2017 INDUSTRY REPORT

GHANA PETROLEUM DOWNSTREAM

CBOD

GHANA CHAMBER OF BULK OIL DISTRIBUTORS

MEET THE BOARD

CBOD
GHANA CHAMBER OF BULK OIL DISTRIBUTORS

IVY APEA OWUSU

Ivy has been working in the Energy Sector since 2002. She worked with GE Capital in the USA from 2002 through to 2007 and in the UK from 2007 until August 2009 in Energy Financing. Prior to that, she was with the Consumer Banking Department at Ecobank Ghana, from 1998 until 2001, where she worked closely with the Head of Consumer Banking and Customer Care. Ivy is a graduate of the University of Ghana, Legon (BA Admin), as well as Vanderbilt University in TN, USA (MBA). She also holds leadership certificates from both Harvard and Stanford Business Schools in the USA.

Ivy began her energy career in 2002 as an associate with GE Structured Finance Group and GE Energy Financial Services (GE EFS), focused on reserve-based acquisition and monetization and quickly rose through the ranks to become Vice-President in January 2007. During this period, she garnered hands-on experience in both Debt and Equity financing in Oil & Gas, Power Generation, Renewable and Ancillary Energy Services Sectors. She was also involved in portfolio management, underwriting and loan syndication.

In 2007, Ivy was appointed Risk Director and transferred to London, UK to set up and head a European Structured Finance desk for GE's French Bank (GECFB). In this role, she worked closely with GE EFS and was responsible for deal structuring, document and contract negotiations, supervising deal teams in risks and mitigant analysis and presenting deals to credit committee for approval. She worked on more than $1bn transactions covering Leverage Buyouts, Project Finance and Acquisition Finance.

Her experience and wins include closing and syndicating the first GE Energy Financial Services UK Wind Farm Project Finance deal ($60mn) and the financing of 3 Spanish Solar projects ($100mn) with WestLB and Santander Banks. She was also the portfolio manager and agent for the $100mn Katahdin Power Generation Portfolio which was owned by ArcLight Capital Partners. In 2008, she was handpicked and awarded by the Company CEO as an outstanding employee. She also received the best employee award in 2000 at Ecobank Ghana Limited.

Ivy joined Cirrus Oil in 2009 as the company's Risk Manager. She was promoted to the role of General Manager, Commerce a few weeks after joining the company and then appointed CEO in November 2010. In this role, she spearheaded a wide range of health and education-related community activities for Cirrus, including partnering with the Pediatric Oncology Centre at the Korle Bu Teaching Hospital (KBTH), as well as constructing and furnishing a library for the Poasi and New Takoradi communities in the Western Region of Ghana.

Ivy has held numerous speaking engagements; some of which include giving the keynote address for the Canadian Chamber of Commerce Power Breakfast 2012, panel presenter during the 2013 TICAD V conference in Japan, speaker at the CWC Energy Conference in Ghana 2011, etc.

She is currently the Chairman of the Board of Directors of the Chamber.

SENYO KWASI HOSI

Mr. Hosi is the first Chief Executive Officer of the Ghana Chamber of Bulk Oil Distributors. He is a finance and economic policy analyst with management experience across varying industries including downstream petroleum, industry advocacy, public policy development, finance, logistics and commodity trading.

He holds an MBA in Finance and and MA in Economic Policy Management from the University of Ghana. He has been instrumental in the development and implementation of major policies in the Ghanaian energy sector, notably, the deregulation of the downstream petroleum sector, low sulphur fuels and the conceptual development and rationalisation of the Energy Sector Levies Act and its consequent debt management interventions.

He is an advisor to the Ministry of Energy and serves on various public and corporate boards including, the Ghana Highways Authority, the Private Enterprise Federation, Legacy Bonds Limited and NDK Capital Ltd.

ELTON DUSI

Elton is a highly qualified professional with experience in business development and management within the downstream sector of the Oil & Gas industry. Elton has in-depth understanding of the petroleum market and has solid track record of managing one of the most successful BDCs in Ghana as CEO of Ebony Oil & Gas since April 2014.

Prior to this, he has held top managerial roles in Ebony and Oando Ghana. He is an astute entrepreneur and is skilled in developing and growing startup businesses particularly within the oil sector. He has more than a decade experience in the oil industry. He holds an MBA from GIMPA and a BSc. Chemical Engineering degree from KNUST.

EMMANUEL EGYEI-MENSAH

Mr. Egyei-Mensah holds a BSc Admin Degree and an MBA in Accounting and Finance from the University of Ghana Business School. He is a member of the Ghana Institutes of Chartered Accountants and of Taxation and also holds several certificates in International Oil Trading and Finance.

