

**Utilities
Regulatory
Authority**

Diesel Pricing for Electricity Services

Monitoring Report

Case U-0023-14

January 2015



Letter from the CEO

Beginning in July 2014, international oil prices have dropped sharply due to changing market conditions. As Vanuatu still largely relies on imported diesel fuel to generate electricity, fuel prices have a significant impact on cost of electricity in Vanuatu. Commission tasked the Staff to investigate when and how the impact of falling diesel prices will be reflected in the electricity generation costs and lower prices realised by Vanuatu consumers. The staff team gathered diesel invoices, supply contracts and pricing information from electricity companies and held discussions with the diesel supplier. A supply chain analysis, invoice review and other investigation was undertaken to assess the impact and correlation between world diesel prices and electricity prices in Vanuatu. The team also investigated supply chain lag and other factors like the excise duties, taxes, energy mix that impact the end-use prices of electricity.

The study also reviewed the currency variations in past several months and its impact over diesel price. Singapore is the port of origin for diesel shipped to Vanuatu which is priced in US dollar and settled in Vatu when delivered to electricity companies. End-use prices are tempered due to the presence of fixed costs such as transportation, taxes, amortization of assets as well as increasing component of renewables in the mix.

It is one of our main responsibilities to constantly monitor the principal inputs into the electricity generation to ensure that the benefits of efficiencies and lower prices are passed onto the consumers in a timely and transparent manner.

The Report concludes that there is a significant lag in the timing between fuel price changes and its reflection in the end-use price of electricity. For this reason the recent sharp fall in fuel prices has not yet been fully realised by the consumers of Vanuatu. However it is anticipated that in the coming months Vanuatu consumers will receive full benefit of the fall in global fuel prices.

I hope that this report is of some value to anyone interested in the electricity pricing in Vanuatu, and take this opportunity to thank the electricity companies UNELCO and VUI and local diesel supplier SSP Pacific Petroleum who provided assistance and cooperation in gathering the data. I also thank the URA team for their dedication and professionalism, especially financial analyst Mrs Aurellia Karie and Principal Finance Specialist Mr. Olivier Fernandez who investigated and prepared this report.

Sincerely,



Hasso Bhatia, PhD

CEO

Utility Regulatory Authority of Vanuatu

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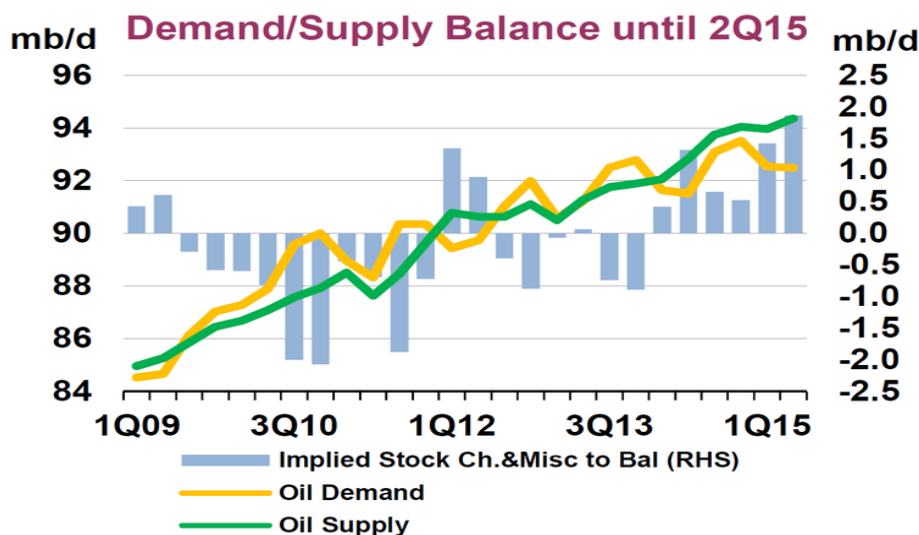
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1. Introduction

1.1 Background

Fuel is a major component in the pricing of electricity for Vanuatu, where electricity production relies on diesel for about 75% of total generation. Vanuatu is neither extracting nor refining petroleum products and relies on imports. International prices are mainly driven by the demand and economic growth, and conflicts affecting the key oil nations. From July 2014, a slowdown in world demand combined with easing conditions in Iraq, Libya allowing dramatic increase in production, and increasing production from newly extracted shale oil in United States allowed for supply to overtake demand and push the prices down. The trend is shown in the graph below.

Figure 1: Worldwide oil demand and implied stocks from 2009 to 2014 and forecast of 2015



Source: International Energy Agency

As significant drop in price was observed in July- September 2014, the Utilities Regulatory Authority initiated a review of the fuel component in electricity prices to ensure that customers receive timely benefit from favorable international prices. In order to provide a clear picture to the consumers, the team has put together a description of the supply chain and pricing mechanisms for fuel used in electricity generation in Vanuatu, and the following report presents its findings and conclusions.

