

Inside NNPC Oil Sales: A Case for Reform in Nigeria

Annex B: NNPC's Oil for Product Swaps

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1. Introduction: Nigeria's high-stakes swap deals

1.1. BACKGROUND AND METHODOLOGY

Nigeria has used four methods in recent years to meet its domestic fuel needs:

- 1 National oil company NNPC refines crude oil at its three refineries and sells most of the output to privately owned fuel marketing companies. Small amounts are sold through NNPC Retail Ltd., its network of retail filling stations.
- 2 NNPC, through subsidiary PPMC, imported products using traders. The traders delivered the products to PPMC in exchange for cash (called “open account” imports). PPMC sold the products mostly to fuel retailers and various types of intermediary companies. The open account system ended in 2011.
- 3 Private marketers import products under permits issued by the Petroleum Product Pricing and Regulatory Authority (PPPRA) and sell them to a range of wholesale and retail buyers. NNPC is not involved with these imports.
- 4 NNPC imports and sells products through “swaps,” deals in which crude oil is bartered for petroleum products, rather than sold for money.

NNPC turned to swaps in 2010, in part to avoid domestic fuel shortages. By that time, its refineries were working at only around 20 percent of capacity and PPMC had incurred over \$3 billion in debts to fuel importers under the open account system that it could not pay. Some of the bills were 1,000 days overdue. By 2011, banks were unwilling to finance more open account imports. This left the corporation in need of a new mechanism for importing gasoline (referred to locally as “premium motor spirit,” or “PMS”) and kerosene (known as “dual purpose kerosene,” or “DPK”).

In response, NNPC entered into two different types of swap agreements. The first is a crude-oil-for-refined-product exchange agreement (RPEA). Under an RPEA, crude is allocated to a trader, and the trader is then responsible for importing specified products worth the same amount of money as the crude, minus certain agreed fees and expenses, the value of which the trader keeps. By early 2011, the government had signed four RPEAs with commodities traders (figure B1). Subsidiaries Duke Oil and PPMC represented NNPC in the deals.

The second type of swap is an offshore processing agreement (OPA). Under this type of deal, the contract holder—either a refiner or trading company—is supposed to lift a certain amount of crude, refine it abroad, and deliver the resulting products back to NNPC. The contracts lay out the expected product yields (i.e., the respective amounts of diesel, kerosene, gasoline, etc.) that the refinery will produce. The refining company also can pay cash to NNPC for any products that Nigeria does not need. In 2008, as fuel shortages worsened, NNPC issued a tender for an OPA and signed one with BP affiliate Nigermid late in 2009. The following year, PPMC signed another OPA with the Ivorian state-owned refining company Société Ivoirienne de Raffinage (SIR).

The contract holders for both types of deals did not change between 2010 and 2014, with the exception of Nigermed, whose OPA ended in 2010. In late 2014, PPMC did not renew its RPEA with commodities trader Trafigura. Duke's contract was reduced to 30,000 barrels a day, and Duke farmed out this contract to Aiteo. Separately, NNPC awarded two new, two-year, 90,000 barrel a day OPAs to Sahara and Aiteo (figure B1).¹

No.	Party	Oil allocation (barrels per day)	Duration
Refined Product Exchange Agreements (RPEAs)			
1.	Trafigura Beheer BV	60,000	2010-2014
2.	NNPC subsidiary Duke Oil Ltd., which entered into subcontracts with three companies that managed 30,000 barrels per day apiece:	90,000	2011-2014
2.a	→ Taleveras Petroleum Trading BV, a Nigerian-focused trading company	→ 30,000	2011-2014
2.b	→ Aiteo Energy Resources Ltd., a Nigerian trading company	→ 30,000	2011-2014
2.c	→ Ontario Trading SA, another Nigerian company	→ 30,000	2011-2014
3.	Duke Oil (Panama) Ltd., which subcontracted to:	30,000	2015-2016
3.a	→ Aiteo Energy Resources Ltd.	→ 30,000	2015-?
Offshore Processing Agreements (OPAs)			
1.	Nigermed Ltd., a fuel marketing joint venture between NNPC and British Petroleum (BP)	60,000	2010
2.	Société Ivoirienne de Raffinage (SIR), which entered into a subcontract to manage the full amount with:	60,000	2010-2014
2.a	→ Sahara Energy Resources Ltd., a Nigerian oil and fuel trading company	→ 60,000	2010-2014
3.	Sahara Energy Resources Ltd.	90,000	2015-2016
4.	Aiteo Energy Resources Ltd.	90,000	2015-2016

Figure B1. RPEA and OPA holders, 2010-present

The oil for the swaps comes out of NNPC's 445,000 barrel per day "domestic crude allocation" (DCA). Annex A discusses the DCA in more detail.

The Jonathan government was not the first to use swaps. Rather, the original swaps came in the country's military era. Between 1994 and 1997, Gen. Sani Abacha's internationally isolated regime put 96.2 million barrels—or around 66,000 barrels per day—into RPEAs with a handful of traders.² The Buhari and Babangida military governments earmarked an average of 103,000 barrels per day to European refiners for processing between 1983 and 1987.³

1 *International Oil Daily*, "Nigeria Reshuffles Controversial Deals with Oil Traders," December 23, 2014; *Reuters*, "Nigeria Allocates 2015 Crude-for-Product Swaps, Trafigura Out," January 5, 2015.

2 Historical data on file with NRGJ.

3 *Ibid.*

In analyzing the swaps, we concentrated on three main agreements:

- 1 The 90,000 barrels per day RPEA signed in early 2011 between PPMC and Duke, NNPC's wholly owned trading company ("the 2011 PPMC-Duke RPEA")
- 2 The 60,000 barrels per day OPA signed between PPMC and SIR in October 2010 ("the 2010 SIR OPA")
- 3 The 90,000 barrels per day OPA NNPC and Aiteo signed in October 2014 ("the Aiteo OPA")

Full versions of these contracts are posted on NRG's website.⁴ Along with analyzing these contracts, we reviewed relevant documentation including other contracts and subcontracts,⁵ NEITI reports, various NNPC documents, and market intelligence data. We also consulted industry experts and consultants, and conducted several dozen interviews between 2012 and 2015.

As part of our research process, we wrote formal letters to the main parties involved in the swap deals, informing them of the project, asking a number of detailed questions, and indicating our openness to dialogue and to learning their perspectives. The letters were sent by email, fax and courier. Specifically, we sent letters in April 2015 to the NNPC, PPMC and Duke. We also sent letters to trading and refining companies that held swap contracts, including Aiteo, Ontario, Sahara, SIR, Taleveras, and Trafigura.

NNPC, PPMC, Duke, Ontario and SIR did not respond to our communications. NNPC has answered similar questions in the past, from audiences including the media and the Nigeria Extractive Industries Transparency Initiative (NEITI). We drew on those explanations when possible so as to represent NNPC's perspective. Aiteo officials replied and asked that we enter into a non-disclosure agreement before it shared information, given confidentiality concerns. We declined, since the questions pertained to a report intended for public release, and asked that they nonetheless provide some information. They did not respond further. Sahara officials wrote to us and indicated that their response was contained in press releases they issued in May and June 2015 about the swap deals.⁶ We reviewed these materials and cite them in this report. Trafigura and Taleveras provided written responses to some of the questions; others they did not answer, citing confidentiality constraints. Representatives of these two companies also made themselves available for several phone conversations about the questions that we asked. Their views informed the research, and are cited in the text.

1.2. WHY THE SWAPS DESERVE CAREFUL SCRUTINY AND REFORM

For the following reasons, reforming Nigeria's swap agreements requires urgent attention from the Buhari government:

Nigeria's ongoing fuel supply crisis makes swaps practical in the short term.

Swaps have helped keep gasoline and kerosene flowing into the country since the PPMC open account import system collapsed in 2010 and 2011. This has been NNPC's main

⁴ See <http://www.resourcegovernance.org/publications/inside-NNPC-oil-sales>

⁵ In particular, we reviewed management subcontracts signed between Sahara and SIR and between Taleveras and Duke, but not those between Aiteo or Ontario and Duke.

⁶ The Sahara press releases are available here: <http://www.sahara-group.com/cg/opa-updated.pdf> and http://www.sahara-group.com/cg/Saharas_Update_on_OPA.pdf.

argument in favor of the swaps.⁷ Since then, the supply challenges that led Nigeria to reintroduce swaps have not notably improved. Traders and bankers interviewed for this report suggested that no bank would finance more PPMC open tender imports.⁸ A small circle of private marketers with PPPRA import permits that usually supply around 50 percent of imports, and they are struggling to obtain credit due to Nigeria's foreign exchange shortage and continuing currency depreciation.⁹ Refinery production remains very low and likely could not meet local demand for gasoline even if the plants ran at full capacity.¹⁰

The swaps consume a significant portion of the crude oil NNPC has to sell.

NNPC data shows that the corporation allocated just over 79 million barrels (or roughly 218,000 barrels a day) to swaps in 2011 alone. This accounted for nearly half of the DCA and around a tenth of the country's average daily production (figure B2). For 2011, the oil involved in swaps was worth approximately \$9 billion, internal NNPC data suggests.¹¹ Figures for 2012-2014 are similar.¹² All told, we estimate that between 2010 and 2014, NNPC channeled over 352 million barrels of oil worth a total of \$35 billion into the swaps.¹³

Year	(a) OPAs	(b) RPEAs	Total (a + b)
2010	90,630	0	90,630
2011	64,900	153,512	218,412
2012	62,344	151,910	214,254
2013	67,576	162,916	230,492
2014	57,837	154,616	212,453
2015 Jan.-May*	205,629	31,457	237,086

Figure B2. NNPC oil allocated to OPAs and RPEAs (barrels per day)

Sources: NNPC Statistical Bulletins; NEITI 2009-11 core audit report; other NNPC documents and market intelligence data on file with NRGi.

*2015 figures are for volumes nominated by NNPC rather than actual liftings.

Capturing full value from swaps is a challenge. NNPC must overcome several obstacles in order to secure fair returns for the crude allocated. First, countries tend to enter into oil-backed barter deals like swaps in desperate times—either when demand for their crude is low¹⁴ or when they cannot pay cash for commodities they need.¹⁵ In such tough circumstances, officials may struggle to negotiate hard terms with the traders and refiners on the other side of the table. Second, since swap deals are highly

7 NNPC also argues that moving away from open account imports to swaps has helped the country avoid costly litigation, sovereign debt default, liens on vessels at sea and damage to its credit rating. NNPC, Response to the Memorandum Submitted by the Governor of CBN to the Senate Committee on Finance on the Non-Remittance of Oil Revenue to the Federation Account ("NNPC Response to Sanusi"), February 2014, p. 7. Thus far, however, banks holding the remaining unpaid debt from open account imports—worth approximately \$1.5 billion, some of it now reaching half a decade past due—have not called a default. Author interviews, trading company personnel and industry consultant, 2015.

8 Perversely, some debtors have complained that the swaps took pressure off NNPC to pay its overdue fuel bills, causing more arrears to accumulate and worsening NNPC's credit standing. Author interviews, Nigerian fuel traders and industry consultants, 2012-2015.

9 Author interviews, 2014-2015.

10 Author interviews, traders, industry consultants and NNPC and PPPRA officials, 2012-2014.

11 NNPC, Domestic Crude Report for the Period January to December 2011.

12 For 2012 totals, see NEITI, 2012 Oil and Gas Audit Report p. 55 (reporting \$8.744 billion).

13 Figure obtained by multiplying total annual swap liftings by average annual domestic crude prices derived from NNPC documents on file with NRGi. Additional forensic work would be needed to determine the exact sales value of the oil involved.

14 For example, Iran, under pressure from international sanctions that have blocked dollar transfers to its central bank, has reverted to barter deals as payment for oil exports. Discounted barter deals were also common under the Soviet system.

15 In past years, Angola, Iran, Indonesia, Malaysia, China, Saudi Arabia and Kuwait have used swaps to meet domestic needs for refined products. For more detail, see Energy Intelligence, International Crude Oil Markets Handbook, 2006, p. A57.

context-specific, there are few industry standard terms or “best practices” against which to measure them. Finding standard terms for OPAs is especially hard. Third, the traders party to PPMC swap contracts incur a range of costs when they buy products in the open market and ship them to Nigeria. (See sections 2 and 3 for more detail.) Because the contracts allow them to recoup these costs either in cash or oil, they necessarily will supply products worth less than 100 percent of the value of the crude they took away.

NNPC's swap deals have been opaque. More so than for any other transaction covered in our examination of NNPC oil sales, NNPC and its oil trader partners control the flow of information around swaps. NNPC publishes only high-level figures for the crude lifted and products supplied.¹⁶ Contracts are not published; instead, they circulate through industry and press leaks. Moreover, the Duke and SIR contracts only required NNPC to retain documents from the deals for one year after the agreements ended.¹⁷ In addition, the processes for awarding the RPEAs and OPAs were low on transparency, due process and oversight. We saw no signs that the Trafigura and Duke RPEAs were openly tendered.¹⁸ There was a tender in 2008 for the BP-Nigermed OPA, which took over a year and ended problematically.¹⁹ As sections 2.1 and 3.1 will show, the selection criteria that NNPC, Duke and PPMC used were unclear and, at the time of the awards, some of the parties had limited in-house capacity and no record of running such complex deals.²⁰

The swaps have attracted controversy and calls for greater scrutiny. Voices in government and civil society have questioned their probity.²¹ Most notably, in February 2014 Central Bank of Nigeria (CBN) governor Lamido Sanusi argued before the senate that the swaps are “not properly structured, monitored and audited.”²² He attached a guidance note indicating possible points of public revenue loss, though without trying to estimate losses.²³ Our interviews suggest that many in industry and government believe the swaps have been costly for Nigeria. Gradually the press picked up on this notion: the Financial Times for instance called the swaps “the real ‘Bermuda Triangle’” of oil revenue loss.²⁴ In recent months, Nigeria's Economic and Financial Crimes Commission (EFCC) and Department of State Services (DSS) each launched investigations, but have not yet released findings.²⁵

16 NNPC 2011-2014 Annual Statistical Bulletins. NEITI has put out slightly more detailed numbers for 2010-2012 in its annual audit reports.

17 PPMC-Duke RPEA Art.12; SIR OPA Art.18.

18 Trafigura confirmed this in a written response to questions from us, adding that “the call for bids was restricted to a number of companies that had sufficient competence and track record.” Trafigura, May 17, 2015 correspondence with NRGi.

19 Nigermed emerged the winner in early 2010 after competing with two other shortlisted refiners, Cepco and Sunoco. Sunoco reportedly investigated and suspended four of its traders in connection with the tender. *Energy Intelligence Briefing*, “Nigeria and Angola Start Crude-For-Product Deals,” January 29, 2010.

20 We asked NNPC, PPMC and Duke about how the various deals were awarded, but they chose not to reply.

21 E.g., NEITI, 2009-11 Physical and Process Audit p.16; Berne Declaration, Swiss traders' opaque deals in Nigeria, November 2013 (“the Berne Declaration Nigeria Report”), p. 7.

22 S.L. Sanusi, Memorandum Submitted to the Senate Committee on Finance on the Non-Remittance of Oil Revenue to the Federation Account, February 3, 2014 (“the Sanusi Senate Presentation”), p. 2.

23 Id., Appendix 6.

24 *Financial Times*, “Goodluck Jonathan must publish the full report into lost oil earnings,” March 12, 2015.

25 Author interviews, trading company personnel and EFCC officials, 2015.

1.3. EXAMINING PAST PRACTICES AND IDENTIFYING WAYS FORWARD

The many unanswered questions around NNPC's swap deals boil down to one: have their holders delivered fair value for the oil they lifted, and if not, why? Only a robust performance audit with financial, process and value-for-money components, undertaken by competent downstream sector experts with NNPC's full cooperation, could answer this definitively. Any audit should answer two main questions:

- 1 Did the traders party to swap contacts deliver all of the fuel they owed and purported to supply under their contracts?
- 2 Was the fuel the traders delivered good value for the crude oil they lifted?

We see no evidence that the swaps have been robustly audited thus far. PwC and NEITI have done some limited work, mostly on reconciling financial flows. Instead, the previous government relied almost totally on periodic reconciliation meetings among the parties to the RPEAs and OPAs to ensure the traders met their delivery obligations and detect mismanagement.²⁶

This system of incomplete oversight left the parties largely free to police themselves. NNPC has argued that the reconciliation meetings ensured that “the value for value philosophy enshrined in the swap contracts is validated and tested on a regular basis.”²⁷ But Sanusi told the Senate—and the 2010 PPMC-SIR OPA and the 2011 PPMC-Duke RPEA substantiate his statement—that only PPMC and the contract holders attended the meetings. He wrote: “This choice of a two-party, closed door verification mechanism effectively shuts out other relevant MDAs in government, not least the Ministry of Finance, Department of Petroleum Resources, Accountant-General, CBN and others. It thus removes the swaps and offshore processing arrangements from the usual inter-agency accounting and auditing procedures to which NNPC crude oil sales are typically subject.”²⁸ PPMC certainly was not well suited to act as Nigeria's sole agent at these meetings, as it was a party to the contracts and has a history of conflict-of-interest behavior around domestic crude oil sales. (See annex A section p.A20 for more on this point.)

While we cannot say definitively how much NNPC's swap deals have cost Nigeria, we have found that:

- Some contract terms were unbalanced or underspecified and unduly favored the traders (explained in sections 2 and 3).
- Swaps are vulnerable to a number of rackets around transportation, distribution and sales of imported fuel in Nigeria (discussed in section 4).

The following sections explore these conclusions in detail. Section 2 offers analysis and recommendations for improving the performance of RPEAs, which we believe are the better option for Nigeria going forward. Section 3 explains why the country should abandon the OPA model, based on analysis of the SIR and Aiteo deals. Section 4 discusses the fuel supply chain rackets and offers some preliminary recommendations for dismantling them.

26 Under the contracts, PPMC and Duke were supposed to hold reconciliation meetings every two months, while Duke and the three traders committed to meeting monthly. PPMC-Duke RPEA, Art. 9(C)(ii), Art. 17; Duke-Taleveras Art. 7.1. The PPMC-SIR OPA called for quarterly reconciliations. PPMC-SIR OPA Art.15; Aiteo OPA Art.16.

