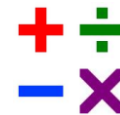


The Arithmetic of Fuel Subsidy in Nigeria



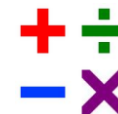
Estimate Based Analysis

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Estimate Based Subsidy Analysis



Subsidy Overview (Estimate Based)

PPPRA PRODUCT PRICING TEMPLATE			
Based on Average Platts' Prices for the month of November, 2011			
Average Exchange Rate of the NGN =N= to US\$ for the Month of November, 2011			
		PMS	
		\$/MT	Naira/Litre
1	Cost Element:		
2	C + F	956.59	3.58
3	Lightering Expenses (SVH)	33.69	3.92
4	NPA	5.25	0.61
5	Financing (SVH)	21.40	2.49
6	Jetty Depot Thru' Put Charge	6.88	0.80
7	Storage Charge	25.79	3.00
8	Landing Cost	1,059.59	123.28
9	Distribution Margins:		
10	Retailers	39.54	4.60
11	Transporters	25.70	2.99
12	Dealers	15.04	1.75
15	Bridging Fund	50.28	5.85
16	Marine Transport Average (MTA)	1.29	0.15
14	Admin Charge	1.29	0.15
15	Subtotal Margins	133.14	15.49
16	Foot Note:		
17	Total Cost	1,192.72	138.77
18	* Official Ex-Depot	425.54	49.51
19	** Under/Over Recovery	- 634.05	(73.77)
20	Taxes		
21	Highway Maintenance	-	-
22	Government Tax	-	-
23	Import Tax	-	-
24	Fuel Tax	-	-
25	Subtotal Taxes		-
26	Retail Price	558.68	65.00

	₦/Litre
Total Cost of PMS	138.77
Retail (Pump) Price	65.00
Under Recovery	73.77

Average Subsidy/litre: ₦74 approx

Source: <http://pppra-nigeria.org/pms.htm>

Reference Date: Nov 24, 2011

Analytical Reasoning

1. What is the average daily demand for PMS in Nigeria?
2. What portion of daily demand is supplied via local production (refineries)?
3. What is the average daily short-fall between local production and daily demand?
 - Short-fall becomes the estimated volume of PMS to be supplied via importation
4. Subsidy is paid ONLY on imported volumes.

Scenario Analysis

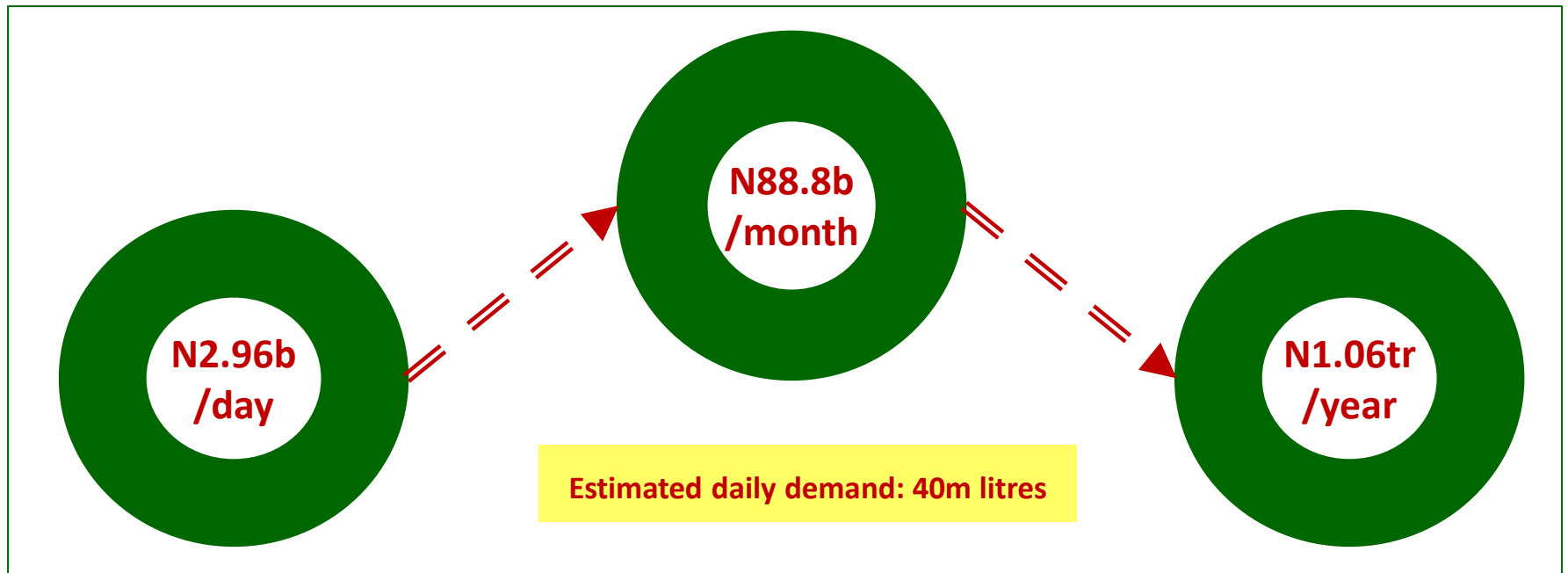
The following scenarios maintain these **base assumptions**:

1. Reference date for estimated fuel subsidy/litre: **Nov 2011**
2. **All imported volumes are subsidised** at the going rate.