He is the Founder and CEO of Quantum Group (2000) and Sage Petroleum (2009). His previous work experience includes roles as the Commercial Director of Cirrus Oil Services Ltd. (2006-2009), Deputy Manager of KPMG Ghana (1994-1997) and Lecturer in Accounting and Finance at the University of Ghana Business School (1995-1999).

KWAME BEDIAKO

Kwame Bediako holds a Bachelor's degree in International Marketing from Baruch College, USA.

He is the Chief Operating Officer of Chase Petroleum Ghana Ltd. a major Ghanaian Petroleum trading and distribution company.

He also serves on the Boards of Chase Logistics and Tema Tank Farm Limited, one of the largest privately held petroleum products terminal in Ghana.

He is also an Executive Director of Global Power Ghana Ltd. which deals in Generators and industrial-size Automatic Voltage Regulators.

Kwame has more than 15 years managerial experience in the Oil and Gas industry.

JOYCE HEMAN-ACKAH

Joyce Heman-Ackah is a Fellow of the Association of Chartered Certified Accountants UK and holds a BSc in Mathematics and Statistics from University of Ghana, Legon.

Prior to joining Oilchannel, Joyce was the General Manager-Finance of NSIA Ghana Insurance Company, formerly CDH Insurance. She joined NSIA Ghana in March 2000 and was instrumental in the growth of the company during her service period. Joyce was an active player within the insurance industry, chairing the Finance Committee of the Ghana Insurance Association between 2008 and 2010, serving as a Director on the Board of the Ghana Insurance College and participating on various industry committees.

In 1998, Joyce returned to Ghana from the UK after 13 years. Her last position was the Finance Manager of a large charitable organisation and Non-Executive Director and Honorary Treasurer of Milton House Trust. Ms. Heman-Ackah also worked for some years as an accountant/auditor in public practice in the UK.

Between 1998 and 2000, she was a consultant with KPMG Ghana and involved in various projects within the Integrated Vendor Solutions and Corporate Finance Units of the firm.

She is a member of the Institute of Directors (Ghana) and Honorary Treasurer and a Director of the Business Council for Africa (BCA GH). She also holds Directorship on the board of the Ghana Association of Leasing Companies.

SEBASTIAN ASEM

Sebastian Klenam Asem is the CEO of Vihama Energy. Prior to joining Vihama, Sebastian held senior banking positions at Standard Chartered Bank, Stanbic Bank and Access Bank. He is a Trade Finance and Credit expert and has led teams to undertake various transactions, including the financing of the first storage tanks for BOST, oil procurement transactions with international syndications, as well as the first syndicated financing transaction in Ghana's telecom industry. He is also an expert in sovereign transactions having acquired in-depth experience in government financing over the years.

He holds an MBA in Finance from the University of Ghana – Legon; a certificate in Negotiations from the Harvard Business School, Cambridge, Massachusetts and a diploma in oil trading, supply and marketing from Oxford Princeton Programme UK.

YAW KODUAH-SARPONG

Mr. Yaw Koduah-Sarpong is the Chief Finance Officer & Head of Investments of Fueltrade Limited, a leading bulk distributor of refined petroleum products. Mr. Koduah-Sarpong is a qualified accountant (ACCA), with a postgraduate degree in International Economic Law (LLM) from the University of Warwick in the United Kingdom and obtained his first degree in B.Sc. Administration (Accounting Option) from the University of Ghana, Legon. He has worked at Bulk Oil Storage & Transportation (BOST) Company Ltd. where he was the Chief Finance Officer for four years.

His other previous employment was with Ernst & Young Ghana, as a Tax and Legal Consultant. He sits on the Board of Fueltrade Limited.

KEY INDUSTRY PERSONALITIES

HON. BOAKYE AGYARKO,
MINISTER OF ENERGY

Hon. Boakye Agyarko is Ghana's current Minister of Energy. He holds an MBA (Financial Economics) from Pace University in New York. He also holds an Advanced Professional Certificate in Banking from the American Institute of Banking and B.A. (Hons) in Economics and Political Science from the University of Ghana, Legon.

Boakye Agyarko has more than twenty years' working experience in the Banking sector. He worked with the Bank of New York and rose to the position of Vice-President. He also worked at senior levels in various departments at the Bank, including Operations Management and Analysis, Product Development, Global Network Management, International Banking and Asset Management and the Year 2000 (Y2K) Management Group. His responsibilities in these various departments and positions comprised International Trade, Finance, Loan Syndications, Asset Securitization and Structured Finance. He further worked as the principal negotiator on many transactions, such as the setting up of the Bank of New York in Mexico and the acquisition of various books of business.