1.2 Purpose of this paper

The aim of this paper is to provide a comprehensive review of the fuel price as input in the calculation of electricity prices paid by customers in Vanuatu. The report describes the supply chain and pricing mechanism for fuel used in electricity generation, together with the findings and conclusions of investigations by the team.

In its research, the team followed auditing principles, testing accuracy of the data provided through reconciliation between fuel invoices and technical and financial statements, and then investigating prices, volumes and accounting practice for fuel stock valuation, to control their correlation to regional markets.

1.3 Scope

Although fuel used in transportation and aviation has identical supply chain, the monitoring of retail prices at the pump remains outside of the scope of URA mandate at this stage. Team investigations were focused on fuel used in energy generation.

This paper is structured into the following sections:

- Chapter 2, **'Methodology'**, describes the approach used by the team, the data collected and the tests and analysis performed in monitoring the fuel used in electricity services.
- Chapter 3, **'Supply Chain'**, provides an overview of the timeline and steps in supplying diesel to electricity companies in Vanuatu.
- Chapter 4, **'Diesel pricing'**, explains the pricing mechanism and elements making up the price for diesel used in electricity generation. The section shows the influence of international price for diesel over electricity base rate.
- Chapter 5, **'Findings and Conclusion'** presents the results of team investigation and main conclusions about the transfer and impact of international price for diesel over electricity base rate in Vanuatu.

1.4 Useful links

Readers of this report may find it useful to consult the following sources:

- Secretariat of the Pacific Community: www.spc.int/edd
- Utilities Regulatory Authority Vanuatu: www.ura.gov.vu
- Pacific Petroleum: www.pacificpetrole.com
- Platts (Fuel prices and market analysis) : www.platts.com

2. Methodology

The following section describes the process followed by the URA team (team) investigating on the pricing mechanism and nature of the supply chain for the diesel used in electricity generation. It describes the tests and reconciliations performed by the team to verify the accuracy and consistency in the data provided by the stakeholders.

2.1 The stakeholders

In order to conduct its review of the diesel price input in electricity base rate, the team met and worked with the following stakeholders:

- SSP (Pacific Petroleum): the company supplies diesel to electricity utilities in Vanuatu
- UNELCO and VUI: the two companies supplying regulated electricity services in Vanuatu
- The Secretariat of Pacific Forum: Independent source for diesel pricing and monitoring in the region
- The Department of Energy: in charge of diesel price monitoring in Vanuatu

2.2 Key documents and data request

The following documents and datasets were obtained from the respective sources:

Source	Data/Document	Duration/Frequency
UNELCO	• Diesel purchasing contract with SSP	10 years
	• Copies of diesel invoices for 2014	Weekly
	• Summary spreadsheet of diesel purchase for 2014	Yearly
	• Technical information on electricity generation	Monthly
	• Electricity tariff adjustment spreadsheet	Monthly
VUI	• Diesel purchasing contract with SSP	10 years
	• Copies of diesel invoices for 2014	Weekly
	• Summary spreadsheet of diesel purchase for 2014	Yearly
	• Technical information on electricity generation	Monthly
SSP	• Description of the diesel supply chain	N/A
	• Safety measures, quality testing and monitoring process	N/A
	• Description of the stock valuation methodology	N/A
	• Local diesel price breakdown	N/A
	• MOPS (Mean of Price Singapore) price history for 2014	Daily
	• ANZ Bank exchange rate for USD/VUV seller.	Daily
DOE	• National Energy Road Map	N/A
SPC	• Regional Petroleum Fuel and Gas Price Review	Monthly and quarterly

2.3 Data test

2.3.1 Reconciliation

In the review of the diesel price and pricing mechanism in Vanuatu, the following reconciliations were performed by the team to test the accuracy and consistency of the data received:

- **Between diesel invoices and diesel purchase summary spreadsheet:**

For each electricity company, the team compared hard copies of diesel invoices received to the monthly diesel purchase summary spreadsheet, checking for accuracy in price and volumes.

- **Between diesel purchase summary spreadsheet and monthly electricity generation data:**

For each electricity company, the team compared the monthly diesel purchase summary spreadsheet to the generation technical data, checking for accuracy and in purchased amounts and volumes.

- **Between monthly tariff adjustment for UNELCO and diesel purchase summary spreadsheet:**

For UNELCO, electricity base rate is adjusted on a monthly basis for fuel price variation. The team compared the monthly diesel purchase summary spreadsheet to the tariff adjustment spreadsheet, checking for accuracy and in purchased amounts and volumes and average diesel price for the concessions of Port Vila, Tanna and Malekula.