27 NNPC Response to Sanusi, p. 7.

28 Sanusi Senate Submission, Appendix 6, p. 6.

2. Tightening RPEAs for better returns: The case of the 2011 PPMC-Duke RPEA

If they were structured and run with balance and integrity, RPEAs could be a sensible choice for Nigeria, at least until the country solves its refining woes. We believe the contract signed between PPMC and Duke in early 2011 could be a decent starting point for how to structure future deals—if the government subjected it to a thorough review and improved award process. Specifically, this would entail addressing the three challenges detailed below:

- 1 *Choose competent parties.*
- 2 *Reconsider the pricing provisions in the contract.*
- 3 *Clarify some other terms in the contract.*

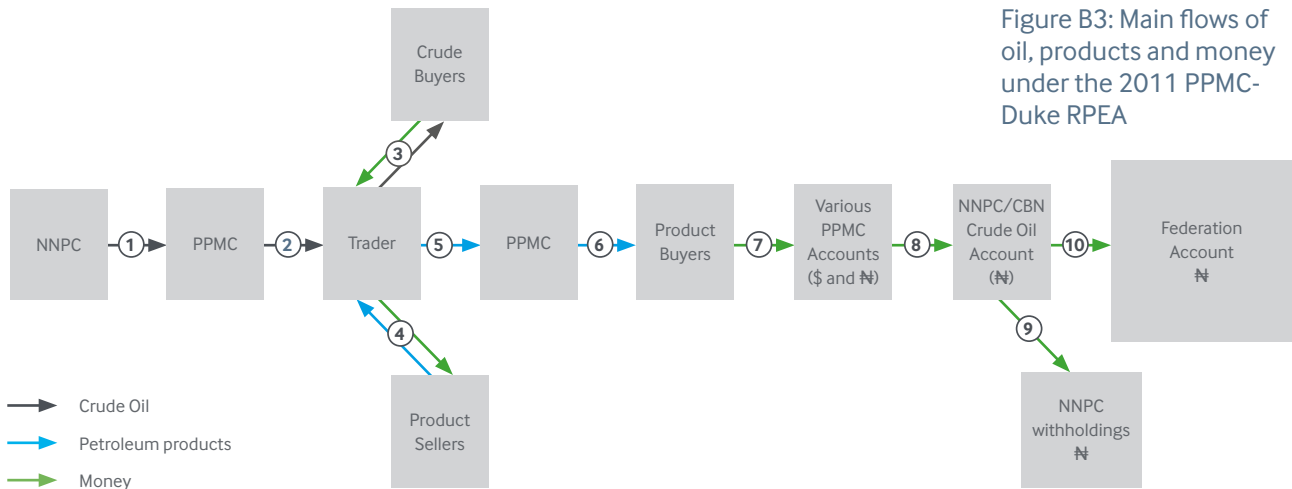
As noted in section 1.1, PPMC signed the 90,000 barrel per day RPEA with Duke in early 2011. Duke then outsourced its activities to three Nigerian trading companies—Taleveras, Aiteo and Ontario (collectively, “the three traders”)—each of which managed 30,000 barrels per day. The deal ended in 2014. According to the terms of the contract and other sources,²⁹ the PPMC-Duke RPEA turned oil into fuel and money for Nigeria through the following steps:

- 1 NNPC allocated a cargo of crude (typically around 950,000 barrels) from the DCA to PPMC for the purpose of product exchange.
- 2 PPMC allocated the cargo to one of the three traders subcontracted to Duke.
- 3 The trader found a third party buyer to purchase the cargo. The third party buyer paid the trader for the cargo after lifting.
- 4 PPMC sent the trader a written program specifying the amounts of gasoline and kerosene it wanted to receive as payment for the crude, divided into cargoes ranging in volume from of 27,000 metric tons (MT) to 38,000 MT. The trader then purchased the cargoes from a third-party seller. The fuel could come from anywhere, so long as it met quality standards laid out in the Duke contract. Occasionally, steps 3 and 4 would be reversed, with the company providing products before lifting crude.
- 5 To pay PPMC in-kind for the crude cargo lifted, the trader delivered the products to one or more import points in Nigeria—some offshore but also onshore in Lagos—as ordered by PPMC.
- 6 PPMC sold the products to private buyers, presumably in Nigeria. The buyers were a mix of wholesale marketers of fuel and retail customers at NNPC filling stations.
- 7 The buyers paid for the products into various PPMC accounts, most often in Nigerian naira.

²⁹ NEITI, 2009-2011 Financial Audit Report p. 15f; NEITI, 2012 Oil and Gas Audit Report p. 285f; Report of the Technical Committee on Payment of Fuel Subsidies (Aigboje Aig-Imoukhuede, chair) (“the Aig Technical Committee Report”), June 2012, p. 21; Senate Finance Committee, Report on the Investigation of the Alleged Unremitted \$49.8 Billion Oil Revenue By Nigerian National Petroleum Corporation (“the Senate Finance Committee Report”), 2014, p. 22f.; author interviews, traders, industry consultants and NNPC officials, 2012-2014.

- 8 Periodically, PPMC transferred proceeds from refined product sales into the naira Crude Oil Account jointly held by NNPC and CBN.
- 9 NNPC sometimes withheld funds from the Crude Oil Account, ostensibly to pay its operational expenses, including the costs of selling fuel at subsidized prices.
- 10 Once a month, NNPC instructed CBN to transfer funds remaining in the Crude Oil Account to the Federation Account.

Shown graphically, the deal worked like this:



Once every two months, the parties were supposed to meet at an agreed location to reconcile the value of the crude the traders lifted versus the value of the fuel they delivered.³⁰

Our research, including a review of the contract, suggests that the Buhari administration should take the following steps to ensure future RPEAs contained fair and balanced terms.

2.1. CHOOSE COMPETENT PARTIES INSTEAD OF MIDDLEMEN

None of the parties chosen for the Duke RPEA were obvious candidates to manage a large-scale swap deal. After winning their contracts through opaque processes, all of them outsourced parts of the work—relying for instance on more experienced firms to sell the crude oil or source the refined products involved in the deal. The use of low-capacity, well-connected middlemen is a problem in NNPC oil sales generally. (For more on this, see pages 44-55 of the main report.) Also, assuming that the middlemen capture a margin, it follows that NNPC could potentially have kept that margin for itself had it dealt directly with a buyer instead of bringing extra players into the deal.

Although the analysis that follows focuses largely on deals between NNPC and Nigerian companies, we do not believe that either indigenous or foreign companies, as a group, are better equipped to manage NNPC's swaps. Likewise, choosing one group over the other will not necessarily fix or worsen the problems past deals had. Going forward,

30 PPMC-SIR OPA Art.15.

government will receive the best returns if it negotiates and signs detailed, balanced contracts awarded to companies that can competitively demonstrate they have the capacity to manage the deals themselves instead of outsourcing the work in exchange for easy financial margins.

Duke. NNPC set up its subsidiary Duke in the 1980s as its full-service trading arm, yet the company never developed the capacity to fully market oil itself. (For more on NNPC's trading subsidiaries, see main report p.55) According to a 2012 government committee, in all of NNPC's oil trading subsidiaries, "capacity is limited, and most function as financial and operational black boxes."³¹ A former top Duke executive added: "Nothing much is going on there, and the workers probably wouldn't know how to trade oil in the market if somebody asked them."³²

Immediately after receiving its 90,000 barrel a day swap contract from PPMC in January 2011, as noted above, Duke signed three powers of attorney and operation and management agreements with Taleveras, Aiteo and Ontario. In exchange for the rights to manage 30,000 barrels a day of Duke's contract with PPMC, Taleveras agreed to pay Duke "commissions" of \$0.08/barrel for the crude they lifted under the deal, and \$5/metric ton for any products they imported to Nigeria.³³ This could amount to significant revenue over time: assuming Aiteo and Ontario made the same commitments in their management subcontracts with Duke, Duke would have received nearly \$17 million in commissions in the first year alone (figure B4).

	Volumes shipped	Commission per unit (\$)*	Total commission due (\$)
Crude	30,594,110 barrels ³⁴	\$0.08	\$2,447,528.80
Products	2,908,374 MT ³⁵	\$5.00	\$14,541,870.00
		TOTAL	\$16,989,398.80

*These rates are from the Duke-Taleveras Subcontract. We applied them to the full amounts of crude and products the three traders handled in 2011, but the actual commissions in the other Aiteo and Ontario subcontracts are unknown to us.

Figure B4. Hypothetical commissions payable to Duke under its RPEA, 2011

Sources: NNPC Crude Oil Lifting Profiles for Domestic Consumption, Jan-Dec 2011; NEITI 2009-11 Physical and Process Audit Report.

It is not obvious why Duke would need this cash, having outsourced most of its responsibilities to three private oil traders. Under its subcontract, Taleveras agreed to fully "manage" 30,000 barrels per day of Duke's deal with PPMC.³⁶ Three powers of attorney gave each of them power to "operate, execute and deliver" one-third of Duke's contract.³⁷ In effect, this relieved Duke of its obligations to lift, finance, buy, sell or transport crude and products under its swap deal. As such, its costs to manage the RPEA should have been low.

31 Federal Ministry of Petroleum Resources, Report of the Petroleum Revenue Special Task Force (Nuhu Ribadu, chair) ("the PRSTF Report"), August 2012, p. 75.
 32 Author interview, 2014.
 33 Payments were due within 30 days of lifting oil. See e.g., Duke-Taleveras Operation and Management Agreement ("the Duke-Taleveras Subcontract"), January 2011, Article 4.2.
 34 Collectively, Taleveras, Ontario and Aiteo were allocated 33 cargoes of oil on behalf of Duke in 2011. Most were shipments of Qua Iboe (21 cargoes) or Bonny Light (6 cargoes), followed by Amenam (two to Ontario, one to Aiteo), Brass Blend (one to Ontario, one to Taleveras) and Escravos (two to Taleveras). NNPC Crude Oil Lifting Profiles for Domestic Consumption, January-December 2011
 35 This figure is taken from data NNPC disclosed to NEITI. We cannot independently verify its accuracy.
 36 See the Duke-Taleveras Subcontract, Art.1.
 37 See e.g., Duke Oil Inc.-Taleveras Petroleum Trading BV, Power of Attorney executed January 24, 2011, Paragraph 1.

Also unclear are the final recipients of Duke's commissions. The contracts do not name specific accounts for lodging payments. No commissions were booked by Duke Oil Services Ltd. (UK), which had gross income of less than £1 million in 2011 and 2012.³⁸ January 2011 meeting notes show Duke assigning its swap contract to its offshore Panamanian arm Duke Oil Incorporated, an entity that does not publish financial statements or disclose the identity of its shareholders.³⁹ Moreover, because NNPC does not disclose its financials, there is no way of knowing whether Duke transferred any earnings from the swap to its parent company, or in turn whether NNPC forwarded anything to the country's Federation Account. (For more on revenue remittances by NNPC's trading companies, see main report p.55.) We asked NNPC, PPMC and Duke about this, but they did not respond.

The three traders. Aiteo and Ontario had very limited industry profiles before signing their 2011 subcontracts with Duke. Both won their first NNPC term contracts to lift crude in 2011, before which their experience was limited.⁴⁰ Their shares of the Nigerian crude and products markets grew rapidly under the Jonathan government. Taleveras started lifting crude in 2008. All three contracted with larger international companies to move some or all of the hydrocarbons in their swap deals, though they did independently secure their own letters of credit for the crude and did varying degrees of marketing on their own. In 2011, for example, Morgan Stanley received most of Taleveras' swap cargoes,⁴¹ and Shell and Vitol bought most of Aiteo's crude.⁴² Ontario relied on a few foreign traders to take its allocation to market, both in 2011 and later (figure B5).⁴³

38 According to documents filed with the U.K. Companies House, Duke Oil Services's sole source of income in 2012 was GBP979,762 in "management services" fees from Duke Oil Incorporated in Panama. Amounts for 2011 were smaller. Duke Oil Services Ltd., Directors Report and Financial Statements for the Year Ended 31 December 2012.

39 As indicated by Minutes of Meeting between Duke Oil Inc. and Taleveras Petroleum Trading BV et al., held at NNPC Towers on 21 January 2011, p.2; and by Duke Oil Inc.-Taleveras Petroleum Trading BV, power of attorney executed January 24, 2011.

40 Over the 2000s, Aiteo had supplied and purchased some products in Nigeria, as had its sister companies Sigmund and Avidor Oil and Gas. We found no evidence of Ontario having a track record in product imports. PPPRA documents and market intelligence data on file with NRGi. See also *Energy Intelligence*, "Elections Add Complications to Nigerian Oil Trade," May 23, 2011.

41 Taleveras wrote to us that it "prioritizes selling crude oil directly to end users, and has maintained business relationships with refineries around the world for many years." The company added that it could not disclose the names of its clients for confidentiality reasons. Taleveras, 12 May 2015 letter to NRGi. Before Morgan Stanley, Taleveras sold most of its crude cargoes to ConocoPhillips. Market intelligence data on file with NRGi.

42 For the last five years, Aiteo has relied heavily on Shell to move the hydrocarbons from its Nigerian swap deals. By comparing NNPC sales records with market intelligence data, we found that Shell lifted 17 out of 37 cargoes allocated to Aiteo under the PPMC-Duke RPEA. (Aiteo received more than 37 cargoes during the life of the deal, but we did not obtain the relevant NNPC records for some months.) Shell's share of the crude from Aiteo's 2015 OPA has been even higher: the IOC lifted all but one of the cargoes from the deal's first five months. Some traders and industry consultants also claimed that Shell blended and supplied gasoline to Aiteo under its swaps, though we could not track Aiteo's gasoline shipments back to their origins. Author interviews, 2014-2015. Beyond the swaps, Shell also marketed crude cargoes that NNPC allocated to Aiteo and some of its sister companies under regular term contracts. These included 2011-2012 liftings for Valeska Tankers (five of six identified liftings) and for Avidor Oil and Gas (nine of 12), which has had a contract since 2011. The IOC bought the latter's cargoes so reliably that some traders began calling Avidor's crude allocation from NNPC "the Shell term contract." Author interviews, 2015.

43 Market intelligence data on file with NRGi.

Trader	Lifter(s)	Refiners*	Banks issuing letters of credit
Taleveras	Morgan Stanley	BPCL, Petrobras, ConocoPhillips66, Sunoco, Petroineos	BNP Paribas
Aiteo	Shell, Vitol	Sunoco, Sonara	Standard Chartered, Sun International
Ontario	Vitol, Gunvor, Glencore	BP, Indian Oil Corporation	First Bank Nigeria

* Data on refiners included merely to show final destinations of liftings. The RPEAs did not require the parties to refine any of the oil lifted, or include refiners as parties.

Figure B5. Some of the lifters, refiners and financiers of swap crude oil cargoes, 2011

Source: Pre-shipment inspection reports; author interviews; market intelligence data on file with NREGI
 NOTE: List may not be complete as data was not available for all cargoes lifted.

On the products side, 2011 NEITI and NNPC documents show that all three traders bought their gasoline and kerosene off of large mother ships, mostly anchored offshore of Togo or Benin, instead of sourcing it directly from Europe or other markets.⁴⁴ Foreign products traders loaded fuel aboard the mother ships and sailed them to the Gulf of Guinea. The three traders then chartered smaller ships, picked up products by ship-to-ship transfer (STS) and carried them the short distance to Nigeria for discharge.⁴⁵ This system built in added layers of players and costs that gave PPMC no obvious benefit, as PPMC could have dealt directly with traders that could deliver fuel from a foreign refinery or storage facility. Interviewees doubted that Aiteo and Ontario had experienced crude or products traders on staff when they signed the agreement with Duke.⁴⁶ In later years, more of the vessels delivering products on behalf of the three traders sailed directly from Europe or other markets, though some of the traders still depended on foreign trading and refining companies to help organize the deliveries.⁴⁷

We sent letters to each of the three traders asking about their qualifications and staff strengths at the time of their selection. Only Taleveras replied. The company told us that it “has been importing refined products into Nigeria and West Africa since 2004 and lifting crude oil since early 2008.” On the question of in-house trading capability, Taleveras said only that its “trading personnel have over 75 years of combined experience in the Oil & Gas Industry with previous employers including Global Investment Banks, Major refiners and several large international trading houses.”⁴⁸

44 NEITI, 2009-11 Physical and Process Audit, Appendix C, Part 5.

45 Author interviews, trading company personnel and industry consultants, 2015. This became a common practice under the PPPRA gasoline import system as well. Reflecting this, the PPPRA gasoline pricing template for calculating fuel subsidy has an allowance for transshipment costs.

46 Author interviews, trading company personnel and industry consultants, 2014-2015.

47 For instance, 2013-2015 tanker market reports on file with NREGI showed that Lukoil subsidiary Litasco and UK-French Petroineos chartered some of the ships that delivered gasoline to PPMC for Ontario.

48 Taleveras, May 12, 2015 letter to NREGI.

Finally, Aiteo and Ontario were also implicated in Nigeria's 2012 \$6.8 billion domestic gasoline subsidy scandal. A government committee ultimately cleared Aiteo of fraud,⁴⁹ though not of other alleged abuses of the subsidy claims process.⁵⁰ Federal prosecutors charged Ontario with nine criminal counts.⁵¹ The company and its principals have been in court since 2012, yet Duke continued to renew Ontario's subcontract through late 2014.

2.2. BALANCE THE PRICING PROVISIONS IN THE CONTRACT

Fair pricing is critical to extracting decent value from an RPEA. The PPMC-Duke contract shows why: it specified that the amount of gasoline or kerosene Duke had to deliver was "based on the value of the crude oil" taken away.⁵² In other words, the products supplied had to be of equal value to the crude, minus certain agreed costs and fees. Every two months, the parties were supposed to determine whether Duke had met its obligations by reconciling invoices for products the three traders had supplied for Duke against PPMC's invoices for the crude the three lifted.⁵³ Under this system, Nigeria necessarily would get fewer products if the crude was priced low or the products high.