Scenario 1a

Local Supply 0%, Imported Supply 100%

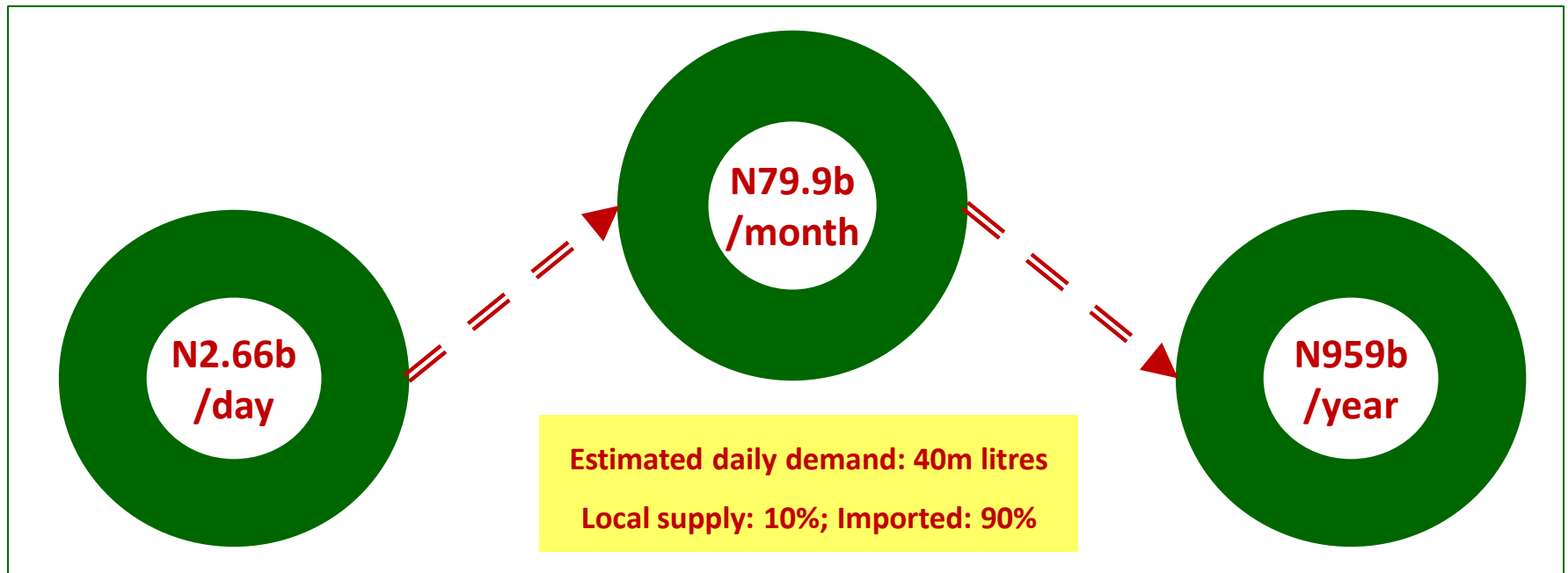
1. Estimated daily demand: **40,000,000 litres**
2. Subsidy: ~~₦~~74/litre
3. Daily Subsidy: $40,000,000 * 74 = \text{₦}2,960,000,000$
4. Monthly Subsidy: $2,960,000 * 30 = \text{₦}88,800,000,000$
5. Annual Subsidy: $88,800,000,000 * 12 = \text{₦}1,065,600,000,000$



Scenario 1b

Local Supply 10%, Imported Supply 90%

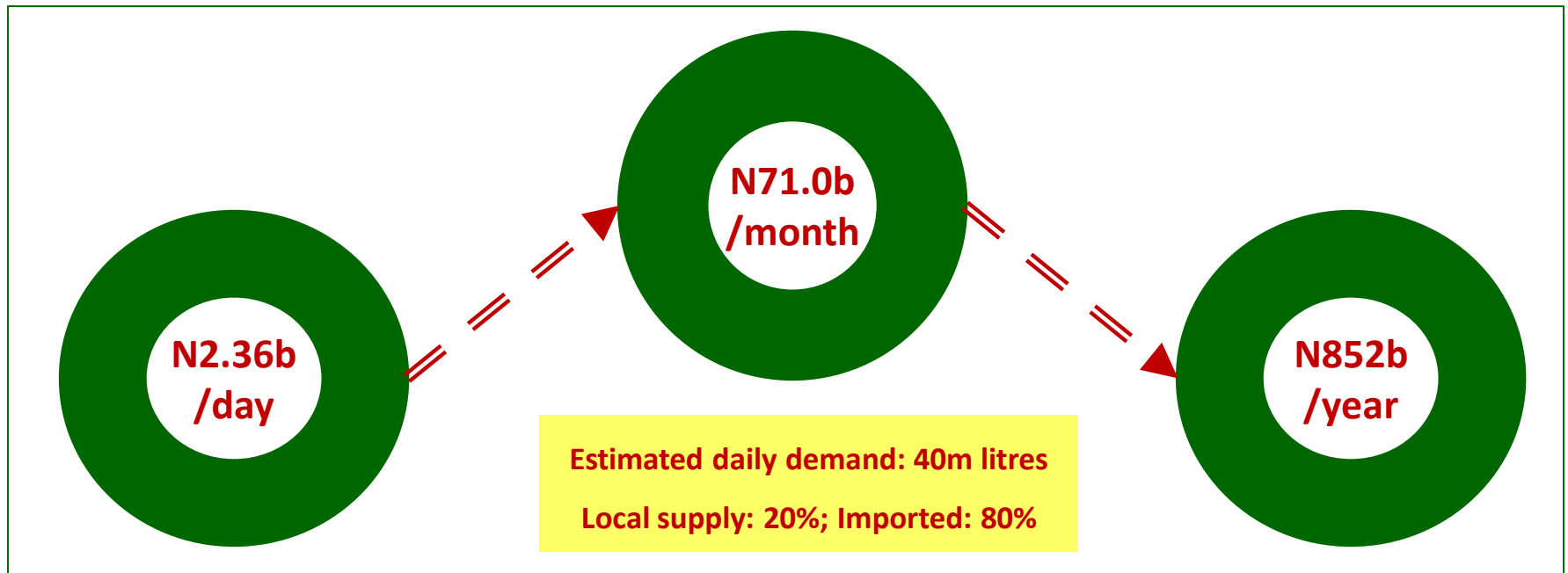
1. Estimated daily demand: 40,000,000litres [*Local: 4,000,000litres; Imported: 36,000,000litres*]
2. Subsidy: ₦74/litre
3. Daily Subsidy: $36,000,000 * 74 = \text{₦}2,664,000,000$
4. Monthly Subsidy: $2,664,000 * 30 = \text{₦}79,920,000,000$
5. Annual Subsidy: $79,920,000,000 * 12 = \text{₦}959,040,000,000$