2.3.2 Benchmark

In order to detect interactions between the price and pricing mechanism for diesel used in electricity generation, and the base rate for electricity services, the team performed the following comparisons:

- **Between local price for diesel and international price form MOPS and SPC:**

Trends in local prices for diesel and international price for corresponding grade and quality as priced in port of origin in Singapore were compared.

- **Between ANZ daily seller rate and web based sources for VUV/USD exchange rate:**

VUV/USD exchange rate provided by local branch ANZ were compared to web based sources to verify accuracy in trend and mark-up on price.

- **Between pricing for diesel used by UNELCO and VUI:**

Since both electricity companies are supplied by the same supplier Pacific Petroleum, the team compared the conditions and contracts of two utilities with the supplier for any variations in terms.

- **Between electricity base rate for UNELCO and VUI and local and international price for diesel used in generation:**

The team verified the calculations of the electricity base rate with the input price of fuel for each month for the period and established correlation between the two variables.

3. The Supply Chain

3.1 Route of fuel to Vanuatu

3.1.1 Origin

The diesel supplied to Vanuatu for electricity generation is extracted and refined in Indonesia, travelling from Singapore on tankers crossing the North–South Pacific region and supplying the countries by order of importance in volume.

3.1.2 Route of fuel to Vanuatu

The delivery of diesel by Cargo from Singapore to Vanuatu is a forty-five to fifty day journey (based on weather conditions). The tanker loads its cargo in Singapore for a number of regional buyers including the fuel quantity forecasts provided by the two electricity companies in Vanuatu for the period starting from estimated arrival of the tanker running up to next delivery. Fourteen days after departing, the Supplier advises the respective Vanuatu electricity companies on the temporary price established through the formula defined in the respective contracts. A tentative date of price change based on current reserves and consumption at time is also provided by the supplier. The diesel loaded must meet the specifications as defined in the contract, and its density is tested upon arrival at wharf in Port Vila and Luganville.

After the tanker has off-loaded its cargo and within five days, the supplier advises the respective electricity companies of the final price calculated according to the formula established in the contracts. Based on consumption trend and stock balance, electricity companies are advised of the day of price change by the supplier. Each tanker loaded for this region is tagged with a price based on MOPS, as explained below.

Following discharge of the cargo, electricity companies are provided with a certificate of quality delivered by an independent agent following the quality and density testing performed.

The suppliers stocks and metering apparatus are both independently gauged by the Vanuatu Customs Services and an independent company specialized in metering apparatus' calibration.

3.2 Local supply

3.2.1 Competition

Pacific Petroleum is operating in Vanuatu since 2007 and is the sole supplier for diesel used in electricity generation. The contract was awarded to Pacific Petroleum following a tender process by UNELCO for a five years contract. Pacific Petroleum took over Exxon operations supplying electricity companies while Shell has the market for vehicles and BP the aviation. It is safe to say PP is the only viable supplier of diesel to Vanuatu utilities.

3.2.2 From local supplier to electricity companies

Pacific Petroleum has storage facilities in Port Vila and Luganville, where UNELCO and VUI operate electricity services. The diesel is delivered by truck at the power station respecting safety guidelines defined in the contract. The delivery of diesel in the two remaining concessions of Tanna and Malekula is managed by Pacific Petroleum. Diesel is transported by boat and delivered in drums of 200 litres. Upon arrival, it is stored at the power station. Transport is billed at cost by the local supplier to the electricity company.