Boakye Agyarko was a Policy Adviser to the Presidential Candidate of the New Patriotic Party (NPP) during the 2016 Election and was also the national campaign manager for the NPP during the 2012 elections.

He is a member of the American Economic Association and an Associate Member of the American Institute of Bankers. From 1980 to 1984, he worked as a Junior Economist with the Management and Investment Consultants in Accra. He held several leadership positions during his youthful days while in Mfantsipim Boys' School. He was the National Coordinator for the Ghana United Nations Students and Youth Associations (GUNSA) from 1979 to 1980.

As the Energy Minister, Hon. Boakye Agyarko has supervisory responsibility for sixteen (16) major Sector Agencies, including Ghana National Petroleum Corporation (GNPC), Ghana National Gas Company (GNGC), National Petroleum Authority (NPA), Bulk Oil Storage and Transportation (BOST), Tema Oil Refinery (TOR) Ghana Cylinder Manufacturing Company (GCMC), Volta River Authority (VRA), Ghana Grid Company (GRIDCo), Electricity Company of Ghana (ECG), Northern Electricity Company (NEDCo), Bui Power Authority (BUI), Volta Aluminium Company (VALCO), Energy Commission, Petroleum Commission, Ghana Oil Company (GOIL) and VRA Resettlement Trust Fund.

HON. DR. MOHAMMED AMIN ADAM
DEPUTY MINISTER

Dr. Mohammed Amin Adam is a Deputy Minister for Energy responsible for the Petroleum sector. Before then, he was the Founder and Executive Director of the Africa Centre for Energy Policy (ACEP). He previously worked in other public and private organisations, such as the Ministry of Energy as an Energy Policy Analyst, the Public Utilities Regulatory Commission (PURC) as a Commissioner, as a Deputy Minister of State for the Northern Region and Mayor of Ghana's third largest city of Tamale. He was also the Africa Coordinator of extractives industries in Ibis.

Globally, he has worked extensively in the extractive industries and in resource management. He currently serves on two international advisory boards – the Open Contracting Partnership and the Natural Resources and Community Review. He is a member of several global initiatives, including the Thematic Network on Good Governance of Extractive and Land Resources under the Sustainable Development Solutions Network, a global initiative of the United Nations; the Executive Session on the Political Economy of Extractive Industries, convened by the Columbia Centre on Sustainable Investment (CCSI) of Columbia University in the US and the International Research Collaborative on Natural Resource Governance, Inequality and Human Rights, Law and Society.

He was recently a Course Expert on "Resource Revenue Management" in a MOOC online course – Natural Resources for Sustainable Development produced by the Natural Resource Governance Institute, Columbia Center on Sustainable Investment, SDSNedu, and The World Bank. He also served as Faculty Expert on Extractives at the 2016 African Regional Workshop of the Institute of Global Law and Policy, Harvard Law School. In addition, he has spoken at several universities as visiting speaker including Stanford University, University of California at Berkeley, Harvard Law School, and the Houston Law Centre. He has also presented papers on international platforms, such as Chattam House, the World Bank Institute, the Brookings Institution and the Woodrow Wilson Centre.

In Africa, he has worked on petroleum policy and resource governance projects in Liberia, Sierra Leone, Uganda, Tanzania, South Sudan and Kenya; advising governments and supporting parliamentary committees and CSOs. Dr. Adam recently testified on how Africa can avoid the resource curse before the United States Congress House Sub-committee on Africa, Global Health, Global Human Rights, and International Organisations.

In Ghana, he was a member of the Technical Committee set up by the Government of Ghana to review the Ghana Petroleum Revenue Management Act. He has also played advisory roles to a number of private sector operators in Ghana, such as Chairman of Frontier Energy Africa Limited; Member of the Board of Ghana's first private oil and gas mutual fund, the Weston Oil and Gas Fund and Member of Zoil Oil Waste Services which is providing offshore waste management services in Ghana's oil industry.

Dr. Adam holds a PhD in Petroleum Economics from CEPMLP of the University of Dundee in the UK specializing in petroleum fiscal systems and contracts, fiscal policy in resource-led economies; and resource governance. He also holds an MPhil (Economics) and B.A. (Hons) Economics from the University of Cape Coast and is a Fellow of the Institute of Certified Economists of Ghana (ICEG).

