN24 (Apr. 2, 2009), <http://www.fin24.com/Business/Turning-point-for-green-energy-20090402>.

<sup>41</sup> REFIT, *supra* note 1, § 3.5(iV).

<sup>42</sup> Kruschen Govender, *Plotting a Future for Renewable Energy in South Africa*, TRADEINVEST S. AFR. (Nov. 24, 2008), [http://www.tradeinvestsa.co.za/feature\\_articles/897480.htm](http://www.tradeinvestsa.co.za/feature_articles/897480.htm).

<sup>43</sup> REFIT, *supra* note 1.

<sup>44</sup> *Id.* at 1.

<sup>45</sup> *Id.*

<sup>46</sup> Sovacool, *supra* note 14.

<sup>47</sup> *Id.*

<sup>48</sup> REFIT, *supra* note 1.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> *Id.* § 3.

<sup>52</sup> *Id.* § 3.1.

<sup>53</sup> *Id.* § 3.2.

<sup>54</sup> JANET SAWIN, NATIONAL POLICY INSTRUMENTS: POLICY LESSONS FOR THE ADVANCEMENT & DIFFUSION OF RENEWABLE ENERGY TECHNOLOGIES AROUND THE WORLD 4 (2004), <http://siteresources.worldbank.org/EXTRENERGYTK/Resources/5138246-123790652727/5950705-1239290499336/NationalPolicyLies0around0the0World.pdf>.

<sup>55</sup> REFIT, *supra* note 1, § 3.3.

<sup>56</sup> *Id.*

<sup>57</sup> *Id.* § 3.5(ii).

<sup>58</sup> *Id.* § 4.4 (“With the aim of supporting the wider green electricity market

and ensuring flexibility in the market, renewable energy IPPs are permitted to sell power direct to buyers wishing to purchase renewable energy outside of the REFIT.”).

<sup>59</sup> *Id.* § 5.5(iii).

<sup>60</sup> *Id.* § 3.5(v).

<sup>61</sup> *Id.* § 3.6.

<sup>62</sup> *Id.* § 4.5.

<sup>63</sup> *Id.*

<sup>64</sup> *See generally* Randall Spalding-Fecher et al., *The Economics of Energy Efficiency for the Poor—A South African Case Study*, 27 ENERGY 1099 (2002); GILBERT MBESHERUBUSA, ACTING AGAINST ENERGY POVERTY IN AFRICA (2009), [http://www.g8energy2009.it/pdf/27.05/Acting\\_against\\_energypoverty\\_and\\_crisis%20in%20Africa-Ram.pdf](http://www.g8energy2009.it/pdf/27.05/Acting_against_energypoverty_and_crisis%20in%20Africa-Ram.pdf).

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> Agnieszka Flak, *SAfrica's Eskom Granted a 31.3 Pct Tariff Increase*, REUTERS (Jun. 25, 2009), <http://in.reuters.com/article/2009/06/25/eskom-tariffs-idINWEA830620090625>.

<sup>68</sup> Sovacool, *supra* note 13, at 1536.

<sup>69</sup> NERSA CONSULTATION PAPER, *supra* note 10.

<sup>70</sup> REFIT, *supra* note 1.

<sup>71</sup> *Id.* § 5.5(i).

<sup>72</sup> *Id.*

<sup>73</sup> *Id.* § 5.5.

<sup>74</sup> The REFIT regulations do not define “off-grid.” But the term “off-grid” is commonly understood as relating to something not connected to a centralized distribution network. *See Off-Grid*, DICTIONARY.COM, <http://dictionary.reference.com/browse/off-grid> (last visited Feb. 7, 2011).

<sup>75</sup> REFIT, *supra* note 1, § 5.7.

<sup>76</sup> Leandi Cameron, *The Case for Including Photovoltaics and Biomass Into REFIT System*, ENGINEERING NEWS (June 26, 2009), <http://www.engineeringnews.co.za/article/the-case-for-including-photovoltaics-and-biomass-into-refit-system-2009-06-26>.

<sup>77</sup> REFIT, *supra* note 1, § 6.4.

<sup>78</sup> *See* NERSA CONSULTATION PAPER, *supra* note 10, at 4.

<sup>79</sup> REFIT, *supra* note 1, § 7.4.

<sup>80</sup> *Id.*

<sup>81</sup> *Id.* § 7.5.

<sup>82</sup> *Id.*

<sup>83</sup> *Id.* § 7.6.

<sup>84</sup> Terence Creamer, *Green Energy Gets Shot in the Arm With Generous SA Tariff Regime*, ENGINEERING NEWS (Mar. 31, 2009), <http://www.engineeringnews.co.za/article/green-energy-gets-shot-in-the-arm-with-generous-sa-tariff-regime-2009-03-31>.

<sup>85</sup> REFIT, *supra* note 1.

<sup>86</sup> *Id.* § 8.5.

<sup>87</sup> *Id.*

<sup>88</sup> *Id.* § 11.4(iii).

<sup>89</sup> Spalding-Fecher et al., *supra* note 64.

<sup>90</sup> REFIT, *supra* note 1, § 12.

<sup>91</sup> Electricity Regulation Act 4 of 2006 § 42(3) (S. Afr.).

<sup>92</sup> *Id.* § 42(4).

<sup>93</sup> *Id.* § 42(1)-(2).

<sup>94</sup> National Energy Regulator Act 40 of 2004 § 10(3)(4)(a)(b) (S. Afr.).

<sup>95</sup> S. AFR. CONST., Act 108 of 1996, <http://www.info.gov.za/documents/constitution/1996/index.htm>.