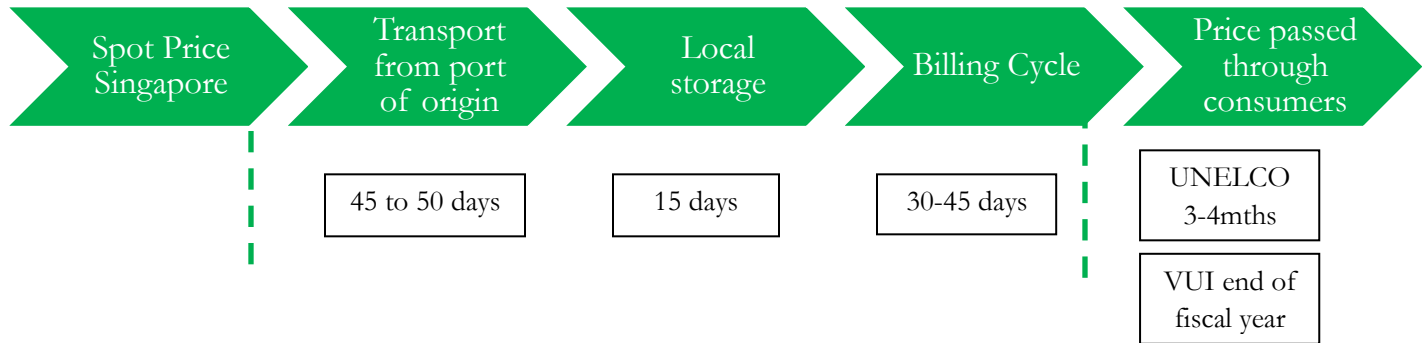
3.2.3 Turning diesel into electricity

Although VUI generates most of its electricity from hydro power plant, the two electricity companies convert diesel into electricity and apply the cost in a monthly billing cycle. Where UNELCO is passing any fuel price change through to its consumers on a monthly basis, VUI charges a flat rate reconciled at the end of the fiscal year to adjust the tariff for diesel price and other inputs variation. In both cases, this is further adding to the time lag for prices observed in Singapore to materialize into local electricity bills.

3.3 Timeframe

The following timescale summarizes the main steps and delays resulting from the supply chain for diesel used in electricity generation in Vanuatu:

Figure 2 Supply chain for diesel used in electricity generation



4. Diesel pricing

4.1 Contract and conditions

The contract for supply of diesel for electricity generation was negotiated by UNELCO for a length of five years starting in 2007. Since Exxon committed to build additional storage capacity but lost the market, Pacific Petroleum honored its predecessor's commitment but requested the contract extension to 10 years to recover the investment. To the best of URA team knowledge, the contract extension was not subjected to re-tender.

4.1.1 Fuel types and monitoring

Pricing of fuel is based on the type of product and quality. The characteristics for the diesel used in electricity production in Vanuatu have been defined in section 2 of the contract established between UNELCO and the local supplier. The density of fuel is tested upon arrival in Port Vila and a clause in the contract allow UNELCO to request for independent testing to ensure the quality of the fuel delivered is in line with the contract.

4.1.2 Diesel price breakdown

The following elements make up the price charged by the local supplier for diesel sold to electricity companies in Vanuatu:

- The base price is calculated using the “Mean of Platts Singapore” (MOPS) for 0.5% sulfur content diesel (satisfying the quality, density and grade criterion established by contract). The base price is an average of the spot prices observed over five days, two days prior to departing of the tanker, the day of departure and two following days. MOPS prices are provided by Platts, international oil and commodities pricing company, on a daily basis. MOPS prices are released in US dollar and local supplier is converting in local currency using daily rates (standard selling rate) published by ANZ bank in Vanuatu over the five days period.
- Based on the quality of diesel required for electricity generation, a premium is added on top of the base price and fixed at USD0.47 per barrel (or VUV52/bbl or VUV0.33/L).
- The freight cost is set in USD per metric ton based on international freight index set by WORLDSCALE, and revised annually (31st of January) for inflation at 2% rate. It is based on the density of the product at ambient temperature at port of destination and spread among the total weight of cargo offloaded over the trip. Although the freight component is based on variables, the contract sets a minimum and maximum price for freight. The freight premium accounts for transport and insurance of the cargo and was priced VUV4.52/litre in original contract in 2009.
- Local charges are made of the costs associated with unloading of the fuel, pipeline amortization, storage, local transport and supplier's margin. It is set at VUV14/litre.
- Governmental taxes. For diesel, the rates are set as VUV15 per litre for excise tax.