KEY INDUSTRY PERSONALITIES

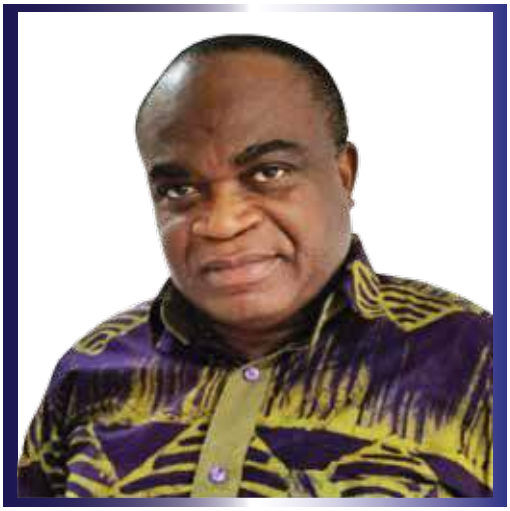
ALHASSAN S. TAMPULI
CHIEF EXECUTIVE, NATIONAL PETROLEUM AUTHORITY

Mr. Alhassan Tampuli is a graduate of the School of Administration of the UG (now University of Ghana Business School) and Faculty of Law, UG. He was called to the Ghana Bar in 2011. He holds a Master of Laws degree (LL.M) in Energy and Environmental law from the Ohio State University Moritz College of Law.

Professional Experience

Mr. Tampuli previously worked with the National Service Scheme and rose to the rank of Deputy Head of HR and Acting Director of Postings. He later set up and headed the Legal Department of the scheme between April 2014 and November 2015. Thereafter, Mr. Tampuli worked with the prestigious law firm, Bentsi-Enchill, Letsa & Ankomah's Energy and Natural Resource Practice Group as an Associate before co-founding the law firm East-bridge Associates, a corporate law firm.

Mr. Tampuli taught constitutional law at the Faculty of Law of the Winsconsin International University College for the 2014/15 academic year before resigning to concentrate on his private legal practice. He was a member of the NPP's manifesto subcommittee on Energy and the Transition Subcommittee on Energy.



KWAKU AGYEMANG-DUAH
CHIEF EXECUTIVE OFFICER, ASSOCIATION OF OIL MARKETING COMPANIES

Chief Executive Officer/Industry Coordinator, Association of Oil Marketing Companies, Kwaku Agyemang-Duah has been involved in the industry since 1987.

He has worked in various senior management capacities in health and safety, production/operations, marketing, logistics and projects. He is also an astute Quality Management systems expert and served on Ghana Quality Standards Committee in the 1990's.

Currently, he is the CEO/Industry Coordinator of the versatile Oil Marketing Association of Ghana with over hundred Oil Marketing Companies and LPG Marketers and also the Chairman of the Governing Council, of the Private Enterprise Federation, an organisation of fourteen major private associations in the country.

Kwaku holds a degree in Engineering, Post-Graduate Diploma in Industrial Management and MBA finance.

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CORPORATE INFORMATION

Board of Directors	Ivy Apea Owusu	- Chairperson
	Senyo Kwasi Hosi	- Chief Executive Officer
	Elton Dusi	- Member
	Emmanuel Egyei-Mensah	- Member
	Kwame Bediako	- Member
	Joyce Heman-Ackah	- Member
	Sebastian Asem	- Member
	Yaw Koduah-Sarpong	- Member

Members

AlfaPetro Ghana Limited
Battop Energy Limited
Blue Ocean Investments Limited
Chase Petroleum Limited
Cirrus Oil Services Limited
Deen Petroleum Limited
Dome Energy Resources Limited
Dominion International Petroleum Limited
Ebony Oil & Gas Limited
Eco Petroleum Limited
Firm Energy Limited
Fueltrade Limited
Globex Energy Limited
Hask Oil Limited
Juwel Energy Limited
LHS Energy Limited
Maranatha Oil Services Limited
Misyl Energy Limited
Oil Channel Limited
Oiltrade Company Limited
Peace Petroleum Limited
Petroleum Warehousing & Supplies Limited
Redfins Energy Limited
Rhema Energy Limited
Springfield Energy Limited
Vihama Energy Limited
WI Energy Limited
XF Petroleum & Engineers Limited

Registered Office	1st Floor, Right Wing, C 127/21 Saflo Link, Abelemkpe, Accra
Secretary	Darko, Keli-Delata & Co.
Independent Auditors	Nexia Debrah & Co.
Bankers	Prudential Bank Limited The Royal Bank