Scenario 1c

Local Supply 20%, Imported Supply 80%

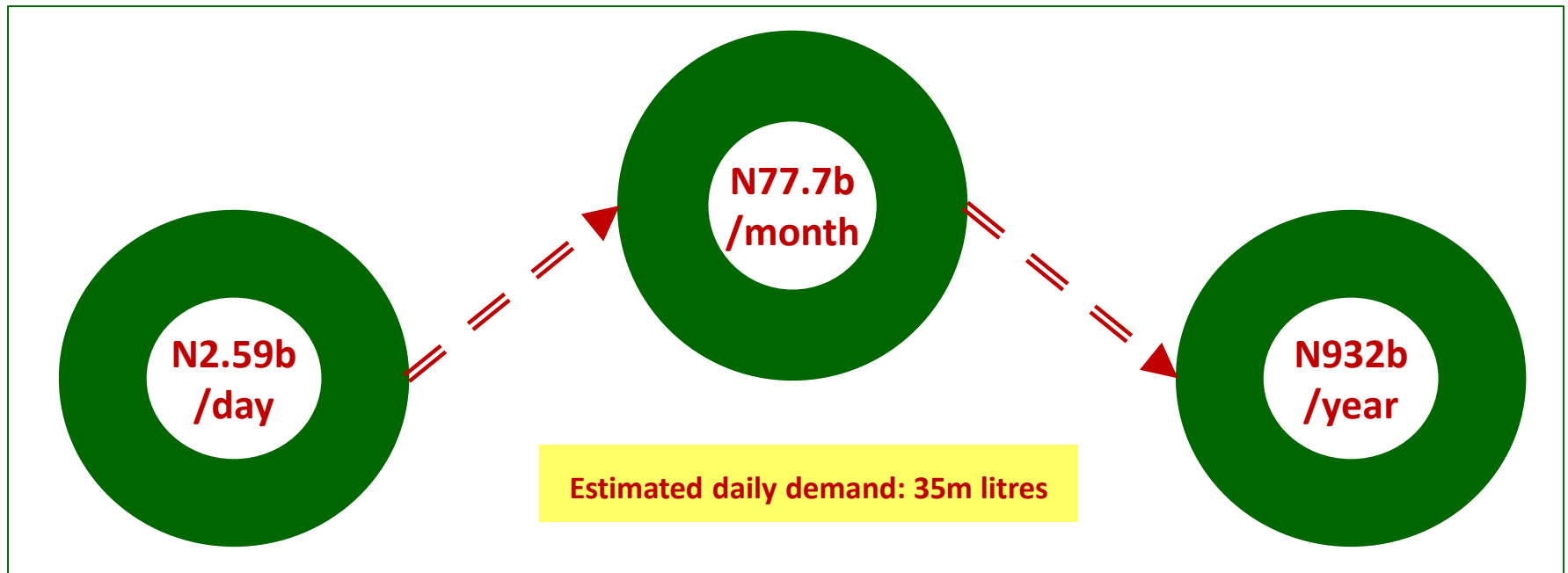
1. Daily demand: 40,000,000litres [*Local: 8,000,000litres; Imported: 32,000,000litres*]
2. Subsidy: ₦74/litre
3. Daily Subsidy: $32,000,000 * 74 = \text{₦}2,368,000,000$
4. Monthly Subsidy: $2,368,000,000 * 30 = \text{₦}71,040,000,000$
5. Annual Subsidy: $71,040,000,000 * 12 = \text{₦}852,480,000,000$