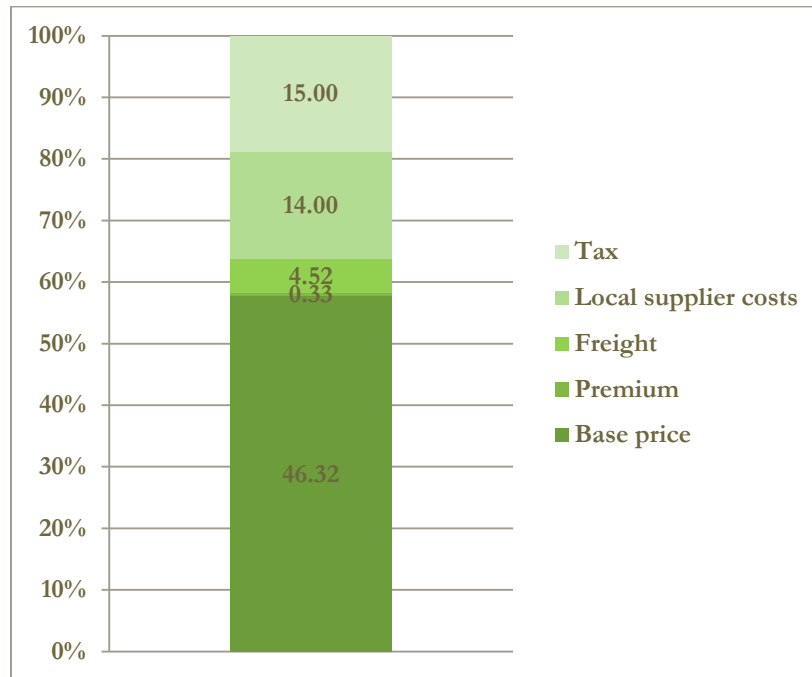


Figure 3 Diesel price breakdown in % and VUV/litre based on 2009 contract

4.1.3 Accounting practice for stock valuation

The local supplier is applying a first in first out (FIFO) method for stock pricing and inventory management. Price change happens when last litre in stock from previous cargo has been theoretically burned in the power plant. Local supplier in Vanuatu has an average of two weeks stock at the time a new cargo is offloaded. Shipping delays add up to the 45 to 50 days of transport for pricing observed in Singapore to materialize on electricity company invoices.

4.2 Relation between diesel price and electricity price

4.2.1 The fuel component in electricity base rate

The fuel component in electricity rate is the cost corresponding to the average diesel used to generate a kWh. It varies for each company based on the energy mix, being the combination of sources available to generate electricity, and the system efficiency reflected in the burning rate and losses.

- UNELCO

In UNELCO's current tariff formula, the burning efficiency is set at 0.28 l/kwh. Based on current energy mix and January 2015 base rate at VUV53.06 per kWh, the fuel component represents approximately 55% of the cost.

- VUI

VUI is generating 69% of its electricity from Sarakata hydro plant; therefore the fuel component embedded in VUI's tariff is less significant. Diesel is used mostly as back-up and throughout the dry season in winter. In order to avoid swinging electricity prices, VUI applies a flat tariff all year round since April 2014 tariff review by the URA. The tariff is revised annually to capture variations in diesel prices among other inputs. Diesel cost represents approximately 18% of the base rate.

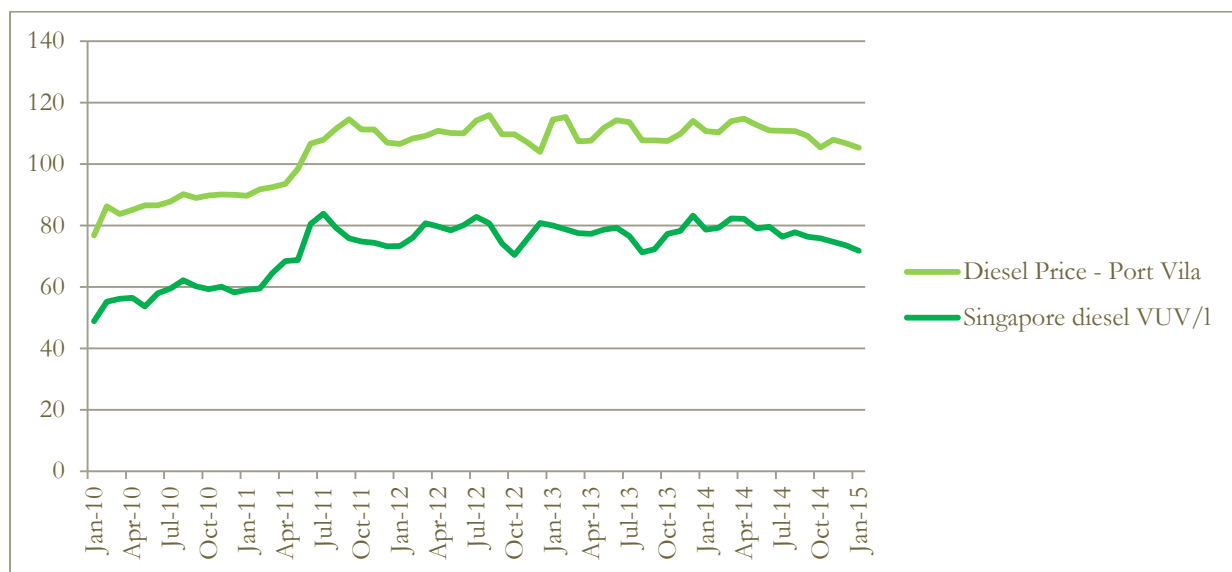
4.2.2 Correlation between electricity and diesel price

The team compared the price paid per litre of diesel used for electricity generation for the two companies operating in Vanuatu to spot prices at port of origin in Singapore. Once adjusted for time lag and currency fluctuation, the data are used to calculate the degree of correlation. A result above 80% is considered as good correlation between the variables. Adjustments made by the team were as follow:

- Supply chain delays: transport of fuel from port of origin to Vanuatu takes about 2 months time. In addition, the local supply and electricity company billing cycle represent another 30 to 45 days based on diesel stock available at landing of the tanker. Therefore, datasets are adjusted for time lag to be compared to the relevant spot price at port of origin in Singapore.
- Currency: diesel in Singapore is priced in US dollar per barrel when local supplier and electricity companies trade in Vatu currency. The datasets were adjusted using historical foreign exchange rates to get Vatu equivalent.