According to our examination of past practices, NNPC would at a minimum need to do the following for any new RPEAs:

Use regular NNPC OSPs to price all crude oil lifted. Several industry sources consulted for this report claimed, without offering hard supporting evidence, that NNPC "underpriced" at least some the oil it exchanged for products under the Duke RPEA. According to them, PPMC invoiced the three traders for the oil lifted at sizable discounts to the official selling prices (OSPs) that NNPC's subsidiary, the Crude Oil Marketing Division (COMD), sets for Nigerian crude sales each month.⁵⁴

49 Specifically, Aiteo's bank initially disclaimed one transaction worth ₦2.9 billion, and two other subsidy payments to it worth ₦4.0 billion were not supported by proper documents. Aig Technical Committee Report p. 87-88. But a subsequent report by a presidential committee with similar members "verified as legitimate" all subsidy payments Aiteo received in 2011. Presidential Committee on Verification and Reconciliation of Fuel Subsidy Payments, final report ("Presidential Committee Report"), 2012, p. 12.

50 For example, the Aig Technical Committee found that Aiteo underperformed on their gasoline supply obligations to PPMC in 2011 but did not pay a required ₦20 million "re-engagement fee" for each quarter in which they underperformed. Aiteo also received fuel import permits from PPPRA before applying, and received a gasoline import allocation before signing a contract with PPPRA. Aig Technical Committee Report, p.69, 74. Neither the presidential committee nor any body appears to have contradicted these claims.

51 Initially, an early-2012 parliamentary probe accused Ontario of collecting ₦4,248,727,148 in "unmerited" subsidy payments. Nigerian House of Representatives, Report of the Ad-Hoc Committee To Verify and Determine the Actual Subsidy Requirements and Monitor the Implementation of the Subsidy Regime in Nigeria (Farouk Lawan, chair) ("the Lawan Report"), April 2012, p.169 Thereafter, the presidential committee found four transactions in 2011 worth ₦4,585,421,262 that it could not verify as legitimate. Presidential Committee report, p.14. In August 2012, prosecutors arraigned Ontario and several of its executives in Federal High Court for obtaining property by false pretenses, alteration, forgery and conspiracy. The government alleged that the company claimed subsidy worth ₦414 million on 7 million liters of gasoline that it did not actually import. *Premium Times*, "₦1.9bn subsidy fraud: Alleged fraudsters submitted forged documents, EFCC tells court," July 25, 2013, available at: <http://www.premiumtimesng.com/news/141660-n1-9bn-subsidy-fraud-alleged-fraudsters-submitted-forged-documents-efcc-tells-court.html>.

52 PPMC-Duke RPEA, Art. 3(B)(vi). The contracts also say the traders will deliver to PPMC "products of equal value to the crude oil received." PPMC-Duke RPEA, Prologue point 4.

53 PPMC-Duke RPEA Art. 9(C)-(D); Art 17.

54 Author interviews, traders, industry consultant and oil journalist, 2013-14. For more on OSPs, see main report p.18 and 58.

We were unable to corroborate these claims. However, the Duke contract did leave open the possibility of sub-OSP sales. At first glance, the contract seems to call for the use of COMD's OSPs. As with NNPC's regular export sales, the oil in the RPEA was supposed to be priced in US dollars at a monthly premium or discount to the light sweet oil benchmark Dated Brent. Duke could choose from the same three pricing options (advanced, deferred or prompt) that NNPC export buyers have.⁵⁵

But on a closer look, the contract picked PPMC, not NNPC COMD, as the party to set "official selling prices" for RPEA crude. This meant that PPMC could choose both the discount or premium to Brent and the pricing option costs. Unlike a standard NNPC term contract to lift crude, the RPEA does not define "official selling prices," nor does it mention COMD or its OSPs. It also differs from a standard NNPC term contract by not containing a provision specifying how many days of Platts quotations PPMC must average to fix the benchmark price for a cargo of crude. (A standard NNPC COMD term contract calls for five consecutive quotes.) All the Duke contract says is that the benchmark will be "the average of mid-range quotations for Dated Brent as published by Platts."⁵⁶ This omission would have given the parties legal space to engage in price arbitrage, though we have seen no evidence that they in fact did so.

In its 2014 audit of NNPC oil sales, PwC found three cargoes of crude sold under an RPEA that were not priced at OSP. One was lifted by Aiteo pursuant to the Duke deal; Trafigura lifted the other two under its 60,000 barrel a day RPEA (figure 6). It is unclear whether these instances suggest a larger pattern or were one-off cases. We asked Trafigura about the two cargoes shown in figure B6, but it chose not to answer that question unless we signed a confidentiality agreement for purposes of the disclosure.⁵⁷ NNPC told the Senate in February 2014 that it did not underprice RPEA crude, and that all pricing under the contracts was "based on the international market value of the petroleum products against the prevailing International market value of the crude oil."⁵⁸

Bill of lading (B/L) date	Trader	Crude grade	Barrels	Price used (\$)	Expected price (\$)	Under/over-payment (\$)
11/21/2012	Aiteo	Amenam	949,566	\$110.269	\$110.296	\$25,638.28
5/20/2013	Trafigura	Bonny Light	949,729	\$105.034	\$105.485	\$-428,327.78
7/30/2013	Trafigura	Forcados	906,088	\$110.766	\$112.116	\$1,223,218.80

Figure B6. Non-OSP pricing in RPEA crude oil invoices as found by PwC, 2012-2013

Source: PwC report p.141

Review the cost structures behind pricing premiums for gasoline and kerosene.

Any country that depends on imported fuel has to offer premiums that are generous enough to attract suppliers. As is typical for a West African fuel import contract, the Duke RPEA used formulas to price the products the three traders delivered. Similar to the rules for crude, the formulas consisted of a benchmark quoted by Platts plus a per-unit premium (figure B7). The premiums are meant to cover some of the costs incurred by the trader, but also reflect the specific qualities of the particular type of product required by the Nigerian market.

55 PPMC-Duke RPEA Art.9(A).

56 Ibid.

57 NRCI correspondence with Trafigura.

58 NNPC, Response to the Memorandum Submitted by the Governor of CBN to the Senate Committee on Finance on the Non-Remittance of Oil Revenue to the Federation Account ("NNPC Response to Sanusi"), February 2014, p.7.

Product	Benchmark	Premium/MT
Gasoline	Average of 5 consecutive quotes for "Barges FOB Rotterdam" for Premium Gasoline 10ppm, as published in Platts European Marketscan (cargo's bill of lading date=day 3 of 5)	\$81.28
Kerosene	Average of 5 consecutive quotes for "CFI N.W.E. Basis ARA" for Jet A-1, as published in Platts European Marketscan (cargo's bill of lading date=day 3 of 5)	\$86.28

Figure B7. Product pricing formulas in the PPMC-Duke RPEA

Source: PPMC-Duke RPEA Art. 9(B)

While the two benchmarks are typical for Nigeria, industry experts told us that the premiums—both above \$80 per metric ton—were quite high. For example, multiple industry sources claimed that the full costs of delivering gasoline to Nigeria rarely top "Barges FOB Rotterdam" plus \$40/MT.⁵⁹ When gasoline prices dip in the summer, two sources said, traders sometime can deliver at "barges flat"—meaning they don't require any premium to break even—or even at discounts of barges minus \$20/MT.⁶⁰ Other interviewees thought it would seldom cost a trader more than benchmark plus \$10 or \$20/MT to deliver a cargo of kerosene to Nigeria.⁶¹ "You could send that grade of kerosene from just about anywhere in the world to anywhere else and make a fantastic return at \$86 a ton," one West African products trader said after reviewing the Duke contract.⁶² By contrast, in their responses to our letters, Taleveras and Trafigura argued that the prices in their RPEAs were reasonable, with Taleveras claiming that "many cargoes make a loss at such premiums."⁶³ The company claimed that it sometimes purchased gasoline cargoes for delivery to Nigeria at prices as high as benchmark plus \$50/MT.⁶⁴

Whether or not the PPMC-Duke premiums were fair to both sides, we recommend that the new government scrutinize the price structure of supplying products under an RPEA before signing any new deals. This will entail due diligence, studies and consultations with independent analysts and industry players. Traders often will have the best intelligence, given the opacity and large information asymmetries in the West African products market. To some extent, information asymmetry is an inevitable consequence of depending on outsiders for fuel. But officials should not listen solely to them, as most will naturally have their own agendas. Instead, the new government should cast a broader net in order to:

- *Track what traders pay third parties for the products they deliver to Nigeria.* As with OSP pricing in the crude market, product benchmarks like the ones in the PPMC-Duke RPEA are supposed to be good estimates of the product's market value. Yet Nigerian-grade gasoline and kerosene have their own unique qualities and demand patterns for which contract premiums are supposed to reflect. It is too simplistic to see the premium as merely a grab bag of added costs over and above what the trader had to pay a third-party seller for the products.

59 Author interviews, traders and industry consultants, 2014-15. One experienced Nigerian fuel trader called the PPMC-Duke premiums "ridiculous" and added that as a "rule of thumb" a trader with an RPEA should be able to fully deliver both products to NNPC at \$30 to \$40 per MT over the benchmark.

60 Author interviews, WAfr gasoline traders and market analysts, 2014 and 2015. See also *International Oil Daily*, "Nigeria Reshuffles Controversial Deals with Oil Traders," December 23, 2014. One Nigerian gasoline trader thought this estimate was too low, however. Interview, 2015.

61 Author interviews, trader and West African products market analyst, 2015.

62 Author interview, 2015.

63 Taleveras and Trafigura, May-July 2015 correspondence and teleconferences with NRGI.

64 Taleveras, July 17, 2015 letter to NRGI.

- *Understand which costs should be included in the premiums.* Under an RPEA, a trader can recoup costs either in the product premiums or through separate standalone charges. To prevent double-charging, the government should understand which costs belong under which headings. Future contracts should include a clear list of which costs the trader can and cannot recoup in direct offsets.
- *Compile a master list of trader costs under an RPEA.* Traders incur a range of costs in their execution of swap deals, including many payments to third-party service providers (e.g., freight, inspection fees, bank finance charges) or to governments (e.g., port dues, harbor taxes). Unless the RPEA allows the trader to invoice NNPC-PPMC separately for these and be paid either in cash or in oil, the premiums are meant to reflect these costs. The complex ways in which PPMC asked the three traders to deliver products under the PPMC-Duke RPEA probably increased the number of expenses they had to pay.⁶⁵ In correspondence with NRGI, Taleveras listed no less than 25 items that should be factored into RPEA pricing premiums;⁶⁶ NNPC officials enumerated seven “basic components” when testifying before the Senate Finance Committee;⁶⁷ and interviewees for this report gave shorter but differing tallies.⁶⁸ The government should know exactly what costs the traders will likely incur before it negotiates future premiums.
- *Develop cost benchmarks where possible.* Cost benchmarking is a basic tool in the petroleum sector for promoting fair prices. At present, only a few possible components of pricing premiums for a Nigerian RPEA are based on published, transparent, industry standard quotes—freight, demurrage and port fees, for example.⁶⁹

65 Some of the costs originate from the fact that PPMC ordered RPEA holders to discharge the products they delivered in complex ways, often involving multiple port calls and instances of ship-to-ship transfer (STS) with smaller lightering vessels. Trafigura, in a 7 May 2015 written response to questions from NRGI, noted that “typically, products would be discharged into shore tanks and, in part, into PPMC vessels by ship to ship (STS) transfer of product or via discharge on a single point mooring (SPM) – as such, a higher than average premium would be warranted on the basis of complexity (and therefore cost) of delivery.”

66 Taleveras, 12 May 2015 letter to NRGI. In a subsequent (July 17, 2015) letter, Taleveras estimated that its total costs, before the costs of purchasing the fuel, could be as high as \$103/MT. The company later clarified that typical costs were “in the range of \$50-100/MT.” July 31, 2015 correspondence with NRGI. Taleveras added that “There are numerous other costs that should also be taken into account, not least cost of personnel, office overheads, publication subscription etc.” Letter p. 2. We have not independently verified the numbers.

67 These were “Freight, Insurance, Financing (L/C Administration charges), Port dues, Interest, Demurrage, Trader’s margin.” NNPC Response to Sanusi p. 9.

68 Interviews, traders, industry consultants and shipping agents, 2014-2015.

69 Interviews, 2014-2015.

- *Arrive at fair credit and performance risk premiums.* One common argument for higher premiums is that supplying fuel to the Nigerian government is a risky business. Traders can come up against everything from long wait times at discharge points and multi-year payment delays to pirate attacks.⁷⁰ Trafigura noted that under its RPEA, it sometimes delivered products to PPMC before lifting a cargo of crude as payment for the products. Several players also pointed out that the RPEA premiums were much lower per ton than what suppliers received at the end of the PPMC open account system in 2011.⁷¹

While these points are valid, the new government should not allow traders to overplay them. The premiums for open account imports were high because suppliers had no financial security and PPMC had a dismal payment record. Contract holders had to deliver fuel to PPMC and hope the company would pay them within 45 days. By 2010, the company's rate of failure to pay was increasing. Traders who supplied PPMC toward the end of the open account system said that around half of the \$90- or \$100-plus premiums they negotiated were meant to cover their finance risks, including the years of bank interest and penalty charges PPMC would never cover.⁷²

The holders of PPMC's RPEAs since 2011 have not faced similarly serious default risks. The crude they lifted was the financing for the products they supplied. So long as NNPC gave them regular cargoes, their finance costs should have been low—mainly the cost of securing bank letters of credit for the crude they lifted. According to documents we reviewed for 2011, the three traders managing the Duke RPEA nearly always lifted oil before they delivered fuel. The companies did not bear anywhere near the same risks that PPMC would pay them years late, if at all.

- *Open up kerosene supply to new players.* The market for Nigerian-grade kerosene is smaller and even less transparent than the one for gasoline. This is partly because of quality specifications: Nigerian regulations and PPMC contracts demand that imported kerosene have a higher flash point than what most refiners can offer.⁷³ Yet PPMC is also the country's only authorized importer of kerosene, and for years, it has bought nearly all of its kerosene imports from a few traders, Trafigura and Sahara above all.⁷⁴ This has created a quasi-monopoly situation where market fundamentals are hidden from view. Asked about supply costs, one seasoned jet fuel trader replied, "It is impossible to run the numbers or break down costs, since the [Nigerian kerosene] market is so opaque and only has a few players. Nobody but the companies involved even bother to run the numbers anymore."⁷⁵

70 For a summary of the main risks involved, see NEITI, 2012 Oil and Gas Audit Report p. 288.

71 NNPC told the Senate Finance Committee, for instance, that the premiums in the RPEAs were as much as \$25/MT lower than those in some of the last open account deals of 2010 and 2011. For this reason, the corporation claimed, switching to swaps saved the country \$144.3 million in 2011 alone. NNPC response to Sanusi p. 8. We have not independently verified this number.

72 Interviews, 2014-2015.

73 Kerosene's flash point is the lowest temperature at which the substance vaporizes and ignites.

74 PPMC fuel import records on file with NRGJ.

75 Interview, jet fuel trader with a large trading house, 2015.

Explore options for adjusting the pricing premiums more regularly for changes in the market. NNPC officials told the Senate in February 2014 that the premium for gasoline in the RPEAs did not change from at least 2010 to 2013.⁷⁶ The European gasoline market, where the contract holders sourced much of their gasoline, saw significant price changes in that time. Gasoline is also a seasonal product, with predictable price dips in summer months.⁷⁷ Traders interviewed for this report said that gasoline import contracts outside Nigeria tend not to last longer than a quarter, and those that do tend to allow the parties to review prices periodically.⁷⁸

2.3. CLARIFY OTHER TERMS IN THE CONTRACT

Our review of the PPMC-Duke RPEA found a number of unclear or conflicting terms. Some of these described critical processes in a swap that should not be left open to discretion. The more terms the contract does not nail down, the more opportunities the parties will have to negotiate outcomes in an *ad hoc* fashion and behind closed doors at the periodic reconciliation meetings. More detailed contracts are also more transparent and easier to audit for compliance. While the observations we make here are no substitute for a full contract review by trading lawyers and experienced downstream sector consultants, we recommend at a minimum that any future Nigerian RPEA contain clearer rules in the following areas:

2.3.1. Delivery due dates for refined products.

Article 3(B) required Duke to deliver fuel within 30 days of the corresponding crude cargo's bill of lading (B/L) date, while Article 2(iv) specified 60 days. How much time a trader has to supply products is a basic term of an RPEA; it should not be left in doubt.

2.3.2. Documents and figures for determining fuel prices and amounts of fuel delivered.

As noted already, the parties to the PPMC-Duke RPEA used periodic, paper-based reconciliation exercises to determine whether the three traders had supplied enough fuel to pay PPMC for the oil they lifted. This two-party, closed door system is already a weak oversight mechanism. Moreover, the underlying contract was not clear on which numbers and pieces of paper the parties must use in two key areas:

Fuel prices. Multiple sources within and outside of government claimed that some traders supplying fuel to PPMC falsify the date on a cargo's B/L in order to charge PPMC a higher price.⁷⁹ This was possible because the fuel was priced using an average of published Platts quotations, and the B/L date determined which quotes to use. By shifting the date to a period when quotes were higher, some traders allegedly could overcharge PPMC by hundreds of thousands—or in extreme cases, even millions—of dollars for a cargo.⁸⁰

76 NNPC Response to Sanusi p. 8.

77 Trafigura told NRGi that its "agreed premium did not take into consideration the seasonality of demand—this was ultimately to the benefit of PPMC. In negotiations, Trafigura formally proposed a two-tier pricing agreement however this was rejected by PPMC who, we understand, sought greater simplicity." Trafigura, 12 May 2015 letter to NRGi.