Scenario 2a

Local Supply 0%, Imported Supply 100%

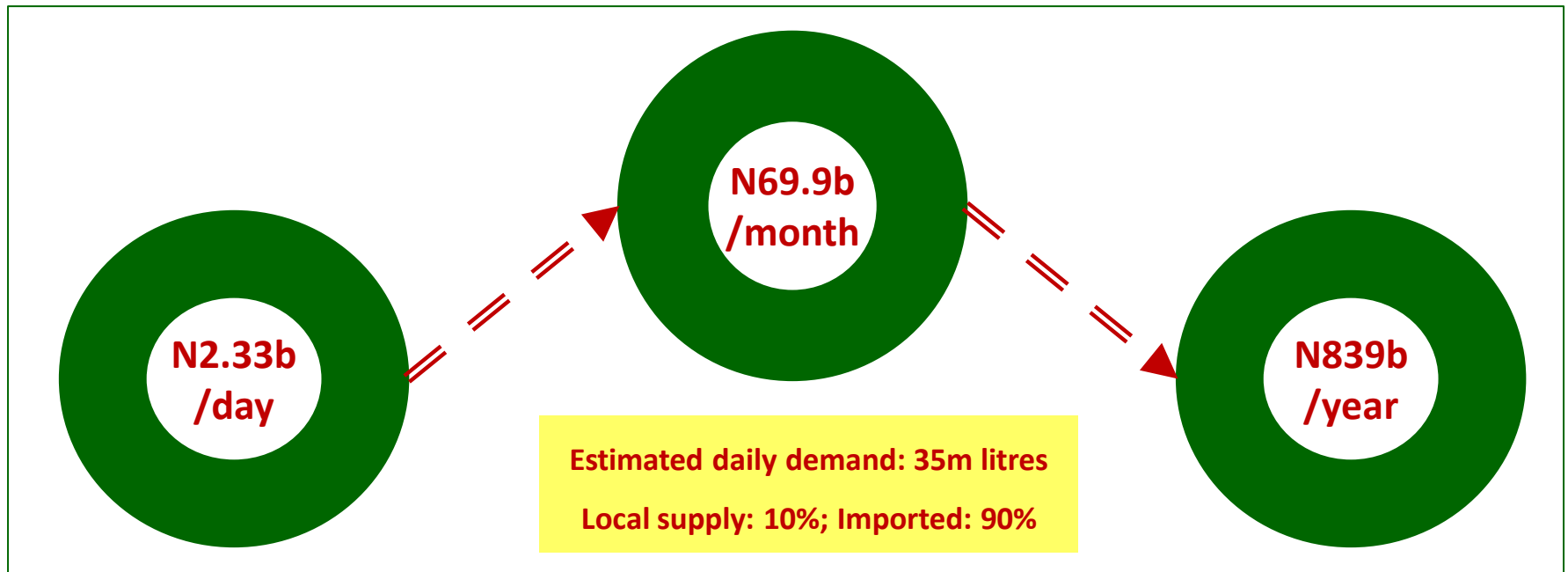
1. Estimated daily demand: **35,000,000 litres**
2. Subsidy: ~~₦~~74/litre
3. Daily Subsidy: $35,000,000 * 74 = \text{₦}2,590,000,000$
4. Monthly Subsidy: $2,590,000 * 30 = \text{₦}77,700,000,000$
5. Annual Subsidy: $77,700,000,000 * 12 = \text{₦}932,400,000,000$



Scenario 2b

Local Supply 10%, Imported Supply 90%

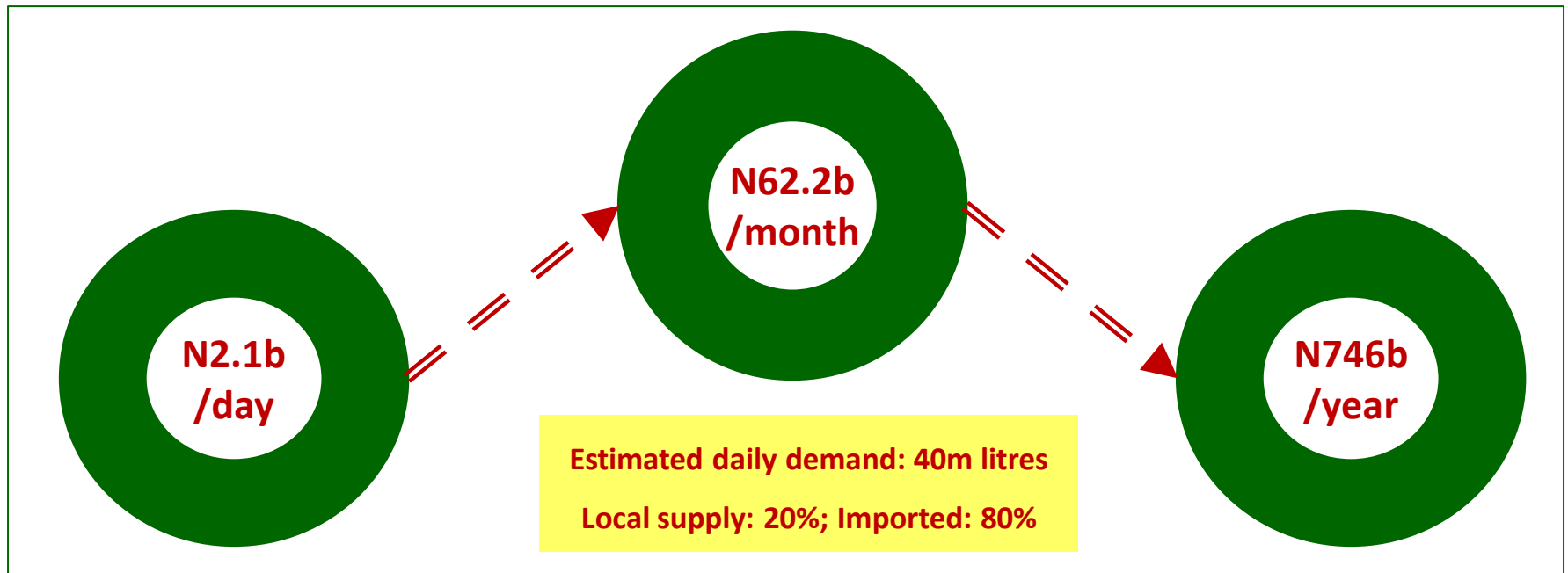
1. Estimated daily demand: 35,000,000litres [*Local: 3,500,000litres; Imported: 31,500,000litres*]
2. Subsidy: ₦74/litre
3. Daily Subsidy: $31,500,000 * 74 = \text{₦}2,331,000,000$
4. Monthly Subsidy: $2,331,000 * 30 = \text{₦}69,930,000,000$
5. Annual Subsidy: $69,930,000,000 * 12 = \text{₦}839,160,000,000$