Once adjusted, the price paid for diesel as reported by the local electricity companies and the price for diesel observed in Singapore showed a correlation of 86%, proving the two variables are following a similar trend.

Figure 4: Diesel price correlation



In order to show correlation between the diesel prices in Singapore and local price, above curves have been adjusted for the time lag between pricing in Singapore and the day diesel is invoiced in Vanuatu.

4.3 Impact of recent diesel price drop over electricity base rate

4.3.1 Electricity base rate sensitivity to diesel price

Diesel is one of the key inputs in the formula used to set electricity base rate and both are correlated. In the following section, the team highlights the proportions in which diesel price fluctuations influences electricity prices in Vanuatu ex-currency variation impact which is treated separately. The following sensitivity table illustrates by how much electricity rates are expected to vary based on diesel price for each electricity company at constant VUV/USD exchange rate. The table is based on the following assumptions:

- MOPS is priced at VUV 73.61/litre as of July 2014.
- Base rate for electricity is VUV 54.55/kWh for UNELCO in July 2014.
- Base rate for electricity is VUV 47.07/kWh for VUI in July 2014.
- Burning rate is 0.28l/kWh.
- Only diesel base price and premium are varying since other tax and charges are fixed or not varying in line with the spot price in Singapore. They represent a cumulated 58.2% of local diesel price.
- Diesel represents an average 55% of UNELCO's base rate for electricity.
- Diesel represents an average 18% of VUI's base rate for electricity
- All other inputs entering in base rate calculation (volumes, energy mix etc.) are kept identical

Table 1: Electricity base rate sensitivity to diesel price (MOPS) variation

MOPS variation		Local diesel price variation		Impact over UNELCO base rate		Impact over VUI base rate	
VUV	%	VUV	%	VUV	%	VUV	%
3.22	5%	1.87	2%	0.52	1%	0.15	0%
6.44	10%	3.75	3%	1.05	2%	0.29	1%
9.66	15%	5.62	5%	1.57	3%	0.44	1%
12.89	20%	7.50	7%	2.10	4%	0.59	1%
16.11	25%	9.37	8%	2.62	5%	0.73	2%
19.33	30%	11.25	10%	3.15	6%	0.88	2%
25.77	40%	15.00	14%	4.20	8%	1.18	2%
32.22	50%	18.75	17%	5.25	10%	1.47	3%

As the table demonstrates, a significant variation of 50% in diesel spot price in port of origin in Singapore would translate in a tariff drop of 10% for UNELCO and 3% for VUI all other input equal else. This is the direct exposure of electricity prices to diesel price fluctuation and the result of a proportion of local diesel price being made of tax and charges in fixed amounts per litre, and the respective energy mix and burning efficiency of local electricity companies, both impacting the proportion of diesel used to generate a kWh of electricity.

The following table shows the sensitivity of electricity base rate to diesel price in Singapore keeping the same assumptions as in the previous table.

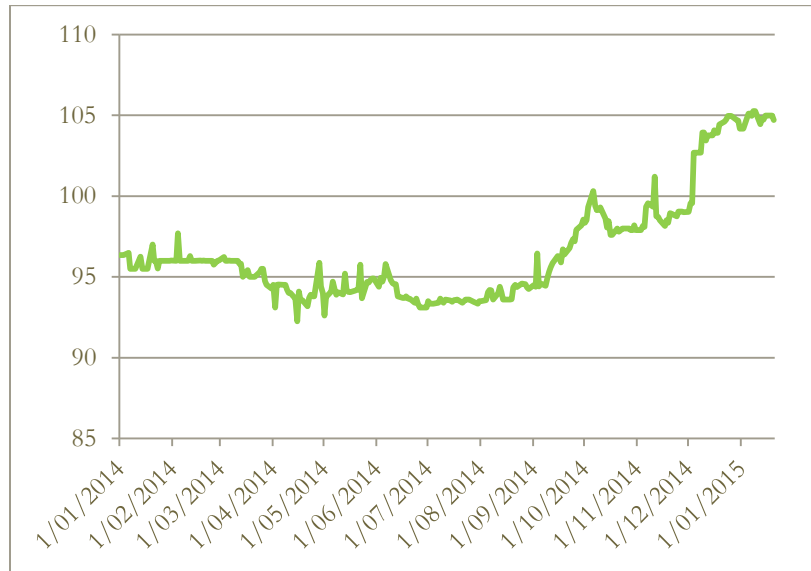
Table 2: Sensitivity of electricity base rate to diesel price in Singapore