78 Author interviews, 2015.

79 Author interviews, trading company personnel, industry consultants, EFCC, NNPC and PPPRA officials, 2012-2015.

80 Ibid.

By its terms, the PPMC-Duke RPEA carried similar risks, though our research found no definite cases of misconduct. As noted above (see figure B7), Article 9.B of the contract provided that the date on each refined product cargo's B/L determined which five Platts quotes should be averaged to fix the price benchmark for the cargo. As we explain below, delivering fuel to PPMC under the swap often involves multiple vessels. The complex vessel traffic patterns can result in the creation of multiple B/Ls for a single delivery, including but not necessarily limited to:

- One or more B/Ls issued when the cargo is loaded onto the first, usually larger tanker (called the “mother vessel”) that collects the fuel from a foreign refinery or storage tank and takes it to Nigeria
- One or more B/Ls issued for parts of the fuel aboard the mother vessel, in cases where the original cargo is split into smaller parcels and discharged at multiple onshore locations in Nigeria, or pumped into one or more smaller tankers (called “lighter vessels”) by ship-to-ship transfer (STS) offshore of Nigeria for further delivery.

Each of these B/Ls can have different dates, sometimes weeks or even months apart. Unfortunately, the PPMC-Duke RPEA did not state which of them the parties should use when figuring product prices. The provisions on invoicing simply said that for each fuel cargo, Duke was supposed to send PPMC “an invoice representing 100 percent of the contractual value of the Refined Products delivered” backed by a “clean on board ocean Bill(s) of Lading.”⁸¹ The contract did contain a few basic safeguards against B/L date manipulation,⁸² and according to Taleveras and some industry consultants, PPMC settled on the practice of using mother vessel B/L dates for pricing products.⁸³ If this is correct, there is no reason why such a practice would not be written explicitly into the agreement. Moreover, through reviews of records for product deliveries under PPMC's RPEAs we found cases where the B/L dates used to price the fuel were contradictory—though again, this alone is not clear proof of abuse.⁸⁴

Amounts of fuel delivered. The PPMC-Duke RPEA did not give the parties clear rules about which source document to use when establishing how much fuel the three traders had supplied. Articles 8.3.1-2 of the contract required representatives of a private inspection firm to measure the quantities of products discharged in Nigeria for each shipment of fuel under the deal. Article 8.3.1 said the numbers in the inspector's final report “shall be the basis for the determination of [...] quantity and shall be binding on the Parties.” This language suggests that PPMC and the three traders were supposed to use outturn quantity—that is, the amount of fuel finally discharged from a ship—to reconcile crude liftings against product deliveries, and that the inspector's report would be the authoritative document for that purpose.

81 PPMC-Duke RPEA Art.9(D)(i).

82 See Art.7.12 (stating maximum allowable days difference between a cargo's arrival in Nigeria and its B/L date).

83 Author interviews, 2015; 10 July 2015 teleconference with Taleveras representatives.

84 PPMC fuel import records on file with NRGJ.

Contrast this with Article 9.D.ii, however, which required Duke—or in practice, the three traders—to use the quantity figure on a fuel cargo's B/L when invoicing PPMC for the cargo. Furthermore, language in Article 8(C)(ii) reads as if the parties were supposed use the numbers in fuel cargo invoices from the traders as the final figures for reconciling what the traders owed.⁸⁵ And once again, the contract did not specify which B/L(s) the traders should have used to draw up their invoices.⁸⁶

Our research ultimately did not arrive at a clear understanding of how, in practice, PPMC and the three traders figured how much fuel the latter was credited with supplying. Unpublished NNPC spreadsheets for RPEA products deliveries have columns for both outturn and B/L quantities, but no indication of which was used in reconciliation meetings. Traders and industry consultants said that PPMC usually reconciled accounts using the smaller of the two, but nowhere does the PPMC-Duke contract state that.⁸⁷ This was a potentially serious omission: outturn and B/L quantities for swap cargoes regularly varied by around 1,000 MT.⁸⁸ Moreover, as we explain in section 4, the PPMC fuel supply chain reportedly includes a number of established rackets that profit by diverting, double-charging or over-claiming products delivered. In such an environment, clear rules about how much fuel traders can claim are essential to ensuring fair returns.

2.3.3. Rules for calculating and paying demurrage

Demurrage is an extra payment the charterer of a ship owes the ship's owner if the vessel is forced to stay at its discharge point past an agreed period.⁸⁹ Poor onshore fuel discharge and storage infrastructure and the complex, sometimes chaotic vessel traffic patterns around PPMC fuel imports mean that the traders party to swap contracts routinely pay demurrage to the owners of the ships they charter.

85 The provision reads: "The parties hereby agree that where the value of the unpaid refined product invoiced exceeds the value of the unpaid crude oil invoiced, or the value of unpaid refined product invoiced is below the value of unpaid crude oil invoiced, such excess or shortage (as the case may be) shall be determined and reconciled by the parties during the bi-monthly reconciliation meetings."

86 Article 17 of the contract, which describes the reconciliation process, likewise did not list which documents to use.

87 Author interviews, 2015.

88 Figures taken from NEITI, 2009-2011 Physical and Process Audit, Appendix C, Part 2.

89 The basic rule under the PPMC-Duke RPEA was that demurrage on product deliveries started accruing 42 hours after a vessel tendered notice of readiness (NOR), an announcement to PPMC that it had arrived and was ready to discharge its cargo. PPMC-Duke RPEA Art.14. Demurrage rates vary by classes of ships and over time. Although various trade periodicals publish prevailing rates, a trader transporting fuel by ship to Nigeria would negotiate a unique rate with the ship-owner for each voyage.

Swap demurrage payments are a major point of revenue loss from NNPC crude sales. Payments are high in large part because of chronic congestion at Nigeria's ports and PPMC's chaotic systems for scheduling fuel discharges. The PPMC-Duke RPEA allowed Duke to reduce the amounts of fuel it delivered to recoup its demurrage costs. This effectively meant that the country paid for demurrage in oil. Available data shows large demurrage offsets under the contract. For example, in 2011, according to NEITI, PPMC owed Aiteo \$23,118,074 on vessels carrying 949,143 MT of gasoline and kerosene. By dividing that figure by the total barrels of crude Aiteo lifted (10,231,122), we can estimate that demurrage under Aiteo's part of the Duke RPEA cost the nation an average of \$2.26 a barrel in 2011. Numbers for Taleveras and Ontario's product deliveries were similar.⁹⁰ NNPC also unilaterally deducts the value of swap demurrage offsets from domestic crude sale revenues, arguing that it should be reimbursed for the costs of maintaining a "strategic reserve" of fuel for the country.⁹¹

Our research revealed some confusion about how PPMC calculated the amounts of demurrage it covered under the PPMC-Duke RPEA. Article 14.2(iv) of the contract obligated it to "pay demurrage [...] based on verifiable charter party rates."⁹² Yet traders and industry consultants claimed that PPMC has a longstanding practice of paying traders for demurrage based on average freight rate assessment (AFRA) figures published by the London Tanker Brokers Panel. AFRA rates, the interviews said, tend to be lower than charter party rates.⁹³ They added that PPMC and traders typically "negotiate" demurrage rates during reconciliation meetings.⁹⁴ Similarly, NNPC told PwC that demurrage under the swaps is "agreed" at the reconciliation table.⁹⁵

Available information shows that the process of agreeing demurrage is not always straightforward. For example, NNPC told the Senate Finance Committee and PwC that it paid \$207.9 million in demurrage on all of the swaps contracts between January 2012 and July 2013. Yet during its audit, PwC could not verify \$64.8 million—or 31 percent—of the claims.⁹⁶ Prior to the swaps, a 2004 presidential inquiry reportedly accused traders of overcharging PPMC \$108 million for demurrage on open account imports in two years. Seven senior NNPC managers were eventually sacked in the scandal.⁹⁷

Finally, the PPMC-Duke RPEA did not contain enough supporting rules for calculating what PPMC owed to the traders. For instance, the contract did not have detailed provisions laying out when demurrage would stop running, and did not list the documents that must accompany demurrage claims.

90 NEITI, 2009-2011 Physical and Process Audit Report p.129.

91 Annex A, p.A9-A16.

92 A charter party is the contract between the owner of a vessel and the charterer for the use of the vessel.

93 Author interviews, 2015. Art.14.2(v) of the PPMC-Duke RPEA specified that PPMC would use AFRA rates to calculate demurrage payable on crude liftings, but not on product deliveries.

94 Author interviews, 2015.

95 PwC Report p. 114.

96 Id., p. 37, 104-105.

97 *Mail & Guardian*, "Nigeria sacks seven top oil executives," 19 April 2004, available at: <http://mg.co.za/article/2004-04-19-nigeria-sacks-seven-top-oil-executives>.

3. Abandoning OPAs: The 2010 SIR and 2015 Aiteo deals

The 2010 SIR and 2015 Aiteo OPAs are strong examples of why Nigeria should not sign more OPAs.

As mentioned above, under an OPA, the contract holder—either a refiner or trading company—is supposed to lift a certain amount of crude, refine it abroad, and deliver the resulting products back to NNPC. The contracts lay out the expected product yield (i.e., the respective amounts of diesel, kerosene, gasoline, etc.) that the refinery will produce from the particular grade of crude lifted. The company can also pay cash to NNPC for any products that Nigeria does not need. In 2010 to 2014, NNPC allocated 60,000 barrels a day to an OPA with SIR, the state-owned refinery in Côte d'Ivoire. This deal was managed by Sahara Energy Resources. In 2015, it launched two large OPAs of 90,000 barrels a day each with Sahara and Aiteo.

Some may argue that current market conditions favor choosing an OPA, but the advantages are not strong enough to override the negatives. Because the contract holder's fuel supply obligations are based on weight rather than price, OPAs could seem like an easier sell in this time of low, volatile oil prices and lackluster demand for Nigerian crude.⁹⁸ But this upside does not appear to have come about. The SIR OPA did not help Nigeria find buyers for hard-to-sell crude.⁹⁹ On the contrary, the grades of oil that PPMC ran through the OPA—mostly Yoho, Brass and Escravos—were among the country's priciest and most desirable at the time. Neither did PPMC use it to hedge against volatile world fuel prices or shifts in local demand, or to settle its existing fuel import debts.¹⁰⁰

As shown below, an OPA's inherent complexity makes it more opaque than an RPEA—and more open to abuse. The SIR and Aiteo deals were much more byzantine arrangements than the PPMC-Duke RPEA: they sent more streams of oil, fuel and money flowing in different directions, and relied on more formulas, conversions and moving parts. It is more difficult to monitor whether an OPA delivers fair value. RPEAs deliver poor value when their prices are suboptimal or they are mismanaged. By contrast, price and governance are but two factors affecting whether an OPA delivers value for a country. Our analysis of the Aiteo and SIR deals shows that Nigeria can win or lose based on many additional, highly technical and market variables—e.g. refining configurations and fees, freight costs, fuel quality specifications—that few officials can effectively negotiate or monitor.

We also found more points of possible government revenue loss in the OPAs than in the PPMC-Duke RPEA. The analysis that follows explains several of them, but it is by no means exhaustive. Parts of the contract were poorly drafted, creating ambiguities that may have been costly for Nigeria, depending on how the parties read them. Likewise, industry sources we interviewed consistently thought that the OPA contracts were

98 For more on these problems, see main report p.21.

99 In the 2000s, the national oil companies Pemex and PDVSA signed perhaps the most touted OPAs, which incentivized U.S. refiners to process their heavy, expensive-to-refine crudes. While interest in Nigeria's premium light sweet crude has dropped off lately, it does not face the sort of chronic low demand that Mexico or Venezuela did.

100 PPMC owed roughly \$400 million to OPA holders Sahara and BP/Nigermed around the time it signed contracts with them in 2010. PRSTF Report p.101 (reproducing figures as at 31 December 2011).

more lucrative for SIR-Sahara and Aiteo than an RPEA would have been.¹⁰¹ If traders are lobbying especially hard for new OPAs right now, this suggests that the deals would favor them more than RPEAs would.

The OPAs also failed to respond to Nigeria's actual fuel needs. The PPMC-SIR and Aiteo contracts called for six refined products when NNPC only required two—gasoline and kerosene. Sahara was supposed to make periodic payments for three of the others into unspecified NNPC accounts. An RPEA would have delivered only the products that Nigeria wanted.

To understand the basic mechanics of the OPA deals, it is crucial to appreciate that the contracts were structured in ways that did not reflect how they were actually run. Most notably, these two offshore refining deals have involved little or no refining. The SIR deal's main premise was that SIR would process oil that NNPC's troubled refineries could not. The product yields contained in the contract reflected typical outputs from its Abidjan plant (i.e., the precise mix of products that would result from the processing of particular Nigerian grades of crude). But PPMC and Sahara bypassed SIR altogether and ran the deal like an RPEA. Sahara sold the crude on the open market, and then imported the products due after buying them from a wide range of sources. Despite this, the deal remained governed by the SIR yield patterns, even though none of the refining happened in Abidjan.

The text of the Aiteo OPA does not specify that the oil will be processed by a particular refinery. Instead, the contract notes only that Aiteo "has access to operational refineries, whose services it shall make available."¹⁰² But after tracking shipments of crude and fuel under the deal, we found no evidence of Aiteo delivering any oil for refining. Instead, other companies—mainly Shell—lifted and marketed the oil and Aiteo purchased fuel from overseas gasoline blenders for delivery to NNPC. (For more on this point, see section 3.1.)

As we explain further in sections 3.2 and 3.3, these ill-suited contract terms have led to workarounds and adaptations that left the deals' inner workings even more veiled and discretionary. The SIR and Aiteo OPAs also did not expressly give the parties the option not to refine. Indeed, some of its language, read literally, would seem to require Sahara and Aiteo to have all the lifted oil processed at a refinery.¹⁰³

101 Author interviews, traders, bankers, industry consultants, government officials and analysts, 2012-2015.

102 2015 Aiteo OPA, Preamble sec.3; see also Art.1(xxi).

103 See e.g., SIR OPA Art.4(i), 4(v), 6; Aiteo OPA Art.3.3, 4(i), 4(iii), 4(v), 6.1).

With this divergence between contract terms and practice in mind, we present below a summary of how the deals were *actually* operated. According to our analysis of the PPMC-SIR contract, other relevant documents and interviews conducted,¹⁰⁴ the arrangement turned oil into fuel and money for Nigeria through the following steps:

- 1 NNPC allocated a cargo of crude (typically around 950,000 barrels) from the DCA to PPMC for offshore processing.
- 2 PPMC allocated the cargo to Sahara for lifting.
- 3 Sahara found a third-party buyer for the cargo and delivered it. The buyer paid Sahara for the cargo.
- 4 Under the terms of the OPA, Sahara, as subcontractor to SIR, owed specified amounts of six different products whenever it lifted a cargo of crude. PPMC was supposed to advise Sahara which products to actually deliver and which to settle rather through payment to PPMC. In general, the split was:
 - Delivered products: gasoline and kerosene
 - Products not delivered (cash in lieu): diesel, liquefied petroleum gas (LPG), vacuum gasoil (VGO), fuel oil

Sahara would purchase the delivered products from a third-party seller. The products could come from anywhere, so long as they met quality standards laid out in the OPA.

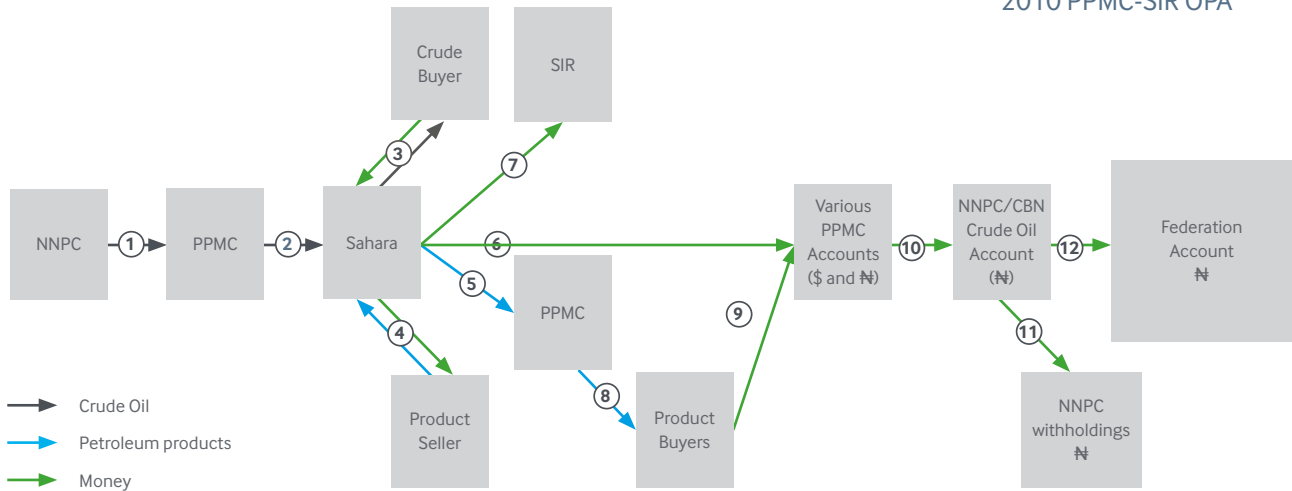
- 5 For deliveries, Sahara shipped the products to one or more import points in Nigeria specified by PPMC. The contract called for delivery within 60 days of the crude cargo's bill of lading (B/L) date.
- 6 For payments, Sahara was supposed to wire PPMC the value of any paid products it owed by the 15th of each month. At the same time, PPMC was supposed to pay Sahara for various costs that the OPA allowed Sahara, as SIR's stand-in, to recoup. These included freight, demurrage, inspection fees and a \$2.50-per-barrel crude oil processing fee.
- 7 Sahara separately committed to paying SIR a \$0.05/barrel commission for the right to manage the OPA—including rights to trade and profit from the oil lifted.
- 8 PPMC sold the delivered products to private buyers, assumedly in Nigeria. The buyers were a mix of wholesale marketers of fuel and retail customers at NNPC filling stations.
- 9 Proceeds from sales of the products were deposited into various PPMC accounts, mostly in naira.
- 10 Periodically, PPMC transferred some proceeds from refined product sales—and, we would assume, from the paid-in-lieu products—into a naira Crude Oil Account jointly held by NNPC and CBN.

¹⁰⁴ January 2011 SIR-Sahara Crude Oil Processing Supply Contract ("the SIR-Sahara Subcontract"); NEITI, 2009-11 Financial Audit Report p.15f.; NEITI, 2012 Oil and Gas Audit Report p.285f.; author interviews, traders, industry consultants and NNPC officials, 2012-14.