Scenario 1c

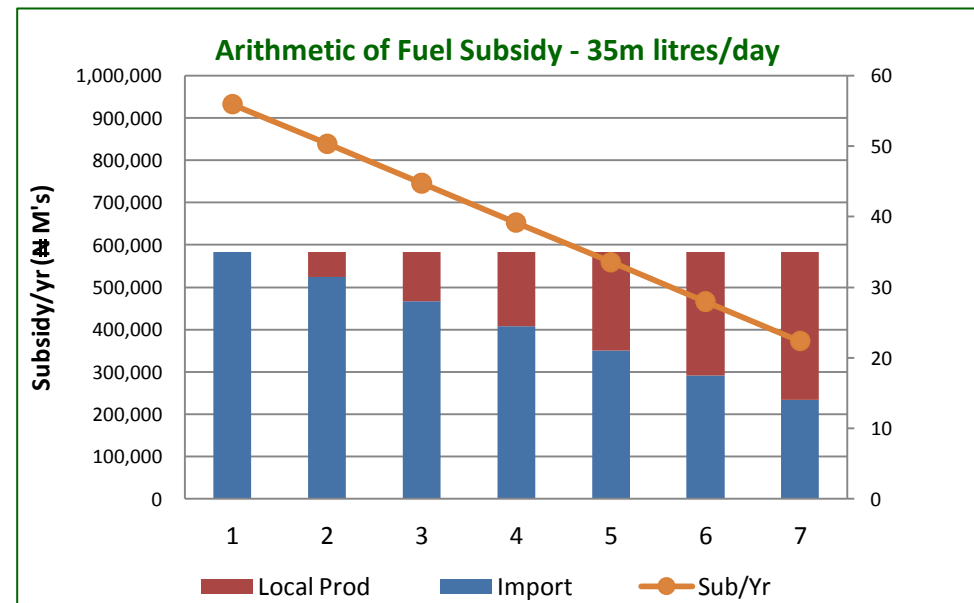
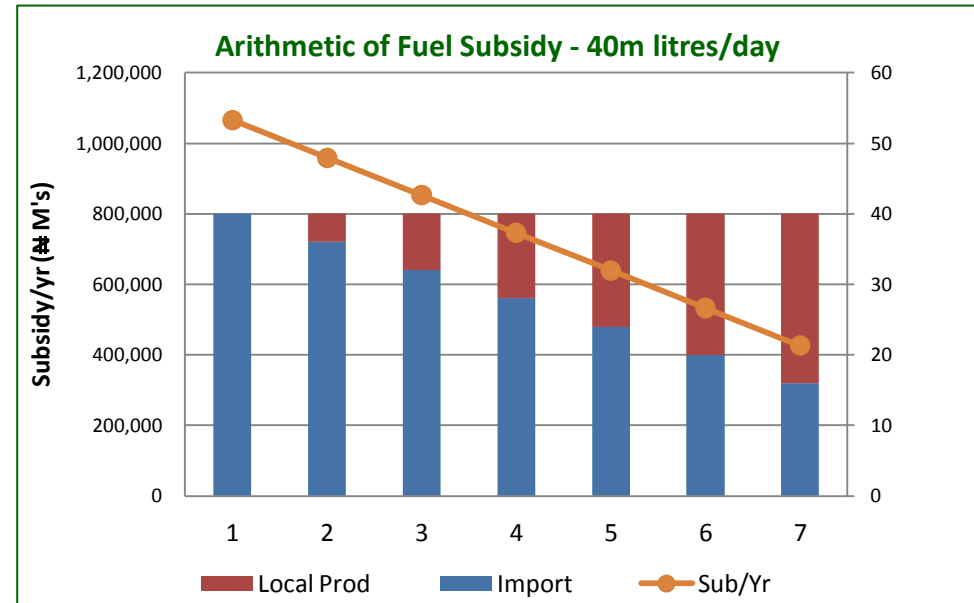
Local Supply 20%, Imported Supply 80%

1. Daily demand: 35,000,000litres [*Local: 7,000,000litres; Imported: 28,000,000litres*]
2. Subsidy: ₦74/litre
3. Daily Subsidy: $28,000,000 * 74 = ₦2,072,000,000$
4. Monthly Subsidy: $2,072,000,000 * 30 = ₦62,160,000,000$
5. Annual Subsidy: $62,160,000,000 * 12 = ₦745,920,000,000$

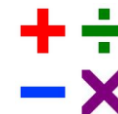


Summary

- Subsidy and local production are inversely proportional.
- + Subsidy /year maintains a downward trend with increasing local production.
- + Subsidy bill is N1.1tr/yr (*Demand: 40m litres/day, 0% local prod*)
- + Subsidy bill is N426b/yr (*Demand: 40m litres/day, 60% local prod*)
- **Subsidy claim of N1.3tr/yr implies**
 - **Demand: 48.8m litres/day, 0% local prod, N74/litre subsidy**