ABBREVIATIONS

ABB	All Buoy Berth
AGO	Automotive Gas Oil
APD	Accra Plains Depot
ARA	Africa Refiners Association
BDC	Bulk Distribution Company
BoG	Bank of Ghana
BOST	Bulk Oil Storage and Transportation Company Ltd.
CBOD	Chamber of Bulk Oil Distributors
CPT	Crude Price Threshold
CREPT	Credit Rating in Practice
FOB	Free on Board
FX	Foreign Exchange
FLUR	Forex Loss under-recoveries
GHS	Ghana Cedi
GLiPGOA	Ghana Liquefied Petroleum Gas Operators Association
GNPC	Ghana National Petroleum Corporation
GOG	Government of Ghana
GPHA	Ghana Ports and Habour Authority
GRA	Ghana Revenue Authority
IMP	International Market Price
LBL	Legacy Bonds Limited
LPG	Liquefied Petroleum Gas
NPA	National Petroleum Authority
OMC	Oil Marketing Companies
OTC	Oil Trading Companies
PMS	Premium Motor Spirit
PSPs	Petroleum Service Providers
RFO	Residual Fuel Oil
RVF	Real Value Factor
SPT	Special Petroleum Tax
TOR	Tema Oil Refinery

UNITS

bbls	Barrels
bn	Billion
GHS	Ghana Cedis
ltrs	Litres
mn	million
mt	Metric tonnes
ppm	Parts per million
$	US Dollar

ACKNOWLEDGEMENTS

The 2017 Ghana Chamber of Bulk Oil Distributors (CBOD) *Industry Report* was prepared by a team led by Senyo Kwasi Hosi (CEO). Members of the team include Richard Kissi (Head of Finance, Corporate and Industry), Dennis Newton Dei-Tutu (Research Analyst) and Eric Opoku (Research Assistant).

Specific contributions were made by Daisy Edem Gyaba (Head, Corporate & Regulatory Affairs), Enock Kofi Anku, Kwesi Deh, Dennis Nsafoah, Benjamin Boakye and William Ntim-Boadu.

Excellent and extensive recommendations and inputs were also received from Board Members, Government officials, Heads of Banks and other Petroleum Service Providers. Their diligence and assistance contributed immensely towards making this report possible.

NOTE

Copies of this publication can be accessed on our website www.cbodghana.com

For further information and assistance, kindly reach us on cbod@cbodghana.com or call + (233) 30 279 7871.

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Executive Summary

The CBOD 2017 Industry report reviews the petroleum downstream for 2017, with focus on activities within the bulk distribution subsector. It reviews policy, financial and market activities for the period. It also analyses key risks facing the industry and provides an outlook and recommendations for consideration by stakeholders.

The change in government in January 2017 signalled a change in policy direction and triggered hope that the industry may realise a reverse in its dwindling fortunes. As indicated in the previous report, 2016 was the most anti-private sector year. 2017 did not necessarily prove to be the reversal of dwindling fortunes as desired but saw key interventions that possibly set the industry up for growth in 2018. The partial settlement of the BDC debt and efforts to rationalise the licensing regime of the industry are notable interventions.

The policy space was dominated by efforts to implement the LPG Cylinder Recirculation policy, low sulphur policy, local content policy, implementation of the licensing requirements, the review of the zonalisation policy, curbing the growing illicit trade in fuel and the operation of unlicensed players. The development of a petroleum hub earmarked Government's long-term strategy for the petroleum downstream sector.

The payment of all outstanding validated claims and the partial removal of indirect subsidies to BOST/Goil, comparatively improved the financial performance of the industry. Estimated BDC premiums for gasoline and gasoil averaged $66.60/mt and $64.12/mt respectively compared to $47.82/mt and $53.79/mt in 2016. The year under review commenced with an outstanding validated government debt to BDCs of US$140.61mn (GHS 604.97mn) and unvalidated claims of US$274.55mn (GHS 1.16bn). It ended with an unvalidated claim of US$366.78mn (GHS 1.62bn). This followed the payment of US$140.61mn through the energy bond programme. The unvalidated claims comprise real value factor, 2013 forex loss under-recoveries (FLUR) and FLUR-Interest (FLURI) claims.

All BDC claims remained assigned to Legacy Bonds Limited, an SPV jointly owned by the CBOD and the Ghana Association of Bankers (GAB) with a mandate to provide central administration for BDC claims and indebtedness to the banking sector.

The debt payments, coupled with on-going interventions by the CBOD and the GAB to address liquidity loss through trade credit and forex risk using the CREPT and Oil FX Market models, has propped up funding confidence in the sector.

Transfer pricing, re-export dumping and smuggling accounted for the main leakages in petroleum consumption tax revenue. The impact of these occurrences makes legitimate businesses suffer economic losses which translates into further loss of corporate tax income to the state. The revenue lost by government for 2017 in the form of petroleum taxes, levies and regulatory margins is estimated at

GHS1,888mn. This comprises GHS148.93mn lost through transfer pricing, GHS339.16mn in unreported ESLA receipts and GHS1.4bn through smuggling and export dumping.