- 11 NNPC withheld some product sales proceeds from the Crude Oil Account, ostensibly to pay its operational expenses, including subsidy costs.
- 12 Once a month, NNPC instructed the central bank to transfer funds remaining in the Crude Oil Account to Federation Account, so it could be shared between the federal, state and local governments.

Or, shown graphically:

Figure B8. Main flows of oil, fuel and cash under the 2010 PPMC-SIR OPA



The workings of the Aiteo OPA are nearly identical, except that Aiteo contracted with NNPC rather than PPMC. We also assume it does not have to pay commissions to a refinery, as the contract does not include one as a named party.

Building on the broader concerns mentioned above, we detail three problem areas:

3.1. CHOICE OF PARTIES

As with the RPEAs, the choice of parties lacked adequate due diligence and followed an unclear rationale. As noted in other recommendations, the inclusion of passive intermediaries, such as SIR in this case, should be avoided.

SIR. SIR added no obvious value to the 2010 OPA with PPMC. Similar to the role of Duke in the RPEA, the SIR OPA created a situation where SIR was effectively a middleman that earned margins on oil it did not handle. In a bare bones, two-page subcontract with Sahara signed in January 2011, the Ivorian company transferred all of its “freight, operations, financial and administrative responsibilities,” along with the rights to make “all decisions and executions” to Sahara.¹⁰⁵ In exchange, Sahara committed to pay SIR “a minimum \$0.05 per barrel” for all oil it lifted.¹⁰⁶ This would have entitled SIR to more than \$4.8 million over the life of the deal (figure B9). We asked SIR, PPMC and Sahara by letter how this money was paid and used, but none of them offered explanations.

105 SIR-Sahara Subcontract Art.4.

106 Id., Art.6.

Item	Oil lifted (barrels)	Amount per barrel (\$)	Total due (\$)
Commission	97,798,503	\$0.05	\$4,889,925

Critically, the subcontract allowed Sahara to sell all of the oil it lifted on SIR's behalf in the international spot market, rather than processing it in Côte d'Ivoire, and then buy products from elsewhere for delivery to PPMC.¹⁰⁷ According to finance ministry pre-shipment inspection reports, in 2011, Sahara apparently did not ship any of the barrels it lifted to SIR's refinery (figure B10). We haven't seen any proof that oil was refined in Abidjan in later years either. Instead, a handful of non-African refiners and other traders bought the oil (figure B11). At a minimum, this situation illustrates how the OPA as drafted was a poor framework for the actual transactions that took place.

Destination	Number of cargoes
US	10
Europe	7
Brazil	6
India	1
"Gulf of Guinea"	1
"One or more safe ports"	1
Côte d'Ivoire	0

Lifter	Buyers	Bank issuing L/Cs for crude cargoes
Sahara	BP, Sunoco, Petrobras, Trafigura ¹⁰⁸	BNP Paribas

Sahara. Sahara had the capabilities to manage SIR's OPA: it is Nigeria's foremost indigenous trading house, and has bought and sold Nigerian government crude and imported fuel—especially gasoline, kerosene and diesel—since the early 2000s. Sahara also knew SIR well, having bought a 2 percent stake in the refinery, and having managed Côte d'Ivoire's government-to-government oil lifting deal with NNPC for some years. (For more on NNPC's g-to-g oil deals, see annex C.) There are questions around its suitability, however, since Sahara was implicated in the 2012 fuel subsidy scandal; it was then cleared of the worst—though not all—allegations.¹⁰⁹

Figure B9. Commissions due to SIR under the OPA, 2010-2014

Sources: NEITI reports; NNPC Statistical Bulletins; PPMC-SIR OPA

Figure B10. Destinations of oil lifted under the PPMC-SIR processing deal, 2011

Source: Ministry of Finance pre-shipment inspection reports, 2011

Figure B11. Lifters, buyers and financiers of OPA crude oil cargoes, 2011

Sources: Market intelligence data; Ministry of Finance pre-shipment inspection reports

Note: List may be incomplete as data was not available for all cargoes.

107 Under the SIR-Sahara Subcontract, Sahara had to offer SIR first refusal before selling the oil in the spot market. Art.6.

108 This pattern continued through 2014, with Total largely replacing Sunoco as a buyer of Yoho cargoes in later years. Market intelligence data on file with NRG.

109 Specifically, a mid-2012 government investigation uncovered four payments to Sahara in 2011 worth ₦6.293 billion that did not have documents showing gasoline actually discharged in Nigeria. Aig Technical Committee Report p. 87-88. Later, a November 2012 report by a presidential committee with similar members "verified as legitimate" all of the subsidy payments Sahara received that year. Presidential Committee on Verification and Reconciliation of Fuel Subsidy Payments, final report, p.17. However, the committee claimed that Sahara purchased \$33.7 million in US dollars in forex through the CBN's Dutch auction system purportedly to finance petrol imports, but then apparently did not use the money for that purpose. It also found that Sahara underperformed on its gasoline supply obligations to PPPRA in 2011 but did not pay a required ₦20 million "re-engagement fee" for each quarter in which they underperformed. Aig Technical Committee report, pp. 69, 74. Neither the presidential committee nor any other government body appears to have contradicted these claims.

Aiteo. We discuss Aiteo’s qualifications to manage complex swap arrangements in section 2.1. We found no evidence of an open, competitive tender on the basis of which NNPC awarded the company the 2015 OPA. Neither Aiteo nor NNPC provided answers to our questions about the award process.

3.2. UNBALANCED CONTRACT TERMS

Our analysis finds that a number of critical terms in the SIR and Aiteo OPAs reduced the value that NNPC-PPMC and Nigeria received from the deals. We estimate that the three terms discussed below together cost PPMC \$381.3 million (or \$16.09 per barrel of crude lifted) in 2011 under the SIR OPA. This figure comes with several caveats, discussed below, and our analysis is no substitute for a full forensic audit of the deal. (The scale of losses under the Aiteo agreement could be similar, but we did not obtain enough data to carry out an analysis.)

3.2.1. Product yield patterns

The yield pattern rules in both contracts were mostly decent approximations of what products result from refining different grades of Nigerian crude in SIR’s facility. However, these yield patterns when combined with the specific grades of crude that were allocated to Sahara and Aiteo resulted in the traders receiving relatively high priced, desirable oil while delivering fuel that was worth less to the nation.

Unlike the RPEAs, where price was the main factor in how much products the traders had to deliver, what the traders owed under the OPAs was determined based on weight. For each cargo of crude oil Sahara or Aiteo lifted, they were supposed to convert the total barrels into MT and then apply a “yield pattern” prescribed by the contracts. The yield pattern split the total MT due for the cargo into the six delivered or paid products the traders owed plus an allowance for refining fuel and loss (RF&L).¹¹⁰ Figure B12 contains the yield patterns for the 10 grades of crude that SIR could lift under its OPA.

Figure B12. Table of yield patterns from the PPMC-SIR OPA for Nigerian crude grades (percentage of total MT)

Source: PPMC-SIR OPA Art.6

Product	Grades of crude oil									
	Antan	Bonny	Bonga	Escravos	Forcados	Okwori	Erha	Yoho	Qua Iboe	Brass
LPG	1.4	1.9	1.1	1.0	1.0	1.5	1.6	1.5	1.6	1.5
Gasoline	18.0	21.0	19.0	15.0	18.3	22.0	19.2	16.0	22.8	16.5
Kerosene	18.0	25.0	22.0	18.0	24.3	29.7	24.1	20.0	26.5	19.0
Diesel	21.0	27.1	28.1	31.0	28.0	27.0	33.1	30.0	25.9	31.0
VGO	9.0	9.0	9.0	10.0	9.0	9.0	9.0	10.5	9.0	10.0
Fuel oil	22.3	5.5	10.3	14.5	8.9	0.3	2.5	11.5	3.7	11.5
RF&L	10.3	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5

The table in the Aiteo contract was mostly identical—with one important exception, discussed below. It also listed patterns for five additional grades.

Former CBN governor Sanusi described how this worked in his February 2014 submission to the Senate. “In essence,” he wrote, “the contract says: for purposes of figuring out what SIR must deliver to PPMC, the parties will act as if all the Nigerian oil refined at SIR yielded fixed amounts of each product, regardless of what actually

110 SIR and Aiteo OPAs Art. 5 and 6. RF&L is discussed in section 3.2.2.

happened day to day. This means that what SIR must send back to Nigeria is not the sum total of products it actually got from cooking the Federation's oil, but rather the products it is deemed under the contract to have gotten.¹¹¹ This type of mechanism is not uncommon for OPAs.

With such a system, which grades of crude Aiteo and Sahara received under the OPA had big implications for how much fuel and money Nigeria received in return. In 2011, Sahara only lifted Yoho, Escravos and Brass crude.¹¹² Later years were largely the same, with some occasional cargoes of Amenam and Agbami. SIR, it should be noted, rarely, if ever refines any of these grades.¹¹³ It processes mostly Forcados or Bonga. For the first five months of 2015, Aiteo mainly lifted Escravos (five cargoes), Qua Iboe (four cargoes) and Amenam (three cargoes).¹¹⁴

Lifting these five grades of crude under the OPAs rewarded Sahara and Aiteo and harmed NNPC and Nigeria in three ways:¹¹⁵

- 1 *The crudes lifted allowed the traders to deliver fewer metric tons of products.* Yoho, Brass, Qua Iboe, Escravos and Amenam are among Nigeria's "lighter" grades of oil.¹¹⁶ Lighter oil yields fewer MT of products per barrel when refined. For instance, for a standard-sized (950,000 barrel) cargo of crude oil, the traders would have owed PPMC 6 percent (or 7,658 MT) more fuel had they lifted heavier Bonga instead of Yoho (figure B13).

Item	Yoho	Amenam	Brass	Qua Iboe	Escravos	Forcados	Bonga
Barrels per MT	7.644	7.595	7.524	7.483	7.350	7.261	7.200
Cargo size (barrels)	950,000	950,000	950,000	950,000	950,000	950,000	950,000
Total MT due	124,284	125,086	126,271	126,947	129,248	130,841	131,942

Figure B13: Weights of products due under the OPA, by crude type

Source: PPMC-SIR OPA Art.5-6; Average crude assays published online by Chevron, Shell and Total

- 2 *The crudes lifted allowed the traders to satisfy more of their obligations with cheaper products.* Under the tables of yields in the contracts, Yoho, Brass, Qua Iboe, Escravos and Anemam gave PPMC more LPG, VGO and fuel oil than most every other grade of crude they could have lifted. These products regularly cost several hundred dollars less per MT to buy in the spot market than gasoline or kerosene, as the example in figure B14 shows.

111 Sanusi Senate Submission, Appendix 6, p.3.

112 NNPC Crude Profiles for Domestic Consumption, 2011.

113 Market intelligence data on file with NRG; author interviews, traders and industry consultants, 2015.

114 2015 NNPC documents on file with NRG, contents confirmed by market intelligence data and interviews with trading company personnel.

115 Sahara claims that "all crude oil allocations to SIR under the OPA were strictly as per the terms of the OPA and were, always, subject to availability and, strictly, at NNPC's discretion." <http://www.sahara-group.com/cg/opa-explanation.pdf>.

116 Lighter crudes have higher American Petroleum Institute (API) gravity and lower specific gravity.

Gasoline	Kerosene	Diesel	VGO	LPG	Fuel oil
\$1,044.00	\$1,051.00	\$960.25	\$838.00	\$837.50	\$785.40

Figure B14: Platts quotes for the delivered and paid products, 11 July 2011 (per MT)

Source: Platts

3 *The crudes lifted yielded relatively more diesel and less gasoline and kerosene—the two products Nigeria needed most from the swaps (figure B15). Having Aiteo and Sahara lift diesel-rich, gasoline-poor crudes also increased the need to substitute products using a murky procedure discussed in section 3.3.1.*¹¹⁷

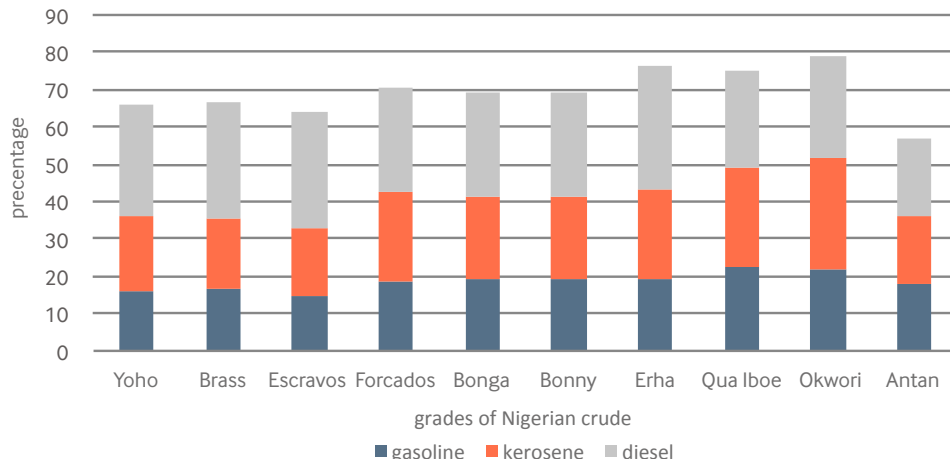


Figure B15. Yields of gasoline, kerosene and diesel under the SIR OPA (percentage of total MT due)

Source: PPMC-SIR OPA Art.6

The low outputs of gasoline and kerosene from the OPA’s yields raise further doubts about the wisdom of including SIR in the deal. As noted above, the yield patterns in the contract were based on SIR’s actual outputs from refining Nigerian crude;¹¹⁸ yet these were not the most optimal for Nigeria’s fuels needs. Because PPMC essentially ran the SIR OPA as a “deemed processing” deal, under which SIR did not refine the crude and Sahara sourced products from the market, PPMC could have chosen more efficient yield patterns. “Once you decide your processing deal is deemed, you can throw in the terms that get you the products you want,” an experienced downstream sector consultant explained. “The yields don’t have to match a particular refinery.”¹¹⁹ A top NNPC downstream official concluded: “[PPMC] chose the wrong refinery. They should have picked a more complex facility that could turn more of the crude into gasoline.”¹²⁰ An experienced industry consultant qualified this somewhat, saying: “SIR is complex. It uses a hydrocracker which relies on distillate-rich grades like Forcados. However, a refinery with a Residue Fluid Catalytic Cracker (RFCC) can process a wider range of crudes more profitably and give more flexible outputs in terms of which products are produced.”¹²¹

In a May 2015 press release, Sahara justified the yield patterns in the PPMC-SIR OPA by saying they were agreed “following detailed commercial negotiations which took into account a large number of factors including the value on the international market of the different grades of crude oil that could be made available by PPMC, the yields

117 Sahara has stated publicly that diesel was “rarely requested by PPMC” under the SIR OPA. <http://www.sahara-group.com/cg/opa-explanation.pdf>.

118 See <http://www.sir.ci/index.php/commercialisation/products>.

119 Author interview, 2015.

120 Author interview, 2015.

121 Author interview, 2015.

that could be achieved from refining those grades of crude oil at various refineries as well as the yield that is achievable by SIR, the cost of the refining process and the cost of transportation to and from the refinery.”¹²² Yet since no party to the deal refined the oil Sahara lifted, the second, third and fourth factors seem largely irrelevant. Furthermore, had SIR processed any of the crude, the contract gave it a separate \$2.50 per barrel “processing fee” for refining costs and the right to recoup transport costs in cash.¹²³ As such, it is unclear why these variables should have been built into the yields as well.

At first glance, the argument about market price makes more sense, but its validity is questionable. If PPMC allocated to Sahara relatively lower value crudes, it might make sense that they would receive less, or less valuable, fuels in return. However, the crude lifted by Sahara is not in fact worth less than alternative grades that would have resulted in higher value returns.

As an illustration, if we assume that NNPC’s monthly OSPs are fair proxies for the international market values of the different Nigerian grades of crude oil, we notice the following: Under the OPA yields, Bonga and Forcados, the two Nigerian grades SIR actually processes most, gave PPMC more products per barrel and fewer of the cheaper products than the three grades Sahara lifted in 2011. This would make clear sense if Bonga and Forcados had higher OSPs. Yet in 2009 and 2010—the period when SIR and PPMC were negotiating the yields—their average premiums to Dated Brent, as assessed by NNPC, were within pennies of, or sometimes significantly lower than, Yoho and Brass (figure B16). OSPs for Bonga and Forcados did rise above the others in mid-2011, when European refiners started seeking out those grades as substitutes for Libyan barrels shut in by that country’s civil war.¹²⁴ But the conflict in Libya erupted suddenly in February 2011, months after the OPA was signed.

Grade	2009	2010	2011	2012	Four-year average
Yoho	\$1.68	\$1.47	\$2.79	\$2.01	\$1.99
Escravos	\$1.03	\$1.13	\$2.45	\$1.98	\$1.65
Brass	\$1.58	\$1.46	\$2.79	\$2.05	\$1.97
Forcados	\$1.50	\$1.40	\$3.43	\$3.35	\$2.42
Bonga	\$1.42	\$1.48	\$2.87	\$2.49	\$2.07

Figure B16. Average annual OSPs for five Nigerian grades, 2009-2012 (per barrel premiums over Dated Brent)

Sources: NNPC COMD monthly OSP sheets; Argus data

To show concretely how the choice of crudes lifted under the OPAs affected returns to Nigeria, we compare two scenarios under the SIR OPA, using 2011 data:

Scenario A: Outputs from Sahara’s actual 2011 Yoho, Brass and Escravos liftings

Scenario B: Outputs had Sahara lifted the same amount of crude, but half Forcados and half Bonga (the grades SIR most often processed)

First, we start by finding the total equivalent tonnage due under the two scenarios by converting the barrels lifted under each into MT. Our calculations show that had Sahara lifted 50-50 Forcados and Bonga, it would have had to deliver or pay PPMC for an extra 128,495 MT of products:

122 <http://www.sahara-group.com/cg/opa-explanation.pdf>.