'Actual Cost' Based Subsidy Analysis



Subsidy Overview (Actual Cost 2011 YTD)

Monthly Actual Subsidy Cost/Litre	2011												Average Monthly
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
PMS Open Market Price (₦/litre)	128.4	133.44	168.78	164.34	164.34	148.1	162.12	147.21	149.2	142.13	138.77		149.71
<i>Official Pump Price (₦/litre)</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>65</i>	<i>65</i>		<i>65</i>
Under-Recovery (Subsidy/litre)	63.4	68.44	103.78	99.34	99.34	83.1	97.12	82.21	84.2	77.13	73.77		84.71

Average Subsidy/litre: ₦85 approx

Source: <http://pppra-nigeria.org/pms.htm>

Reference Date: Nov 24, 2011

Scenario 3a

Local Supply 0%, Imported Supply 100%

1. Estimated daily demand: 30,000,000 litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 30m litres/day; 100%	2011												Total YTD Nov	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec		
Total Demand (M litres/day)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		
<i>days/month</i>	30	28	31	30	31	30	31	31	30	31	30			
Imported Volumes (M litres/month)	900	840	930	900	930	900	930	930	900	930	900			9,990
Estimated Subsidy/Month (₹ M's)	57,060	57,490	96,515	89,406	92,386	74,790	90,322	76,455	75,780	71,731	66,393			848,328

Annual Subsidy Cost: ₹848.3bn

**30m litres/day, 100% Import, 0% Local Prod.*

Scenario 3b

Local Supply 10%, Imported Supply 90%

1. Estimated daily demand: 30,000,000litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 30m litres/day; 90% importation	2011												Total YTD Nov	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec		
Total Demand (M litres/day)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		
<i>days/month</i>	<i>30</i>	<i>28</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>30</i>			
Imported Volumes (M litres/mth)	810	756	837	810	837	810	837	837	810	837	810			8,991
Local Prod (M litres/mth) <i>10%</i>	90	84	93	90	93	90	93	93	90	93	90			999
Estimated Subsidy/Month (N M's)	51,354	51,741	86,864	80,465	83,148	67,311	81,289	68,810	68,202	64,558	59,754			763,495

Annual Subsidy Cost: ₦763.5bn

**30m litres/day, 90% Import, 10% Local Prod.*

Scenario 3c

Local Supply 20%, Imported Supply 80%

1. Estimated daily demand: 30,000,000litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 30m litres/day; 80% importation	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		
<i>days/month</i>	<i>30</i>	<i>28</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>30</i>		
Imported Volumes (M litres/mth)	720	672	744	720	744	720	744	744	720	744	720		7,992
Local Prod (M litres/mth) 20%	180	168	186	180	186	180	186	186	180	186	180		1,998
Estimated Subsidy/Month (N M's)	45,648	45,992	77,212	71,525	73,909	59,832	72,257	61,164	60,624	57,385	53,114		678,662

Annual Subsidy Cost: ₦678.6bn

**30m litres/day, 80% Import, 20% Local Prod.*

Scenario 3d

Local Supply 30%, Imported Supply 70%

1. Estimated daily demand: 30,000,000litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 30m litres/day; 70% importation	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0		
<i>days/month</i>	30	28	31	30	31	30	31	31	30	31	30		
Imported Volumes (M litres/mth)	630	588	651	630	651	630	651	651	630	651	630		6,993
Local Prod (M litres/mth) 30%	270	252	279	270	279	270	279	279	270	279	270		2,997
Estimated Subsidy/Month (N M's)	39,942	40,243	67,561	62,584	64,670	52,353	63,225	53,519	53,046	50,212	46,475		593,830

Annual Subsidy Cost: ₦593.8bn

**30m litres/day, 70% Import, 30% Local Prod.*

Scenario 4a

Local Supply 0%, Imported Supply 100%

1. Estimated daily demand: 35,000,000 litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 35m litres/day; 100%	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		
<i>days/month</i>	<i>30</i>	<i>28</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>30</i>		
Imported Volumes (M litres/mon)	1,050	980	1,085	1,050	1,085	1,050	1,085	1,085	1,050	1,085	1,050		11,655
Estimated Subsidy/Month (N M's)	66,570	67,071	112,601	104,307	107,784	87,255	105,375	89,198	88,410	83,686	77,459		989,716

Annual Subsidy Cost: ₦989.7bn

**35m litres/day, 100% Import, 0% Local Prod.*

Scenario 4b

Local Supply 10%, Imported Supply 90%

1. Estimated daily demand: 35,000,000litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 35m litres/day; 90% importation	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		
<i>days/month</i>	30	28	31	30	31	30	31	31	30	31	30		
Imported Volumes (M litres/mth)	945	882	977	945	977	945	977	977	945	977	945		10,490
Local Prod (M litres/mth) 10%	105	98	109	105	109	105	109	109	105	109	105		1,166
Estimated Subsidy/Month (₦ M's)	59,913	60,364	101,341	93,876	97,006	78,530	94,838	80,278	79,569	75,317	69,713		890,744

Annual Subsidy Cost: ₦890.7bn

**35m litres/day, 90% Import, 10% Local Prod.*

Scenario 4c

Local Supply 20%, Imported Supply 80%

1. Estimated daily demand: 35,000,000 litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 35m litres/day; 80% importation	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		
<i>days/month</i>	30	28	31	30	31	30	31	31	30	31	30		
Imported Volumes (M litres/mth)	840	784	868	840	868	840	868	868	840	868	840		9,324
Local Prod (M litres/mth) 20%	210	196	217	210	217	210	217	217	210	217	210		2,331
Estimated Subsidy/Month (N M's)	53,256	53,657	90,081	83,446	86,227	69,804	84,300	71,358	70,728	66,949	61,967		791,773