Ghana remained a net exporter of petroleum buoyed by a surge in crude production despite being a net importer of refined products. Imports and exports of refined products both fell while official local consumption marginally increased.

National consumption increased from 3.33mn metric tonnes (mt) in 2016 to 3.46mn metric tonnes (a 4% increase) in 2017. This correlates with the 2017 national real GDP growth of 3.6%. An analysis over the last 17 years showed a weak positive correlation between GDP growth and consumption growth. We, however, estimate that consumption grew higher, but fell short of being recorded because of increased smuggling. Our analysis of consumption growth in the period prior to 2016 (which marked the active commencement of smuggling) shows a geometric growth of about 6% p.a. This growth adjusted by legitimate sub-sector growth spikes (mines and rigs) yields an estimated consumption of about 4.2mn metric tonnes in 2017 and indicates a potential loss of about 856,000mt of petroleum products to smuggling.

The smuggling menace, risk of indirect subsidies and the increased effort by International Oil Traders (IOTs) to vertically integrate pose the biggest risk to the BDCs. There ought to be clarity in policy direction on these issues to warrant further investments in the sector and assure relevant Petroleum Service Providers (PSPs) of the sustainability of the sector.

The rally experienced in the crude market and the increased compliance to OPEC's production cut interventions has inspired upward changes in the projections of major forecasters like Reuters, Bloomberg, Goldman Sachs and other Wall Street majors. Most projections have suggested a peak between $75/bbl and $85/bbl while others have indicated a return to a $100/bbl. It is therefore imperative that government adopts smart risk mitigating solutions that will help stabilise prices on the market and control macroeconomic shocks. In Ghana's price deregulated market, government's options in insulating the market from major price swings are limited. Government, not being the buyer of products, may be unable to hedge against actual deliveries. It must therefore seek to hedge against cash settlements. The hedge income may then be used as a substitute for pump price taxes to ensure comparative stability.

2018 presents a great opportunity to shape the path for industry's growth. This will be dependent on Government and industry's commitment to undertake the necessary reforms to rationalise regulation and the existing market structures

Chapter 1

Policy & Regulatory Review

The appointment of a new ministerial and regulatory team following the December 2016 elections lagged policy creation and implementation in the first half of the year. The swift grasp of the regulatory environment by the new NPA CEO and the new Minister of Energy was constructive in shaping regulatory activity in the second half of the year. The drive for the implementation of the LPG cylinder recirculation model, low sulphur fuel standards, local content, implementation of the licensing requirements, zonalisation and the growing illicit fuel trade and the operation of unlicensed players dominated policy and regulatory activities. The development of a petroleum hub dominated government's long-term policy for the petroleum downstream.

1.1 LPG Promotion Policy (LPP)

The gas explosion at the Mansco refilling facility at Atomic Junction expedited Cabinet's consideration of the LPP ahead of the completion of the draft implementation plan intended to be part of the policy analysis and framework considerations. This increased resistance from the LPGMCs and the Ghana Liquefied Petroleum Gas Operators Association (GLiPGOA) who were concerned that the policy as passed will render their businesses defunct. It must be noted that the LPP had been under development since 2013. Engagements led by the Ministry and the NPA resulted in the reconstitution of an implementation committee comprising all aggrieved parties and key stakeholders (including the CBOD and AOMCs) to define the operating and regulatory structures for an effective and fair implementation. The BDC role is not expected to change. New roles are expected to be introduced in the LPG supply chain, including new LPG bottling plants. The final report of the committee is expected to be completed in Quarter 2 of 2018.

The implementation of the policy is aimed at increasing LPG penetration from 23% to 50% by 2030 (previously 2020). It is also expected to increase safety assurance in the use and management of domestic and industrial LPG. We anticipate that the 2030 timeline may be revised to 2025.

1.2 Product Quality

1.2.1 Sulphur Reduction

The Ghana Standards Authority, acting on the advice of the *National Technical Committee on Petroleum and Petroleum Products*, revised the national fuel specifications in May 2017, which included a revision of the sulphur content in gasoil (except for marine gasoil) and gasoline to 50ppm. This is in compliance with the Africa Refiners Association's (ARA) Afri4 standards. The implementation by the industry came into effect on 1st August 2017 following an appeal by the CBOD for transition. This made Ghana the first in West Africa to revise its sulphur standards to Afri4 and champion cleaner fuels in the region.

The Price Parity Margin which is the difference between the regulator's new spec and old spec price benchmarks was

charged to coexisting old spec trades to address concerns about unfair pricing advantages and spec arbitrages over the period of transition. The NPA served as the billing and payment receiving entity. Products delivered since implementation have been observed to be compliant.