123 PPMC-SIR OPA Art.8.1.

124 Author interviews, traders, refiners and oil market analysts, 2012-14.

Item	Scenario A				Scenario B		
	Yoho	Brass	Escravos	Total	Forcados	Bonga	Total
Bbls lifted	10,434,935	11,355,611	1,897,999	23,688,555	11,844,278	11,844,277	23,688,555
Bbls/MT*	7.644	7.524	7.350	-	7.261	7.200	-
Products due (MT)	1,221,813	1,350,868	231,110	2,803,791	1,460,001	1,472,485	2,932,286

*Sources: average crude assays published online by producers

Next, following the contract, we apply the yield patterns to see how much of the six products Sahara would have had to deliver under the two scenarios. We find that had Sahara lifted 50-50 Forcados and Bonga, it would have owed PPMC an extra 94,547 MT (approx. three tankers) of gasoline and 141,668 MT (roughly four tankers) of kerosene. Instead, the crude it received combined with the contract's yield patterns, gave Nigeria an extra 30,998 MT of diesel and 65,194 MT of fuel oil and VGO, the two cheapest products:

Product	Scenario A: MT due	Scenario B: MT due	Difference in MT due (A vs. B)
LPG	45,957	34,408	11,549
Gasoline	516,530	611,077	-94,547
Kerosene	616,617	758,305	-141,668
Diesel	950,006	919,008	30,998
VGO	317,516	294,867	22,649
Fuel oil	357,165	314,620	42,545
TOTAL	2,803,791	2,932,286	-128,495

Finally, if we price the products due under the two scenarios, we estimate that for the 23,688,555 barrels of crude SIR-Sahara lifted under the OPA in 2011, it would have owed PPMC a total of \$193,509,215 in extra product deliveries or payments had it lifted 50-50 Forcados-Bonga instead of the mix of Yoho, Brass and Escravos it actually received. This equates to an estimated per barrel loss of \$8.17/bbl. The details are shown here:

Product	Scenario A		Scenario B		Est. difference in value of deliveries and payments to PPMC (\$, Scen. A v. Scen. B)
	Total MT due*	Value (\$)!	Total MT due*	Value (\$)!	
LPG	45,957	\$36,650,708	34,408	\$27,440,380	\$9,210,328
Gasoline	516,530	\$608,012,628	611,077	\$719,304,847	-\$111,292,219
Kerosene	616,617	\$738,472,852	758,305	\$908,161,234	-\$169,688,382
Diesel	950,006	\$921,743,322	919,008	\$891,667,512	\$30,075,810
VGO	317,516	\$247,027,448	294,867	\$229,406,526	\$17,620,922
Fuel oil	357,165	\$256,587,336	314,620	\$226,023,008	\$30,564,328
TOTALS	2,803,791	\$2,808,494,293	3,095,414	\$3,002,003,508	-\$193,509,215

* Numbers assume SIR-Sahara did not substitute any products. See section 3.3.1 for more on this point.

!Numbers rely on PPPRA average 2011 landing costs for gasoline and kerosene to price those products and a single day of Platts quotes (July 11, 2011) to price the remaining four. We were not able to obtain annual averages of the relevant Platts quotes for 2011, so instead relied on data for a single day.

Finally, we note that the yield patterns in the Aiteo and SIR contracts are the same, with one glaring exception: the figures for Qua Iboe in Aiteo's have been altered to be closer to those for Yoho, Brass and Escravos in the SIR deal. The change was notable, given that most of the Aiteo OPA is identical to the older SIR agreement. Whoever drafted it clearly used the older contract as a template. It was also a financially significant change: under SIR's contract, Qua Iboe gave PPMC 12.9 percent more gasoline and kerosene and 8.8 percent less LPG, VGO and fuel oil (figure B17), as compared with the Aiteo OPA. As noted above, since the deal kicked off in January, NNPC has programmed Aiteo to receive more Qua Iboe than any other grade except Escravos. Shell lifted all of the Qua Iboe cargoes and sold them to overseas buyers, Indonesian state-owned refiner Pertamina foremost among them.¹²⁵

Product	SIR	Aiteo
LPG	1.6	1.6
Gasoline	22.8	17.0
Kerosene	26.5	19.4
Diesel	25.9	30.5
VGO	9.0	10.0
Fuel oil	3.7	11.5
RF&L	10.5	10.5

Figure B17. Qua Iboe yield pattern: SIR vs. Aiteo OPA (percentage of total MT)

Source: SIR and Aiteo OPAs Art.6.

3.2.2. High allowance for refining fuel and loss.

The OPAs also gave SIR and Aiteo an unnecessarily high allowance for oil lost in the refining process. This further lowered the amounts of products Sahara and Aiteo had to deliver. When a refinery processes crude oil, it always puts out an amount of product that is smaller than the amount of crude it took in. This is mainly because the chemical conversions that happen during refining use part of the oil for energy. Altogether, the lost portion is called "refining fuel and loss" (RF&L). The tables of yield patterns in the PPMC-SIR and Aiteo OPAs assumed that 10.5 percent of outputs would be RF&L.¹²⁶ This is a steep number, both at SIR and globally for refiners of Nigerian crude. SIR has said publicly that its refinery on average consumes only 8 percent of each barrel for RF&L.¹²⁷

As an example of potential losses: had the PPMC-SIR contract called for 8 percent RF&L instead of 10.5 percent, we estimate that SIR-Sahara would have owed PPMC an extra 70,095 MT of products worth \$70,211,896 in 2011 (figure B18). This equates to an estimated per-barrel loss of \$2.96/barrel.

¹²⁵ Market intelligence data on file with NRGi.

¹²⁶ The one exception is for cargoes of Antan grade of crude oil, for which the contract specifies 10.3 percent RF&L. SIR and Aiteo OPAs Art.6.

¹²⁷ SIR, 2007 slideshow presentation to UNCTAD, slide 14. Copy on file with NRGi.

Crude grade	Extra MT of products due*	Est. value of extra products due+
Yoho	30,545	\$30,551,873
Brass	33,772	\$33,768,950
Escravos	5,778	\$5,891,073
Total	70,095	\$70,211,896

* Numbers assume SIR-Sahara did not substitute any products

+ We use the same yield patterns to determine the mix of products. To price the individual product volumes, we use PPPRA average 2011 landing costs for gasoline and kerosene to price those products, and a single day of Platts quotes (11 July 2011) to price the remaining four.

Figure B18: Estimated potential weight and value of extra products at 8 percent RF&L instead of 10.5 percent (2011 liftings)

3.2.3. Traders' ability to supply heavier gasoline.

Because Aiteo and Sahara's delivery obligations under their OPAs were calculated based on weight (MT), they were able to supply less fuel if they shipped NNPC-PPMC products that weighed more per unit of volume. The biggest opportunity here came from gasoline. The contracts allowed Sahara and Aiteo to deliver gasoline with specific gravity ranging anywhere from 0.72 to 0.78 (measured at 15 degrees Celsius).¹²⁸ As a general rule, the higher gasoline's specific gravity, the heavier it is per unit of volume. Supplying heavier gasoline would also give NNPC-PPMC less of it to sell, since in Nigeria fuel is marketed in terms of volume (liters) rather than weight (MT). Heavier gasoline also is cheaper to buy in the spot market and can sell for less in Nigeria. This conferred a further benefit on Sahara and additional losses on PPMC.

Only a detailed audit could ascertain the extent to which SIR-Sahara and Aiteo took advantage of this option, or the full costs to NNPC-PPMC and Nigeria. Several industry sources interviewed for this report claimed that most traders selling direct to PPMC, both under the swaps and open account sales, supplied heavier gasoline, as PPMC was not discriminating.¹²⁹ A trader who worked for a company that blended gasoline for Sahara confirmed that Sahara regularly ordered product as close as possible to 0.78 specific gravity.¹³⁰

In 2011, according to NEITI data, Sahara shipped 1,253,773 MT of gasoline under the SIR OPA. As shown in figure 19, using the best available data and standard conversion factors, we estimate that this could have deprived PPMC—and ultimately, Nigeria—of up to 135.5 million liters of gasoline that year, worth an estimated \$117.6 million to PPMC. The estimated loss comes to \$4.96 per barrel.

128 AITEO OPA Appendix 2. This is a large range: The gasoline spec published by DPR stipulates specific gravity of 0.735-0.775. DPR, Premium Motor Spirit Specifications, 2014.

129 Author interviews. By contrast, those selling to local marketers under PPPRA permits tended to deliver lighter grades. Their customers demanded lighter fare (typically around 0.745 specific gravity) to get more liters at the pump, PPPRA's subsidy calculations model pays more for lighter fuel, and lighter fuel would be easier to re-route and sell elsewhere if Nigerian buyers rejected their cargoes or deals fell through at the last minute. Ibid.

130 Author interview, 2015.

Product	Total MT supplied*	Total liters supplied	Est. value of gasoline supplied to PPMC (₦)!	Est. value of gasoline supplied to PPMC (\$)##
(a) 0.72 gasoline	1,253,773	1,744,311,686	₦228,504,830,899	\$1,513,277,026
(b) 0.78 gasoline	1,253,773	1,608,753,749	₦210,746,741,183	\$1,395,673,783
Difference, (a) - (b)		135,557,937	₦17,758,089,716	\$117,603,243

* NEITI 2009-11 Physical and Process Audit Report
 ! Multiplying total liters by average 2011 PPPRA published landing cost for gasoline
 ##Exchange rate: 151:1

Figure B19. Maximum potential losses to PPMC from SIR-Sahara's supply of heavier gasoline under the OPA, 2011

3.3. MISSING OR UNCLEAR CONTRACT TERMS

The Aiteo and SIR OPAs are also of concern for what they did *not* contain. Parts of them were poorly drafted, with conflicting or missing terms that could lower returns for Nigeria, depending on how the parties read them. The contracts' shortcomings gave PPMC, SIR and the traders too much discretion over some key processes in the deal. We cannot estimate any resulting losses because we do not know how the three parties managed the ambiguities. But at a minimum, any future investigation of the OPA should pay special attention to the following:

3.3.1. Unclear product substitution rules and processes

The OPAs had a fallback option if the yield patterns did not give enough of the products Nigeria needed. In both contracts, the parties could agree to substitute kerosene for “an equivalent amount of gasoline,” or diesel for “an equivalent amount of gasoline or kerosene.” Aiteo’s current deal allows for further product substitution: the contract says the parties can substitute gasoline for four products—kerosene, diesel, VGO and fuel oil—not just kerosene and diesel.¹³¹

Testifying before the Senate Finance Committee, NNPC explained this provision as offering Nigeria “the opportunity and flexibility to exchange products grades based on domestic need and immediate requirements.”¹³² Data it sent to NEITI for 2011 suggests the parties substituted most of the diesel due that year for gasoline (figure B20)—the yields call for around 30 percent of product volumes to be diesel, but only around 6 percent of Sahara’s volumes were diesel. Aiteo so far has delivered only gasoline and kerosene under its OPA, despite lifting diesel-rich crudes.¹³³ This begs the question of why PPMC chose OPAs rather than RPEAs, which would give NNPC only two products.

131 PPMC-SIR OPA Art.12(c)-(d); Aiteo OPA Art.12(i)(e)-(f).
 132 NNPC, Response to Sanusi p.6-7.
 133 2015 NNPC documents, vessel traffic reports and other market intelligence data on file with NRG.

Product	MT imported	Percentage of total	Yoho* yields in OPA	Brass* yields in OPA	Escravos* yields in OPA
Gasoline	1,253,773	45.3%	16%	16.5%	15%
Kerosene	577,587	20.9%	20%	19%	18%
Diesel	171,034	6.2%	30%	31%	31%

* For 2011, all liftings were Yoho, Brass or Escravos

Figure B20. Apparent product substitution under the PPMC-SIR OPA, 2011

Sources: NEITI 2009-11 Physical and Process Audit Report; PPMC-SIR OPA Art.6.

Remarkably, given the extent to which this option has been used, the OPAs did not lay out rules or processes for product substitution. The SIR contract only says that the “equivalent amount” of a substituted product would be “delivered to PPMC as stated in Article 6.”¹³⁴ But Article 6 only contains the table of yield patterns; it is silent about substitution. The contract did not define “equivalent amount.”¹³⁵ Language in Article 13 suggests that substitution was done at least partly on the basis of price, but does not say how. The Aiteo OPA has essentially the same language.¹³⁶

We cannot explain why the parties would go into the deal without locking down details of such a critical process. We cannot estimate losses or gains to any party from substituting products. Several interviewees thought that substitution was one of the things that cost Nigeria most, though none could say how it worked.¹³⁷ PPMC, SIR and Aiteo did not respond to our query on this topic. Sahara argued publicly that it substituted products under the OPA “for the convenience and benefit of the Nigerian public” and that “the parties apply contractually defined OPA conversion formulae to determine the exact volume of ‘Substitute Products’ to be delivered for the particular grade of crude oil that has been supplied.”¹³⁸ Again, however, the problem we point to here is that the contract does not include any such formulas.

3.3.2. No specified premium for pre-delivery of products.

Article 12 of the SIR and Aiteo OPAs allowed PPMC-NNPC to request that the traders supply refined products before they lifted a corresponding crude oil cargo. Data submitted by NNPC to NEITI shows this did happen occasionally under the SIR deal, though it was not the norm.¹³⁹ As with product substitution, though, the contract does not lay out detailed rules and procedures for pre-delivery. We understand pre-delivery as akin to SIR-Sahara offering PPMC a short-term credit line, which would entitle it to a premium for the service, either in extra oil or cash. But the PPMC-SIR OPA does not specify a premium. We asked NNPC, Aiteo and Sahara about this by letter in May 2015. Neither NNPC nor Aiteo responded. Sahara’s response did not discuss premiums.¹⁴⁰

134 PPMC-SIR OPA Art.12.

135 Art. 12 of both contracts also uses the terms “quantity” and “amount” somewhat interchangeably, without defining either.

136 Aiteo OPA Art.12, 14.

137 Author interviews, traders and industry consultants, 2014-2015.

138 <http://www.sahara-group.com/cg/opa-explanation.pdf>.

139 Figures contained in NEITI, 2009-2011 Physical and Process Audit, Appendix C, Part 2.

140 The company wrote: “Proceeding by way of pre-delivery is much more expensive for product suppliers such as SIR because it exposes them to significantly higher financing costs. This is primarily because they are not in a position to offer the crude oil as security for the financing and must by necessity, bridge the costs.” <http://www.sahara-group.com/cg/opa-explanation.pdf>.

3.3.3. Poorly defined rules and procedures for measuring the quality and quantity of delivered fuel

Both OPAs called for “a mutually acceptable independent inspector jointly appointed by NNPC and [the trader]” to test the quality and quantity of fuel delivered and issue certificates of quality and quantity based on its findings. The contracts say that these documents “shall be final and binding on the parties,” but do not expressly state that they are the controlling documents for use during reconciliation meetings. Both add that the certificates are not binding in cases where the inspector “did not undertake or witness” the tests, yet do not suggest to NNPC or the traders how to arrive at agreed numbers in that event.¹⁴¹

More specifically, regarding quality, neither contract sets clear rules, standards or procedures for measuring fuel quality. To assess whether the gasoline and kerosene Sahara supplied met the quality specifications in the contract, the SIR OPA specified only that the inspector had to carry out tests “at the discharge port [...] prior to commencement of discharge and in accordance with the test method(s) commensurate with current industry practice as approved by the Parties.”¹⁴² The part of Aiteo’s OPA headed “Refined Product Quality and Quantity Determination” does not discuss quality at all.¹⁴³

Regarding quantity, the contracts’ terms for quantity measurement did not protect the government against losses that can occur when imported fuel is discharged. At first glance, both OPAs designated out-turn quantity as the measure of how much fuel Aiteo and Sahara delivered. Yet the SIR OPA included only one sentence on the subject: it specified that the inspector should measure out-turn quantity “at the Discharge Port,”¹⁴⁴ but included no guidelines for how. Aiteo’s contract is more detailed, but some terms raise red flags. For fuel discharged by STS, the contract actually defines “out-turn quantity” as “bill of lading quantity,” and does not state clearly which B/L to use. (For an explanation of why this is important, see section 2.3.2).¹⁴⁵

Raising additional concern, for discharges at Lagos’s Apapa Port the Aiteo OPA says that “out-turn quantity shall be determined based on the vessel arrival figures” reported by the inspector.¹⁴⁶ This means that NNPC bears the costs of any fuel lost during discharge. Asked about typical product losses at Apapa, one fuel trader said, “It depends on how vigilant the inspection company is – some product can mysteriously disappear in the common pipeline network. But in my experience losses are pretty much always over 0.5 percent and sometimes as high as 1 percent or 1.5 percent.”¹⁴⁷ One percent of a 60,000 MT gasoline cargo (the size Aiteo most often delivers) is 600 MT, worth an estimated \$460,000 to NNPC at current prices.¹⁴⁸

141 PPMC-SIR OPA Art.17; Aiteo OPA Art.13.1.

142 PPMC-SIR OPA Art.17(B)(ii).

143 Aiteo OPA Art.13.3.

144 PPMC-SIR OPA Art.17(B)(i). The contract defined “Discharge Port” very broadly as “the berth, dock, anchorage, submarine line, single point or single berth mooring facility, offshore location, alongside Vessels or lighters or any other place in Nigeria at which the Refined Products to be delivered under this agreement are discharged.” *Id.*, Art.1(vii).

145 Aiteo OPA Art.13.3(ii).

146 *Id.*, Art.13.3(d). Note also that “Apapa Port” is not defined, despite the fact that the port complex at Apapa contains a large number of government- and private-owned fuel discharge and storage facilities.

147 Communication with authors, 2015.

148 Using July 29, 2015 PPPRA published landing cost for gasoline of \$766.60/MT.

In another omission, the Aiteo and SIR contracts failed to designate a standard temperature at which the inspector must measure quantity. This would not change the amount of fuel the traders were logged as delivering, but it could affect how much PPMC earned from selling the fuel. Both gasoline and kerosene expand or contract depending on how hot or cold they are. Their weights stay the same per unit, but their volumes change. PPMC sometimes sells swap imports—of kerosene especially—directly off the mother ships that bring them to Nigeria. Sales take place in liters instead of MT, with volumes sold measured at the point of discharge. If the inspector does not adjust the volume measure to reflect the difference between a contractual temperature and the actual temperature,¹⁴⁹ the buyers could receive more or fewer liters depending on how hot or cold the fuel is at the time. We do not have enough data to estimate gains or losses to NNPC from temperature differentials.