Annual Subsidy Cost: ₦791.7bn

**35m litres/day, 80% Import, 20% Local Prod.*

Scenario 4d

Local Supply 30%, Imported Supply 70%

1. Estimated daily demand: 35,000,000 litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 35m litres/day; 70% importation	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		
<i>days/month</i>	30	28	31	30	31	30	31	31	30	31	30		
Imported Volumes (M litres/mth)	735	686	760	735	760	735	760	760	735	760	735		8,159
Local Prod (M litres/mth) 30%	315	294	326	315	326	315	326	326	315	326	315		3,497
Estimated Subsidy/Month (N M's)	46,599	46,950	78,821	73,015	75,449	61,079	73,763	62,438	61,887	58,580	54,221		692,801

Annual Subsidy Cost: ₦692.8bn

**35m litres/day, 70% Import, 30% Local Prod.*

Scenario 5a

Local Supply 0%, Imported Supply 100%

1. Estimated daily demand: 40,000,000 litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 40m litres/day; 100%	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0		
<i>days/month</i>	<i>30</i>	<i>28</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>31</i>	<i>30</i>	<i>31</i>	<i>30</i>		
Imported Volumes (M litres/mon)	1,200	1,120	1,240	1,200	1,240	1,200	1,240	1,240	1,200	1,240	1,200		13,320
Estimated Subsidy/Month (N M's)	76,080	76,653	128,687	119,208	123,182	99,720	120,429	101,940	101,040	95,641	88,524		1,131,104

Annual Subsidy Cost: ₦1.131tr

**40m litres/day, 100% Import, 0% Local Prod.*

Scenario 5b

Local Supply 10%, Imported Supply 90%

1. Estimated daily demand: 40,000,000 litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 40m litres/day; 90% importation	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0		
<i>days/month</i>	30	28	31	30	31	30	31	31	30	31	30		
Imported Volumes (M litres/mth)	1,080	1,008	1,116	1,080	1,116	1,080	1,116	1,116	1,080	1,116	1,080		11,988
Local Prod (M litres/mth) 10%	120	112	124	120	124	120	124	124	120	124	120		1,332
Estimated Subsidy/Month (N M's)	68,472	68,988	115,818	107,287	110,863	89,748	108,386	91,746	90,936	86,077	79,672		1,017,994

Annual Subsidy Cost: ₦1.02tr

**40m litres/day, 90% Import, 10% Local Prod.*

Scenario 5c

Local Supply 20%, Imported Supply 80%

1. Estimated daily demand: 40,000,000 litres

2. Actual Annual Subsidy:

Scenario: PMS Daily Demand 40m litres/day; 80% importation	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0		
<i>days/month</i>	30	28	31	30	31	30	31	31	30	31	30		
Imported Volumes (M litres/mth)	960	896	992	960	992	960	992	992	960	992	960		10,656
Local Prod (M litres/mth) 20%	240	224	248	240	248	240	248	248	240	248	240		2,664
Estimated Subsidy/Month (N M's)	60,864	61,322	102,950	95,366	98,545	79,776	96,343	81,552	80,832	76,513	70,819		904,883