1.2.2 Low Sulphur Implementation and Local Refineries

The implementation of the standards had dire implications for local refineries which are yet to invest in desulphurisers to meet the 50ppm requirement. Proposals for local output to be pledged to exports to high sulphur markets and marine gasoil were considered impractical by the fuel quality implementation committee. The committee, buoyed by the CBOD recommendations, affirmed the policy position to grant local refineries a temporary waiver to deliver a maximum of 1,500ppm output to the entire market till 2020. Pricing arbitrage between new and old spec are to be balanced with the application of the Price Parity Margin on all local refinery output. The funds accruing from the Price Parity Margin are to be invested in the installation of a desulphuriser at the Tema Oil Refinery. The fund is to be managed by a committee with representatives from the Ministry of Energy, Ministry of Finance, NPA, AOMC, TOR and the CBOD. The management committee proposal is yet to be approved and constituted by government.

1.3 Quality Assurance

Some marked products were found to be off-spec with respect to Research Octane Number (RON) and sulphur standards. This phenomenon has persisted over the last few years and brings to the fore the need to review the quality assurance protocols along the supply chain. Possible reasons to be interrogated include the on-vessel composite sampling approach. Indications suggest that while composite samples may fully meet specifications, vessel holds from which discharges are made may carry off-spec products.

1.4 Illicit Petroleum Trading

Illegal trading of products continues to be a bane of the industry and the national economy. Smuggling through the ports, premix and marine gasoil (MGO foreign) diversion and export product dumping account for majority of the illicit petroleum trade. Unlawful profiteering through tax evasion and subsidy abuse continues to incentivise the illicit trade in premix and other petroleum products. Taxes and regulatory margins, for example, averaged 40% of pump prices and premix subsidies stood at about 49% of the full passthrough pump price.

The disappointing observation has been the absence of strong political will by central government to deal with this trade, despite the modest arrests recorded. Reports received by the CBOD and other key stakeholders (2016 to 2018) continue to suggest that officials in the National Security and Ghana Revenue Authority (Customs Division) as well as operatives at the Presidency among others may be complicit. Efforts by central government, despite many of these complaints leave a lot to be desired. As a result, the commercial viability of BDCs and OMCs continues to suffer.

1.4.1 Regulatory Interventions

The NPA revised export guidelines to reverse the growing trend of dumping. This required operators to post insurance bonds or bank guarantees covering the value of local taxes on the export volume and among others, it also requires exporters to secure prior approvals from the NPA before any export is undertaken. These financial instruments are released after evidence is submitted that loaded export trucks exit the borders of Ghana.

These interventions mainly increase the costs to legitimate businesses by adding the cost of the bank guarantee but do not stop the illicit trade as the tax evasion incentive remains higher. The illicit traders dump cargo in land and still submit signed evidence that cargoes exited the borders of Ghana. Visits by the NPA to Mali, Togo and Burkina Faso, among others, confirmed that most of these cargoes failed to reach the reported export destinations.

Given that the tax and regulatory margins (TRM) per litre is the Marginal Benefit (MB) of the illegal trade and the cost of smuggling per litre is the Marginal Cost (MC), there will always be an incentive to smuggle or dump as long as:

MB>MC

The fuel marking programme introduced in 2012 by LI 2187, empowered the National Petroleum Authority to identify and legally deal with buyers and culprits of the illicit trade in the retail chain of the petroleum downstream sector. An evidence of a lower marker concentration in a petroleum product, when tested in the field with the required equipment, provides some proof that illegal products have been introduced at the said fuel station. This act, in effect, is evidence of tax evasion. Unfortunately, government has failed to treat it as such but has rather opted to have the NPA do its worse by imposing regulatory fines. A given breach attracts a fine of GHS10,500 with operators sometimes allowed to continue to sell the illicit products. Taxes and regulatory margins average about GHS1.62 per litre (2017). As a result, when a fuel station with a capacity of 45,000litres indulges in an illicit trade at full capacity, it benefits about GHS72,900 in illicit profits. It is therefore obvious that the GHS10,500 fine will not discourage the continuation of the illicit trading.

The Ghana Revenue Authority deployed its own tracking device to address the loss of revenue from the dumping of illegal products. As a result of poor consultations and weak inter-sectorial coordination of activities, this tracking device has become unproductive. It tracks the movement of the truck but not the movement of the products in the truck. As a result, illicit traders dump cargo in Ghana and drive trucks across the borders empty to prove they exited the border. Unlike the trackers used by the NPA which tracks product movement in addition to truck movement, the GRA intervention just increases the cost of doing business and fails to address the illegal trade.

In 2017 the NPA identified over 230 Premix truck diversions. The identified diversions potentially cost the state about GHS5.2mn in illegitimate subsidies. Excuses given by identified culprits and government agencies do not seem to conform to known industry rules and legitimate practice.