3.3.4. Insufficiently detailed rules for calculating demurrage.

The language in the SIR and Aiteo OPAs about demurrage shared the same basic weaknesses as that in the PPMC-Duke RPEA. (For more, see section 2.3.3.) Demurrage was a large cost under both OPAs. Some vessels chartered by Sahara and Aiteo to deliver fuel sat for weeks or even months in Nigerian waters before they discharged and sailed. Sahara reportedly invoiced PPMC over \$60 million for demurrage in the SIR deal's first fourteen months. According to data submitted by NNPC to NEITI, this was almost four times what BP-Nigermed collected under its OPA the previous year (figure B21). There was no corresponding drop in average demurrage rates in the shipping market between the two years. We wrote to Sahara asking them to comment on the difference, but they declined.

Company	Total volume of delivered product (MT)	Total demurrage	Demurrage per MT of product delivered
BP-Nigermed (2010)	2,350,159	\$14,745,244	\$6.27
SIR-Sahara (2010-2011)	2,561,856	\$60,193,196	\$23.50

Figure B21: OPA demurrage charges, BP-Nigermed versus SIR-Sahara, 2010-2011

3.3.5. No designated bank accounts for payments

By the fifteenth of each month, Aiteo and Sahara (the latter acting on SIR's behalf) were supposed to pay NNPC-PPMC for the value of any unpaid LPG, VGO or fuel they owed under their OPAs. Unlike some other NNPC trading contracts, however, the agreements did not include wiring instructions or bank account details. Instead, they said only that the companies should wire payments into "PPMC's nominated bank account."¹⁵⁰ We do not know which accounts the traders paid into, or how the funds subsequently traveled. Neither they nor PPMC answered our written requests for information on this point. Past audit work by NEITI and PwC apparently did not audit the accounts.

149 The industry norm is to measure quantity in MT in air at 15 degrees Celsius or 60 degrees Fahrenheit.
 150 PPMC-SIR OPA Art.10(iii)-(iv); Aiteo OPA Art.12(iii).

Box 1: Recommendations in the event that the government elects to sign more OPAs

We stand strongly by our recommendation that Nigeria abandon OPAs, for the reasons laid out in this report. However, if Buhari administration officials decide to continue using OPAs, the deals should not confer such high benefits to traders at the expense of the nation. Even more so than with RPEAs, it is critical that the Nigerian government, not traders or refiners, proposes the opening terms and negotiates aggressively until it arrives at fair, transparent, auditable arrangements

One reason that OPAs are, by nature, opaque and hard to monitor is that the contracts do not state a fixed cost per barrel of having crude refined abroad. Instead, the cost is a function of the deal's key terms. The degree with which the terms favor NNPC or the contract holder depends, in turn, on market variables that are always moving—for instance, crude oil prices and qualities; refining costs, performance and margins; spot market fuel prices; international demand for oil and fuel tankers; and fuel losses during delivery. To capture fair returns to the nation out of all this complexity, the presidency would need to ensure that NNPC:

- Does not recycle the old SIR, Sahara and Aiteo contracts as models.
- Uses a new draft contract for negotiations that, at a minimum:
 - Has clear, balanced terms that reduce opportunities for abuse.
 - Contains cost and price structures that reflect market fundamentals, developed based on detailed, multi-scenario projections.
 - Sets out product yield patterns that are based on yields from reliable, complex refineries configured to deliver high outputs of gasoline and kerosene.
 - Requires the contract holder to refine most or all of the crude it lifts, instead of trading it. For cargoes that are traded, the contract holder should share margins with NNPC.
 - Is developed mainly by independent downstream sector experts and trading lawyers reporting to a presidency official (or, perhaps, a new NNPC board) rather than solely to internal NNPC staff.
 - Does not rely heavily on suggestions from traders and other parties with interests in the outcome.
- Holds an open, competitive tender for the new OPAs, including key terms in the tender announcement, to weed out unqualified applicants and establish a strong negotiating position at the outset.
- Carefully selects and oversees the internal staff who will manage the contracts after signing.
- Submits to more external oversight of deals.

4. Preventing mismanagement of swaps

A balanced contract that addresses the shortcomings noted in sections 2 and 3 will not by itself give Nigeria fair value from a swap. NNPC and the trader must also run the deal efficiently and according to the rules. Unfortunately, Nigeria's processes for importing fuel suffer from chronic mismanagement and abuses of discretion. Investigations from the 2012 fuel subsidy scandal found a leaky morass of a system that political insiders had squeezed for quick cash at almost every node.¹⁵¹

The traders with NNPC-PPMC swap contracts deliver products into the existing supply chain for NNPC fuel imports. As was the case with PPMC's open account imports, none of the swaps signed since 2010 require the traders to find buyers for the products they deliver. All they have had to do is physically deliver fuel by ship to the discharge points in Nigeria chosen by NNPC-PPMC. The main options are NNPC-owned or private jetties, NNPC's single buoy mooring (SBM) facility offshore the Apapa Port Complex in Lagos, or ship-to-ship transfers onto other, smaller tankers (called "lighter" or "shuttle" vessels) nominated by NNPC-PPMC. The result is a complex, hard-to-track tangle of moving vessels, tanker trucks and pipeline deliveries; who owns the fuel in each is often unclear.¹⁵²

For this report, we have not carried out a comprehensive study of the governance and performance of NNPC's downstream supply chain. Prior government reports and our interviewees describe multiple rackets around shipping, distribution and sales of fuel—rackets to which swap imports would be susceptible. For example, well-connected elites and criminal networks reportedly have been smuggling NNPC gasoline, kerosene and other fuels to neighboring countries with higher pump prices, both over land and by ship.¹⁵³ In another practice called "round-tripping," companies reportedly buy fuel from NNPC's refineries at subsidized prices, and then sell it back to PPMC at import prices.¹⁵⁴ By filing false paperwork and making payments to officials and inspectors, some also reportedly supply low-quality, adulterated products; overstate the amounts of fuel they import; over-claim fuel subsidy; or steal products owned by the government for private profit.¹⁵⁵

151 For the most complete overviews of the scandal, see Lawan Report, Aig Technical Committee Report, and the Berne Declaration Nigeria Report.

152 PPMC told PwC that 283 vessels were involved in moving its fuel imports between January 2012 and July 2013. PwC Report p.78. Of 857 petrol transactions that PPPRA monitored in 2011, 308 (or 36%) involved three or more vessels. Some took as many as six. In some cases, a 2012 executive committee noted, following the products all the way, by satellite or other means, was "absolutely impossible." Aig Technical Committee Report p.40.

153 Author interviews, trading company personnel, industry consultants and law enforcement officers, 2012-15. During the late military period, some industry sources estimated that up to 100,000 b/d were being smuggled into Benin, Niger and Cameroon. S.A. Khan, *The Political Economy of Oil and Gas in Nigeria*. Oxford: Oxford University Press, 1994, p.127-8. See also S. Golub, "Government Policies, Smuggling, and the Informal Sector," 2012, available at: http://www.swarthmore.edu/sites/default/files/assets/documents/user_profiles/sgolub1/Chapter%209%20final.pdf. One study estimated that as much as 83 percent of Benin's gasoline imports in the 2000s were smuggled from Nigeria. V. Morillon and S. Afouda, "Le trafic illicite des produits pétroliers entre le Bénin et Nigeria," *Economie Régionale* (Cotonou: LARES), September 2005 issue, p.1-12.

154 Author interviews, trading company personnel, industry consultants and law enforcement officers, 2012-15. Lawan Report p.78, 142, 200-201.

155 Author interviews, trading company personnel, industry consultants and law enforcement officers, 2012-15. Lawan Report p.106.

These practices are widely acknowledged and deeply entrenched. Nigerian officials talk freely about them—routinely blaming smugglers, for instance, for fuel shortages and subsidy fraud.¹⁵⁶ Yet they also tend to describe smuggling and the like as regrettable departures from the norm, when in fact they are basic parts of the supply chain. Although there are no good estimates of volumes lost, some of the fuel rackets may rival Nigeria's crude oil theft problem their complexity and scale.¹⁵⁷ (For more on oil theft, see main report p.69.) Smuggling and round-tripping in particular have grown into cottage industries that feed expensive gray markets for fuel in Nigeria and beyond. "There are some marketers, ship owners and agents, mostly in Lagos, who have run these things for years. Everybody knows who they are, and who is behind them," said one West African gasoline trader.¹⁵⁸ Nonetheless, the country has not successfully prosecuted any high-level suspects in over three decades.¹⁵⁹

4.1. POTENTIAL IMPLEMENTATION PROBLEMS FACING SWAP IMPORTS

The problem with NNPC's fuel imports are bigger than the swaps, and pre-date the swaps. But the swap contracts themselves did not include strong protections to guard the transactions against the broader bad practices that have affected Nigerian fuel imports. The government did revamp some oversight procedures for fuel imports after the 2012 subsidy scandal, but most of the changes affected marketers with PPPRA permits, not PPMC suppliers.¹⁶⁰ One former swap contract holder, Ontario, is still in court on charges that it over-collected ₦414 million in fuel subsidy by submitting false papers showing that it imported an extra seven million liters of gasoline in 2011.¹⁶¹ Again, while we have not carried out a systematic study of governance issues and possible loss points in the NNPC fuel supply system, our research found at least the following potential problems, which merit further scrutiny:

4.1.1. Questions about inspection of fuel imports and oversight of product movements.

As noted above, the swaps have relied on non-transparent, closed door, two-party reconciliation meetings to test whether the traders have supplied enough products. Without a strong, reliable regime of on-site inspections by outsiders to the deals, the parties would have near-total say over what products came on and off of the ships involved. This, in turn, could make the swaps difficult to audit should allegations of mismanage arise, as they lately have.

156 See e.g., *Vanguard Nigeria*, "We have demystified the oil industry – Alison-Madueke," February 26, 2015, available at: <http://www.vanguardngr.com/2015/02/we-have-demystified-the-oil-industry-alison-madueke/>; *This Day*, "NNPC: Smugglers, peddlers, others bane of effective kerosene supply," February 19, 2014, available at: <http://www.thisdaylive.com/articles/nnpc-smugglers-peddlers-others-bane-of-effective-kerosene-supply/171850/>; <https://www.youtube.com/watch?v=FgITJLD2194>.

157 Author interviews, trading company personnel and government officials, 2013-15.

158 Author interview, 2015.

159 It is said that the Buhari military government arrested more than 350 individuals for smuggling and related offenses after seizing power. T. Turner, Nigeria: "Oil Smuggling & Other Economic Troubles," *The Multinational Monitor*, Volume 5 Issue 5 (May 1984 issue), available at: <http://www.multinationalmonitor.org/hyper/issues/1984/05/turner.html>.

160 For a list, see NEITI 2012 Oil and Gas Audit Report, Appendix 8.2.4.

161 See footnote 51 for more detail.

The recent swap contracts, together with Nigerian regulations and existing institutional practices, call for what sounds like a rigorous, multi-agency inspection process. Checks for each tanker carrying fuel to NNPC-PPMC are supposed to start outside Nigeria, at the loading port, and continue en route.¹⁶² Once the vessel anchors offshore of Lagos, NNPC-PPMC and the trader must jointly hire and pay an inspector to verify the amounts and quality of what is on board.¹⁶³ Multiple layers of onboard and onshore checks by government actors—including PPPRA, the Department of Petroleum Resources (DPR), the Nigerian Navy, the Nigeria Port Authority (NPA), private inspection companies working on contract—are also supposed to confirm how much fuel the vessel discharges and where the fuel goes, both to help the government manage inventory and verify fuel subsidy claims.¹⁶⁴ NNPC and some swap contract holders say that procedures are consistently followed.¹⁶⁵

However, in practice, the inspection system appears to have serious weaknesses and falls well short of written rules. Heads of PPPRA and DPR have said as much in writing and before parliament.¹⁶⁶ According to KPMG and the Senate Finance Committee, PPPRA's oversight of NNPC imports is a "book keeping verification exercise rather than physical verification of products and claims."¹⁶⁷ A 2012 House of Representatives committee report found that NNPC fuel imports "were not subjected to the apparently stringent [...] inter-agency verification exercise," and further that "NNPC was the sole keeper of the records of the volume of its imports."¹⁶⁸ The committee concluded that "the non-availability of alternative sources of data [...] enabled NNPC to fix the volume claimed to have been actually imported and offloaded."¹⁶⁹

Past probes also raised doubts about oversight of where NNPC fuel goes once it comes onshore. KPMG noted, for instance, that DPR did not have "an integrity inventory management system to capture and monitor inventory across all depot locations." Instead, staff at the depots manually entered data into their own individual Excel workbooks.¹⁷⁰ NEITI reported that the gauges and meters installed at PPMC fuel depots, jetties, tank farms and pipelines were often mis-calibrated, unreliable and in need of repairs.¹⁷¹ Its 2012 review of PPMC fuel depot records also could not account for ₦11.702 billion (or \$74.3 million) in gasoline supposedly pumped through the depots that year. Its auditors "observed irreconcilable differences" in depot balances and noted that PPMC records in the area were "incomplete."¹⁷²

162 See e.g., PPMC-Duke RPEA Art.8; PPMC-SIR OPA Art.17; <http://www.sahara-group.com/cg/opa-explanation.pdf>.

163 *Ibid.*

164 Aig Technical Committee report p.21; Lawan report p.31; NNPC Response to Sanusi p.7.

165 See e.g., <http://www.sahara-group.com/cg/opa-explanation.pdf>; NNPC Response to Sanusi p.7.

166 See e.g., PPPRA, Response to Questions Posed by Members of the Petroleum Revenue Special Task Force, April 2012, p.3.; transcripts of February 2012 Farouk Lawan Committee hearings.

167 KPMG Project Anchor Report sec.6.3; Senate Finance Committee Report p.54. PwC also found that "there was no evidence that PPPRA verified any of the DPK imported into Nigeria by NNPC/PPMC between January 2012 and July 2013 within the same period." PwC Report p.69. For more problems with PPPRA approvals of NNPC fuel imports and subsidy claims, see annex A p.A17-A18.

168 Lawan Report p.91, 126.

169 *Id.*, p.126.

170 KPMG Project Anchor Report sec.6.3.15.

171 NEITI, 2009-11 Physical and Process Audit report, Appendix F: Hydrocarbon Metering Processes.

172 NEITI, 2012 Oil and Gas Audit Report p.338.

The 2012 parliamentary investigation of the fuel subsidy scandal claimed that these management practices facilitated some of the rackets around NNPC fuel supply. For example, the committee in its final report claimed that “lack of monitoring of trucked out products, distribution/sales of petroleum products as well as poor supervision of retail outlets by DPR led to diversion and smuggling of petroleum products.”¹⁷³ The study concluded that there was a pattern “of collusion established between some facility/depot owners, staff of DPR, PPPRA and consultants which clearly undermined the accurate reporting of movements of petroleum products in and out of the facilities/depots.”¹⁷⁴ As an example of the risks created, the committee cited a case in which inspectors and staff at the various oversight agencies allegedly signed off on papers for a cargo of NNPC gasoline that never existed.¹⁷⁵

4.1.2. Unclear vessel and product movements

Our research also found fuel cargoes with incomplete or contradictory shipping and discharge records. For example, a 2012 Nigerian House of Representatives committee, working with Lloyd’s List Intelligence, found that thirteen swap cargoes in 2011 came with documents that:

- did not state where any of the products on board were discharged
- did not show discharges of the full amount of products reported on board
- contradicted each other on discharge amounts or locations.¹⁷⁶

We reviewed commercial vessel traffic reports for 2013 to 2015 that showed similar issues.¹⁷⁷ We cannot independently confirm the accuracy of this data, and we understand that there may well be legitimate explanations in some cases. For example, some of the fuel onboard could have been for delivery to other parties under other contractual arrangements, or the traders could have been holding the products until they received a cargo of crude from NNPC to pay for them. Poor government recordkeeping could account for some of the gaps, which no party has publicly explained to date.

4.1.3. Incomplete published records for sales and distribution of kerosene and gasoline imported under the swaps

Our analysis of NNPC’s own published data on PPMC’s product imports found some sizable, unexplained anomalies. From 2012 to 2014, the corporation reported that it supplied between 8.5 and 12.5 MT of kerosene and gasoline per year to the Nigerian market. All of this reportedly either came from its refineries or the swaps. But out of this total pool of products, NNPC records annual sales and distribution figures that are far lower than the total amounts it claims to have supplied. Most dramatically, in 2012 NNPC logged over 1.3 million MT of gasoline as supplied but not sold. This large

173 Lawan Report p.109.

174 *Id.*, p.126.

175 *Id.*, p.79, citing the “case of a vessel which was said to have brought products for NNPC and was recorded in the documentation of NAVY, NPA, PPPRA, FMF etc. but was found out through Lloyds List Intelligence (LLI) that the vessel was in South Africa and not in the Nigerian waters as at the date recorded.” The committee did not name the supplier of this supposed phantom cargo, or say if it was from the swaps. For other examples, see Aig Technical Committee report p.32-39.

176 Lawan Report p.132f.

177 Copies on file with NRCI.

amount of fuel could fill roughly 39 mid-sized (35,000 MT) tanker ships. We estimate its market value at \$1.44 billion.¹⁷⁸ The following year, NNPC's numbers for kerosene distributed in Nigeria fell short of what it claimed to have supplied by 823,957 MT—or about 23.5 tankers worth an estimated \$972 million (figure B22).¹⁷⁹ Again, poor recordkeeping could account for some of the discrepancies, but so could smuggling, round-tripping, over-claiming of import amounts, and other bad practices. Further investigation is warranted.

Figure B22. PPMC gasoline and kerosene unaccounted for in published NNPC records, 2012-2014

Sources: 2012, 2013 and 2014 NNPC Annual Statistical Bulletins. Blank cells indicate unavailable data.