Annual Subsidy Cost: ₦904.8bn

**40m litres/day, 80% Import, 20% Local Prod.*

Scenario 5d

Local Supply 30%, Imported Supply 70%

1. Estimated daily demand: 40,000,000litres

2. Actual Annual Subsidy:

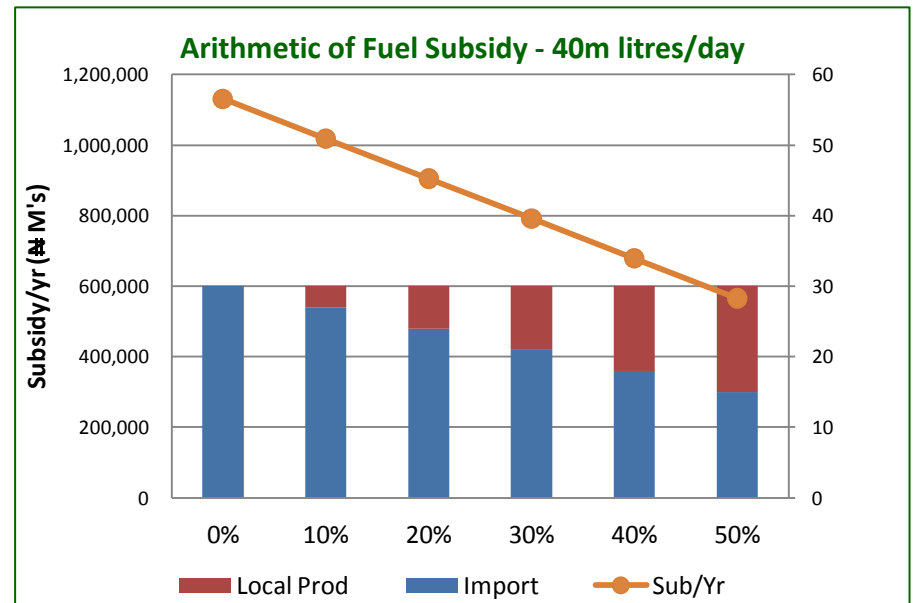
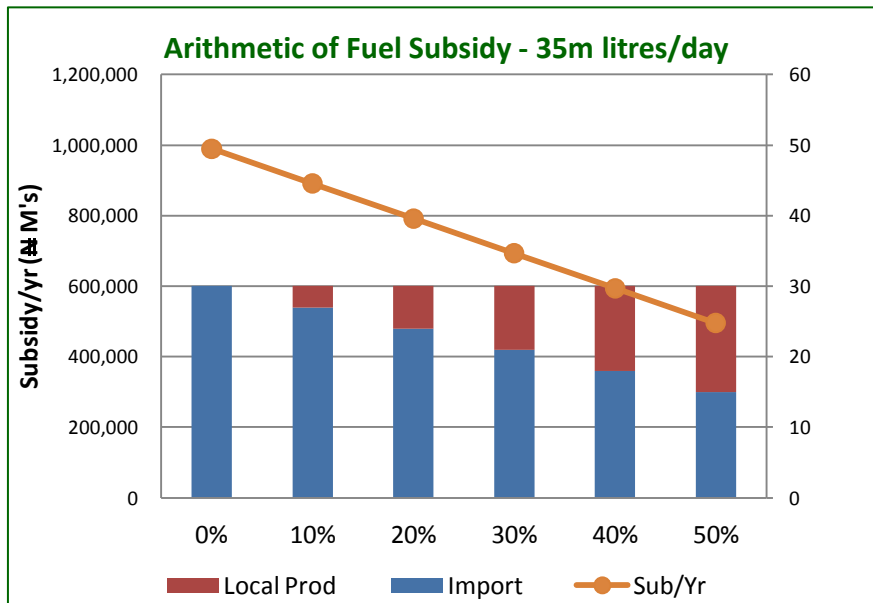
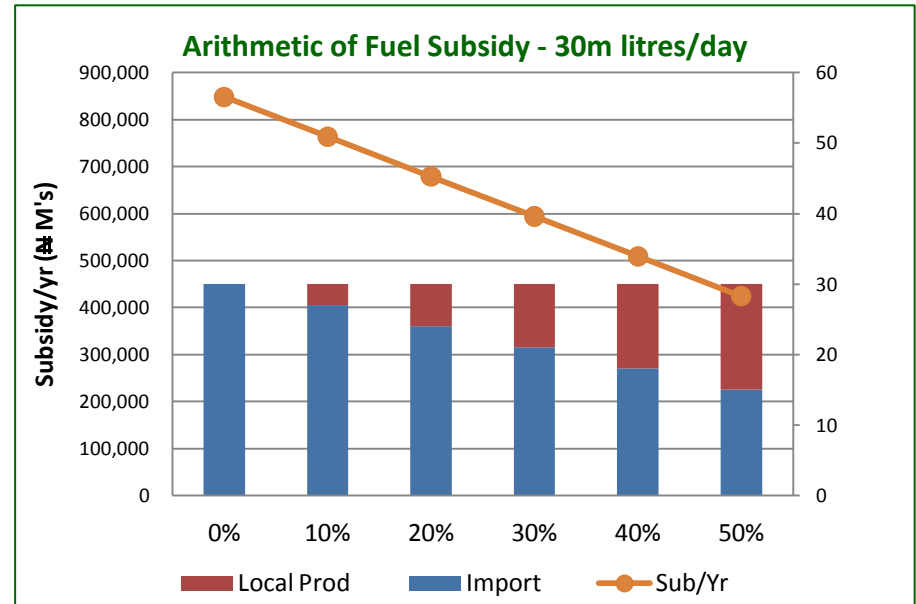
Scenario: PMS Daily Demand 40m litres/day; 70% importation	2011												Total YTD Nov
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	
Total Demand (M litres/day)	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0		
<i>days/month</i>	30	28	31	30	31	30	31	31	30	31	30		
Imported Volumes (M litres/mth)	840	784	868	840	868	840	868	868	840	868	840		9,324
Local Prod (M litres/mth) 30%	360	336	372	360	372	360	372	372	360	372	360		3,996
Estimated Subsidy/Month (N M's)	53,256	53,657	90,081	83,446	86,227	69,804	84,300	71,358	70,728	66,949	61,967		791,773

Annual Subsidy Cost: ₦791.7bn

**40m litres/day, 70% Import, 30% Local Prod.*

Summary

- Subsidy and local production are inversely proportional.
- + Actual subsidy /year will maintain a downward trend with increasing local production.
- **Subsidy claim of N1.3tr/yr implies - Demand: 43m litres/day, 0% local prod, N84.71/litre (actual 2011 YTD subsidy average)**



Conclusion: Ask the Right Questions

1. Can fuel subsidy be removed? **YES!!!**
2. How should fuel subsidy be removed?
 - + **Restore and increase Local Production; Eliminate importation!**
 - + **Fuels subsidy is a systemic intervention; It should only be removed by a systemic replacement!**
3. When should fuel subsidy be removed?
 - + **When local production displaces the need for importation. Cause and Effect.**
Remove the supply shortfall (Cause), eliminate the subsidy (Effect)
4. Does fuel subsidy cost Nigeria N1.3tr/yr? **No!**
 - **N1.3tr/yr implies: importation of 48m litres/day, i.e. 0% local prod, N74/litre subsidy**
 - **N1.3tr/yr implies: importation of 43m litres/day, 0% local prod, N84.7/litre actual subsidy**
5. So then, what is the **TRUE** daily demand for PMS in Nigeria?
 - **Is it as much as 30m litres/day? 35m? Or closer to 40m litres/day?**