Diesel Singapore price in VUV/l	Diesel local price in VUV/l	UNELCO Base rate in VUV per kWh	VUI Base rate in VUV per kWh
74.05	110.79	54.55	47.07
70	106.32	53.98	46.91
65	100.80	53.23	46.70
60	95.27	52.42	46.47
55	89.75	51.54	46.23
50	84.23	50.59	45.96
40	73.18	48.49	45.37

4.3.2 Electricity base rate sensitivity to currency fluctuation

As described in the supply chain, diesel is priced in USD currency in Singapore as well as in the supply contract established between the local supplier and electricity companies. It is then billed in local currency. As a result, the price paid for diesel consumed in the generation process is exposed to currency fluctuations between US dollar (USD) and Vatu (VUV). We looked at the trend over the period which we focused on to capture the effect of diesel price drop from July 2014 to present. USD was trading at 93.47VUV on the 15th of July 2014 and compares to spot price of 21st January 2015 at 104.87 VUV for 1USD. Over the period, the USD has appreciated by 12%, impacting negatively imported goods and commodities in Vanuatu including Diesel.

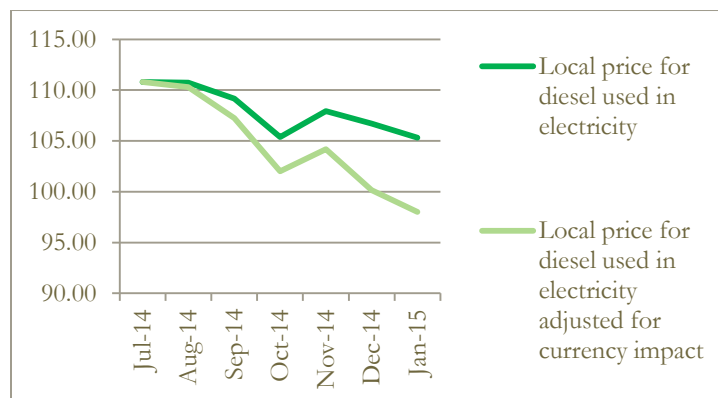
Figure 5: VUV/USD exchange rate



In addition, the freight costs for diesel used in electricity generation are also established in USD, taking up to 63.8% the proportion of the local price paid for diesel that is exposed to currency fluctuation.

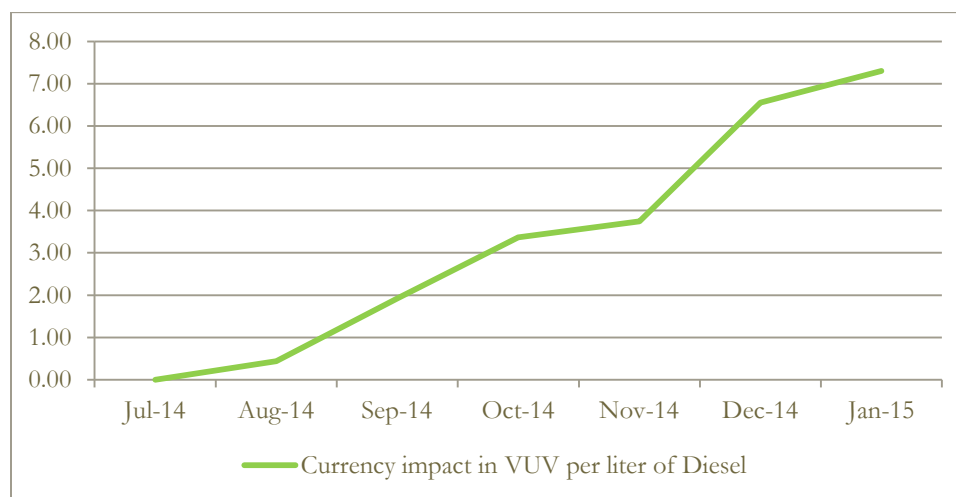
The following graph compares the price paid for diesel used in electricity generation at historical costs over the period, to what the price would have been at constant exchange rate. The difference observed in the two curves is a key factor adding to the public perception that international drop in price for fuel was not fully replicated in Vanuatu.

Figure 6: Local price for diesel used in electricity generation vs. adjusted price for currency fluctuation in VUV/l



The following graph is showing the impact of USD appreciation against VUV. It is expressed in VUV per litre of diesel used for electricity generation.

Figure 7: Currency fluctuation impact on local diesel price used in electricity generation in VUV/l



4.3.3 Overall impact in S2 2014

Over the second semester of 2014, a sharp drop was observed in international diesel prices in Singapore, from an average USD120/bbl (approximately VUV70.56/l) in July to USD80/bbl (approximately VUV52.04/l) in December¹. In the meantime, US dollar appreciated against local Vatu currency, mitigating the effect. In the following table the team estimated the combined impact over local diesel price and electricity prices for the two electricity companies.