Item	Gasoline			Kerosene		
	2012	2013	2014	2012	2013	2014
(a) Total fuel that NNPC reports supplying the Nigerian market						
Supplied amount (MT)	7,287,152	5,601,342	5,816,579	2,631,769	2,916,353	6,677,615
(b) Total fuel that NNPC reports selling						
Sold amount (MT)	5,917,512	5,516,310	4,875,489	2,453,479	2,899,741	2,456,603
(c) Shortfall between NNPC supply and sales figures—i.e., fuel reported as supplied but not recorded as sold (a) – (b)						
Amount (MT)	1,369,640	85,032	941,090	178,290	16,612	221,012
Percentage of total supply	18.8	1.5	16.3	6.8	0.6	8.2
No. of 35,000MT cargoes	39.1	2.4	26.9	5.1	0.5	6.3
(d) Total fuel that NNPC reports as distributed from its supply						
Distributed amount (MT)					2,092,396	2,265,610
(e) Shortfall between NNPC supply and distribution figures—i.e., fuel reported as supplied but not reported as distributed (a) – (d)						
Amount (MT)					823,957	412,005
Percentage of total supply					28.6	15.2
No. of 35,000MT cargoes					23.5	11.8
Other Factors						
(f) PPMC product pipeline losses (MT)##+	181,670	327,480	335,690	0	0	0
(g) PPMC exports	0	0	0	0	0	0

* Figures based on invoices rather than discharge records

Figures may include some volumes of lost diesel

+ PPMC does not transport kerosene via its pipeline network

4.1.4. Sales of kerosene to swap holders at subsidized prices.

In addition to their activities under the swaps, Aiteo and Sahara both bought imported kerosene from PPMC's Inland Sales Department in 2011—at least 60,287 MT and 48,248 MT, respectively.¹⁸⁰ The vast majority of this fuel was imported under the swaps, the records suggest.¹⁸¹ We examined a random selection of ten of the sales which showed that the companies consistently paid PPMC ₦40.9 (approximately

178 Figure uses an average 2012 sales value for petrol of \$1150/MT. More extensive forensic analysis would be needed to determine the actual gross sales revenues PPMC would have earned by selling the product in the Nigerian market.

179 Figure uses an average 2012 sales value for kerosene of \$1180/MT. Again, more extensive forensic analysis would be needed to determine the actual gross sales revenues PPMC would have earned by selling the product in the Nigerian market.

180 Data taken from records of PPMC sales of coastal liftings of kerosene submitted to NEITI and reprinted in NEITI, 2009-11 Physical and Process Audit Report, Appendix C, Part Three.

181 The records identified offshore Lagos—where swap holders deliver kerosene—rather than the refineries as the load port for most of the sales. By 2011, the swaps accounted for nearly all kerosene imports, according to records of PPMC fuel imports on file with NREGI.

\$0.25) per liter.¹⁸² This came at a time when PPPRA regularly calculated the market costs of importing kerosene into Nigeria at ₦140- ₦160 (approximately \$0.90 - \$1.00) per liter.¹⁸³ In later years, Taleveras and Ontario also occasionally purchased small parcels from PPMC. We do not have pricing data for those sales.¹⁸⁴ To the best of our knowledge, none of the RPEA or OPA holders have retail kerosene distribution businesses.

At a minimum, allowing intermediaries to buy subsidized PPMC kerosene and sell it for profit runs counter to the purported goal of Nigeria's kerosene subsidy: the provision of affordable lighting and cooking fuel for the country's poor. More than one government report has found that PPMC regularly sold kerosene at below-market prices to intermediaries with no retail stations, allowing the companies to re-sell the product at higher rates, either to bona fide retailers or other buyers. Among retailers, only NNPC's own stations—36 in total—regularly sold at the official regulated price of ₦50 per liter (\$0.35), but they make up a small portion of the market.¹⁸⁵ A 2012 executive committee estimated that two-thirds of PPMC kerosene traffic from 2009 to 2011 flowed through at least one intermediary between the importer and retailer.¹⁸⁶

The kerosene subsidy was “a bonanza for rent-seeking middlemen,” the committee concluded.¹⁸⁷ The most visible outcomes of this system are high prices for consumers,¹⁸⁸ product scarcity and profits to middlemen.¹⁸⁹ Nigerian officials, traders, industry consultants and commercial airline staff also claim that some marketers divert kerosene purchased from PPMC to the country's airports, where it is sold as jet fuel at market prices.¹⁹⁰

182 The PwC audit also found that “DPK was sold before arrival in Nigeria, to other marketers between January 2012 and July 2013 at ₦40.90.” PwC Report p.73, 75.

183 For example, the documents we reviewed showed that Sahara loaded 6,279,464 liters of kerosene on the Meteor (B/L date April 20, 2011) with a “value” of ₦256,830,077.60 (or ₦40.9/liter). A PPPRA Pricing Template for April 2011 showed that landing costs for kerosene were above ₦150/liter in early April.

184 Market intelligence data on file with NREGI. Taleveras wrote to us that “at no time during the subsistence of the [Duke RPEA] did Taleveras claim or receive any subsidy.” Taleveras, 17 July 2015 letter to NREGI, p.6.

185 Lawan Report p.103; author interview, downstream consultant, 2015.

186 Aig Technical Committee Report p.10.

187 *Id.*, p.25; also see Lawan Report p.100.

188 For his February 2014 submission to the Senate Finance Committee, Sanusi commissioned two studies on retail kerosene prices in Nigeria. The studies found that in 2012-2013, average monthly pump prices for kerosene, both in Lagos and nationwide, ranged from ₦120 to ₦300/liter. Sanusi Senate Submission, Exhibits 26 and 27. When asked for the per-liter retail price of kerosene in Nigeria during 2012 hearings on fuel subsidy fraud, the heads of DPR, NNPC, PPPRA and PPMC gave numbers ranging from ₦50 and ₦151. Press clippings and hearing transcripts.

189 Using rough calculations, Sanusi told the Senate Finance Committee that a “syndicate” of well-connected players was earning “rent of \$20 million/vessel” on kerosene entering Nigeria, or about “\$100 million every month for a number of years.” The governor described this as part of “a racket in which NNPC bought kerosene at ₦150/litre, sold to marketers at ₦40/litre knowing well that the retail price was more in the region of ₦170 – ₦250 litre,” adding: “The margin of 300% - 500% over purchase price is economic rent, which never got to the man on the street.” Sanusi Senate Submission p.7.

190 Author interviews, 2012-2015; see also <http://www.vanguardngr.com/2015/02/we-have-demystified-the-oil-industry-alison-madueke/>. Taleveras wrote to us that it did not sell any of the kerosene it bought from PPMC for use as jet fuel. 17 July 2015 letter. We asked Sahara and Aiteo the same question, but the companies did not respond.

4.1.5. Late deliveries of fuel under some deals

In early 2015, several companies party to swaps fell behind on their delivery obligations, then picked up the pace around April, after Goodluck Jonathan lost the 28 March presidential poll. These transactions have included:

- *2015 Taleveras and Ontario deliveries under the PPMC-Duke RPEA.* Taleveras and Ontario, as Duke's subcontractors, lifted their last crude cargoes in December 2014, when the PPMC-Duke RPEA expired.¹⁹¹ Their final product deliveries should have shown up offshore Nigeria by sometime in February, since the contract required them to supply all products due within sixty days of the crude cargoes' B/L dates.¹⁹² However, tankers chartered by the two companies to deliver fuel for PPMC kept arriving in later months (figure B23).

Month	Taleveras	Ontario
March	30,000 MT gasoline, Torm Gerd	
April	30,000 MT gasoline, British Tenacity 27,000 MT gasoline, Torm Vita	35,000 MT gasoline, Isola Bianca 35,000 MT gasoline, Mare Caribbean
May	49,000 MT gasoline, Two Million Ways	
June	27,000 MT gasoline, Maersk Elizabeth 35,000 MT gasoline, Sti Milwaukee 30,000 MT gasoline, Nord Thyra	
July	31,000 MT gasoline, Hafnia Libra	

Figure B23. Taleveras and Ontario product deliveries to PPMC, March-July 2015, by cargo and vessel

Sources: Commercial vessel traffic reports and satellite imagery
Note: Delivery quantities are all approximate.

In an 8 June 2015 press release, Taleveras explained that it had to deliver some products later because PPMC did not hold a final reconciliation meeting to settle accounts until 5-8 May, despite Taleveras having asked for an earlier meeting date.¹⁹³ The company added that in the interim it had imported "over 102 million litres of gasoline" to help Nigeria avoid fuel shortages.¹⁹⁴ The company told us by letter that "all delivery obligations have been met post reconciliation to date."¹⁹⁵

This situation does not accord with the terms of the PPMC-Duke RPEA, in two ways. First, the contract called for periodic reconciliation meetings every two months, and a final meeting within 15 days of the contract's end.¹⁹⁶ Taleveras understandably would not want to be a creditor to debt-ridden PPMC, and so would not want to deliver its final fuel cargoes under the RPEA until its precise outstanding obligations to the company were known. But the Duke contract made no exception for late product shipments in the event that the final reconciliation meeting did not take place on time. It is unclear why PPMC chose to delay the reconciliation meeting for such a long period.

¹⁹¹ NNPC Crude Profiles for Domestic Consumption, December 2014; market intelligence data on file with NRGi.

¹⁹² PPMC-Duke Art. 2(iv). In our reading, the agreement contains no exceptions to this rule for end-of-contract deliveries.

¹⁹³ In correspondence with us, the company added that "setting a date for the reconciliations and getting four different organizations (NNPC, PPMC, Duke, Taleveras) together at the same time proved challenging." Taleveras, 17 July letter to NRGi, p.4.

¹⁹⁴ *This Day*, "NNPC oil swaps: Taleveras says it was not asked to refund 115mn," 8 June 2015, available at: <http://www.thisdaylive.com/articles/nnpc-oil-swaps-taleveras-says-it-was-not-asked-to-refund-115m/211451/>.

¹⁹⁵ Taleveras, 17 July 2015 letter to NRGi, p.4.

¹⁹⁶ PPMC-Duke RPEA Art.17(iii)-(iv).

Second, the Duke contract did not foresee such large arrears. Its main provision about final deliveries, Article 2(iii), specified that Duke could pay PPMC cash at the contract's end if Duke owed less than half of a cargo of fuel. By contrast, our research found that Taleveras delivered eight full cargoes—or approximately 258,000 MT—of gasoline to PPMC more than sixty days after the contract expired (figure B23). As a rough rule of thumb, for each 950,000 barrel cargo of crude lifted under the RPEA, Taleveras was obligated to supply around three cargoes of products. Using this rule, it would appear that by 60 days after the end of the Duke agreement, the company still owed PPMC products of a value equivalent to two to three full liftings of oil.¹⁹⁷

Ontario put out a statement the day after Taleveras. In it, the company did not comment on its apparently tardy gasoline deliveries. Instead, it simply wrote that under the PPMC-Duke RPEA it had “lifted 47 crude cargoes and corresponding refined products have been supplied against every single crude cargo lifted.”¹⁹⁸

Ontario added that it is “a law abiding and responsible organization” with a “reputation for probity and accountability [that] is unassailable,” and that any claims that it had not supplied PPMC with enough fuel came from “surreptitious efforts by some persons who, out of envy for the progress made by our company, are eager to spread malicious and concocted rumours.”¹⁹⁹

- *2015 Aiteo deliveries under its OPA.* We also obtained and analyzed vessel traffic reports and NNPC records showing Aiteo's crude liftings and fuel deliveries under its OPA in the first quarter of 2015. Like the PPMC-Duke RPEA, the Aiteo OPA called for all products that Aiteo owed NNPC to arrive within two months of receiving crude.²⁰⁰ But Aiteo fell behind for some liftings, the records said.²⁰¹ April 2015 reporting by the oil sector trade journal *Energy Compass* also found shortfalls.²⁰²

A comparison with Sahara Energy raises further questions about Aiteo's performance. According to the data we reviewed, Aiteo supplied 8 product cargoes—three of kerosene and five gasoline, totaling approximately 347,000 MT—under the OPA in the first quarter of 2015. In the same period, Sahara sent NNPC at least 35 cargoes—or a total of approximately 1,204,000 MT—under its OPA.²⁰³ Because both companies were operating under 90,000 b/d OPAs signed around the same time, the 27 cargo discrepancy during this period between their respective deliveries warrants scrutiny. Aiteo's imports under its OPA picked up in the second quarter: from the best available data, we estimate that it supplied NNPC with at least 947,000 MT of gasoline between April and June 2015. We do not have sufficient data to determine whether the company was current on its delivery obligations during that period.²⁰⁴

197 When we shared this estimate with Taleveras, the company responded that “as a rule of thumb 950,000 bbls of crude was approximately three cargoes of product, but at the end of the RPEA, the amount of crude vs product has to net-off at ‘zero’ to either party and so the correct amount of product will be delivered versus the amount of crude loaded and not delivered against a ‘rule of thumb.’ In order to ensure that the net result between the contractual parties was ‘zero,’ with neither side having over or under delivered, it was important that the reconciliation be held prior to the delivery of final cargoes.” 17 July 2015 letter to NRG, p.5.

198 *This Day*, “Ontario: We have supplied all fuel cargoes to NNPC,” 9 June 2015, available at: <http://www.thisdaylive.com/articles/ontario-we-have-supplied-all-fuel-cargoes-to-nnpc/211550/>.

199 *Ibid.*

200 Aiteo OPA Art.2(iv).

201 For example, the data showed that by the close of March 2015, Aiteo had not supplied any products to pay NNPC for its 24 January 2015 lifting of 949,969 barrels of Escravos crude aboard the *Kokkari*.

202 *Energy Compass*, “Nigeria: Buhari Mulls Corruption Fight,” 24 April 2015.

203 NNPC documents and commercial vessel traffic reports on file with NRG.

204 Figure based on our analysis of 2015 NNPC documents, commercial vessel traffic reports, tanker market reports and other market intelligence data on file with NRG.

We asked Aiteo to confirm that the accuracy of the numbers we computed, and for an explanation as to the differences between what Aiteo and Sahara supplied in first quarter 2015.²⁰⁵ The company asked NREGI to sign a non-disclosure agreement before it would discuss details, writing that in order to answer our questions it would have to volunteer “a significant amount of proprietary and or confidential information.”²⁰⁶ In the interests of transparency, we declined to sign the non-disclosure agreement, and asked that they still provide some information. One day later, Aiteo released a statement saying that “at the end of a reconciliation meeting with the NNPC, the company was declared up to date in its contractual performance.” Therefore, Aiteo claimed, it had “discharged its obligations creditably” and had “not breached any obligation in [its] OPA.”²⁰⁷

4.2. FURTHER STUDY AND REFORMS NEEDED

To fundamentally improve how fuel imports work, Nigerian officials would first have to study the status quo closely and ask difficult, pointed, politically sensitive questions. Before deciding on reforms, they would need to know who makes the costly decisions now; where their influence and incentives come from; and what gaps in rules, processes and accountability give them cover. For reforms that seem obvious but have gone nowhere, it would be important to ask why. The new administration will find a decades-long backlog of remedial and preventive opportunities missed. And NNPC cannot be left to clean up its own house, as that is where many of the worst problems lie.

We do not offer recommendations here for a full course of reforms. Further study is needed to determine which steps would bring better results. Removing NNPC from the Nigerian fuel market altogether may be the only cure for some existing ills. We would suggest that government:

- Commission an independent baseline study of governance issues with NNPC fuel imports.
- Review the inspection processes for imports, including the conduct of the private companies and government agencies involved.
- Explore what additional rules and oversight are needed for STS operations by tankers carrying fuel.
- Audit how PPMC manages coastal liftings of fuel, including the vessels and private companies involved, and replace those actors involved in malpractice.
- Commission periodic external audits of product movements through the NNPC fuel imports supply chain, and holding responsible actors to account for irreconcilable losses.
- Develop robust due diligence functions for choosing service providers.

205 NREGI, May 2015 letter to Aiteo.

206 Aiteo, 18 May 2015 email to NREGI.

207 See *Premium Times*, “Aiteo not front for Jonathan, Diezani, says spokesperson,” 19 May 2015, available at: <http://www.premiumtimesng.com/business/183282-aiteo-not-front-for-jonathan-diezani-says-spokesperson.html>.

- Institute more open, competitive tender processes for service contracts relating to fuel imports.
- Review record-keeping and reporting for NNPC imports, with a view to improving transparency and accuracy.
- Stop subsidized sales of kerosene to swap holders.
- Formally end the kerosene subsidy.
- Make and enforce a clear policy about whether companies can sell NNPC-imported kerosene as jet fuel.
- Cancel NNPC's contracts with any service providers found to have engaged in malpractice around fuel imports.
- Design and implement a program of internal sanctions for NNPC and other agency staff caught engaging in malpractice.
- Write and enforce rules against awarding export, import or swap contracts to companies linked to PEPs.
- Force holders of swap and related service contracts to declare their beneficial owners, and impose legal penalties for false declarations.
- Refer offenders to the EFCC for prosecution, including top officials when appropriate.

5. Conclusion

This report has offered recommendations for how Nigeria can obtain better value from oil-for-product swaps. We recognize that government may have to use swaps for some time, and want to provide realistic, useful advice. If the country must barter with its most valuable asset, it should strike deals that deliver optimal returns.

Nonetheless, the Buhari government should treat swaps as a short-term measure. The administration should not let swaps become a permanent feature of Nigeria's energy landscape. Their governance risks are inherently high. The new administration might sign better contracts than those from the 2010-2014 period, but it will not be able to drive out all of the entrenched rackets and rent-seeking around NNPC fuel imports. Liquidation of the corporation's downstream operations would seem to be the only feasible way forward. (See main report p.67.)

The recent swaps are also another unfortunate example of NNPC relying on short-term, stop-gap measures instead of tackling deeper problems. In the five years that the Goodluck Jonathan government poured crude worth approximately \$35 billion into swaps, officials could have worked on finding a workable corporate finance model for NNPC, fixing (or selling) the refineries, cleaning up the DCA—of which the swaps are a part—or stemming the unsustainable losses from NNPC's downstream businesses. As recommended throughout this report, targeted reforms to the swaps should be accompanied by solving the deeper problems with NNPC that made the swaps necessary in the first place.