Table 3: Diesel price overall impact over electricity prices

	Jul-14	Dec-14	Variation %
MOPS/litre in USD	0.75	0.50	-33.3%
Premium/litre in USD	0.01	0.004	-33.3%
Freight/litre in USD	0.07	0.05	-33.3%
Total per litre in USD	0.83	0.56	-33.3%
VUV/USD	93.49	103.44	10.6%
Total per litre in VUV	77.94	57.49	-26.2%
Local fee and tax VUV/litre	29	29	0.0%
Local price per litre in VUV	106.94	86.49	-19.1%
UNELCO variation of price per kWh in VUV		-3.15	
VUI variation of price per kWh in VUV		-1.03	

¹ Source: SPC “Regional Petroleum Fuel and Gas Price Review - January 2015”

5. Findings and Conclusions

5.1 Diesel supply chain delays drop in electricity prices

While reviewing the supply chain and the steps in the process of delivering diesel to electricity companies in Vanuatu, the team observed approximately three month time lag from transport, storage and billing cycle before electricity customers feel the benefits of international diesel price drop in their electricity bills.

Delays in price transfer result from transportation first, with a 45 to 55 day travel from port of origin in Singapore to destination in Vanuatu. Adding the freight, storage and stock valuation following a FIFO methodology used by the local diesel supplier to the price fuel invoiced to electricity companies. Average stock upon arrival of a tanker is usually in the 15 days range. Finally, electricity companies in their own billing cycle are delaying the price transfer by an additional 30-45 days.

5.2 Exposure to diesel fluctuation tempered by local factors

In assessing the components making up the local price for diesel used in electricity generation and its influence over electricity base rate, the team established a correlation of 86% by adjusting the dataset for time gap illustrated above and highlighted the following mitigating factors:

- **Local charges and taxes:**

The local price charged for diesel is made of several elements which the team split in two categories, one linked to international prices and the other local fixed costs per litre. It implies that international price variations will only affect a proportion of the local price paid for diesel by electricity companies. The proportion of local price exposed to international variation was estimated at 58.2%. Excise tax and local charges covering for local transport and storage, administration and local supplier fee are both fixed amounts per litre.

- **Electricity system efficiency:**

The system efficiency comprises the energy mix (proportion of renewable energy) and the conversion rate (litre/kwh). The energy mix will define how much electricity is generated from diesel engines whereas the burning rate will define the amount of diesel burnt to obtain a kWh equivalent of power. In this case, UNELCO and VUI were regarded separately. The team estimated UNELCO's fuel component in electricity base rate is 55% compared to 18% for VUI.

Analysis of the supply chain and local factors proved that a variation of 50% of international prices for diesel would impact UNELCO's electricity tariffs by 10% and VUI's tariff by 3%. Detailed analysis and table are provided in section 4.3.1.

Over time, correlation to international diesel price should drop as a result of increased contribution from renewable and non-thermal sources into the energy mix reflecting a decreasing reliance on diesel products.

5.3 Currency fluctuation played against fuel drop in price

The last topic reviewed by the team in relation to diesel price was the impact of foreign currency and exchange rates. Diesel is priced in USD at port of origin while local supplier is invoicing in local currency

VUV. The team first isolated each element making up the local price for diesel before analyzing those impacted by foreign exchange rate. Out of five elements, base price for diesel, premium and freight were all priced in USD. Under existing supply contract the team considers that the local diesel price is exposed at an average 68.4% to currency fluctuations.

Over the period the team focused on, from July 2014 to present, the USD appreciated by 12% against local VUV. This was a significant moderating factor restraining the benefits to electricity consumers. The team estimated that the currency appreciation added an average VUV 7.30 per litre of diesel purchased locally.

5.4 General observations and comments

As a general observation, the team received assistance and support from the two electricity companies and local supplier. They readily shared information, invoices and discussions to assist in this investigation. Accounting practices and the stock valuation methodology were consistent over time.

As UNELCO is burning coconut oil in place of diesel as part of its energy mix, the team requested data related to coconut oil volumes and pricing. However, since arbitration over 2010 electricity tariff review pegged the price of coconut oil to diesel, both fuels would follow identical trend and have a similar impact over pricing of electricity. Therefore, the team excluded coconut oil analysis from the present report and will release a separate analysis on coconut oil pricing in the continuity of its monitoring operations.

In line with the trends observed in international prices for diesel, local delivered prices are expected to drop further over the first quarter of 2015. This would then reflect in the lowering of energy prices to the Vanuatu consumers

The team emphasizes the fact that the tables and graphs illustrating the analysis on diesel and energy prices assumed constant demand and volumes of electricity sold across the period. With expected further drop in diesel price, the net effect may be altered by external factors like VUV/USD exchange rate fluctuation, but also factors such as changes in demand for electricity and contribution from non-fuel based energy sources.

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