The perpetuation of export dumping and smuggling under both the Mahama and Akufo-Addo-led administrations is appalling and may be described as a *State-sponsored crime against the State.* All efforts to assist security officials and senior political officials continue to be spurned with justifications that 'the culprits' are supportive of their political activities. The growth of this trade is a major security risk to the state and must be dealt with. It is baffling how and why the State's security apparatus and political system remains unwilling to address this problem.

1.5 Government's Market Activities & Participation

BOST and Goil/GoEnergy remained government's primary vehicles to operationally interfere with the market. BOST was less active in the trading business compared to 2016. Contrary to claims of profitability by the past BOST Managing Director, BOST accrued significant losses and required financial bailouts from the NPA, GNPC and central government to meet its obligations to its creditors, mainly the traders who operated with BOST on an open account basis. Most traders cut back on their credit lines to BOST making it difficult for BOST to continue its trading activities. GoEnergy, Goil's BDC subsidiary, was encouraged to trade on its own. This was at variance with the 2016 policy practice which had BOST

trading on behalf of GoEnergy. This strategy enabled government to subsidise Goil indirectly while increasing losses to BOST all in an effort to drive pump prices below market. This pushed private BDCs and OMCs who were not beneficiaries of the structure to unprofitability.

The direct trading by GoEnergy partly levelled the playing field for private BDCs and OMCs, translating into increased trading margins. This was also evident in the fact that Goil throughout 2017 remained among the highest-priced Oil Marketing Companies, unlike 2016 when it was among the lowest.

The CBOD remains a major advocate for government to maintain visibility in the downstream trade through GoEnergy and Goil in which it maintains a majority shareholding. As a subsidiary of a GSE-listed company with some non-government shareholders, GoEnergy is expected to operate profitably and efficiently. Its operations are therefore unlikely to lead to direct financial losses to government while maintaining a fair competitive environment for all players. However, GoEnergy and Goil must not be treated preferentially in the development and management of policy. It is a full commercial entity with some government investment and must be solely managed by its Board of Directors. Policy must keep full focus on the entire business ecosystem in line with the national interest. Unfortunately, Goil/GoEnergy continues to be seen and treated as a sector agency of the Ministry of Energy with its programmes supported directly by the ministry through policy interventions and programme reviews.

1.6 Unfair Competition

The indirect subsidies funded by government through BOST in favour of GoEnergy and Goil ceased over the 2017 fiscal year. Government clearly was unwilling to continue bearing the related losses arising from the arrangement. GoEnergy's direct trading partly restored balance and fair pricing in the market when compared to 2016.

Unfair competition was driven by the abuse of the Special Petroleum Tax (SPT). The SPT being ad valorem (15% on ex-depot prices) enabled BDCs with controlling interest in OMCs or vice-versa to transfer pricing. This is further discussed in section 2.6.4.1.

The CBOD and NPA advocated for the SPT to be converted to a specific tax instead of an ad valorem tax to address and reverse this unfair practise. Government in Quarter 1 of 2018 favourably considered the proposals made.

1.7 Zonalisation

The Zonalisation policy continued to face implementation challenges. BOST's non-compliance with the operating guidelines set by the NPA and the Ministry of Energy was cited as the major reason. The following concerns highlighted in the 2016 report still persisted.

1. The non-adherence to the open access system for operating zonalisation.

2. The denial of access to products within the entire BOST system after product deliveries into the Accra[1] Plains Depot (APD).

3. Restricting some gantry usage for GoEnergy and the few private players who may have procured products from BOST. This causes longer queuing and inconveniences BDCs stocking their own imported products with BOST.

Clearly the situtation in point 2 and 3 above forces the private sector out of the non-shore market zones and compels them to trade BOST stocks instead of their own products. It is also aimed at giving Goil (partly owned by BOST) a better leverage in the supply chain to out-compete the private OMCs.

To address these concerns, stakeholder sessions were held to revise the existing guidelines. The Ministry of Energy is yet to approve the new guidelines and manage their implementation. The persistence of the challenges observed evidences the

[1] Accra Plains Depot is BOST's primary product receving depot located at the Tema shore

conflict BOST faces as an ambitious competitor to the users and customers of its facility.

1.8 Licensing

Regulatory inconsistency in the management of the licensing regime has hurt the prospects of the industry in times past. In 2016, 52% of licensed BDCs failed to import products. This situation brought into question the relevance of the BDC structure which is designed to provide bulk exit for local refinery output and facilitate importation and local skill development for the petroleum downstream. A critical review showed that in some cases, the enforcement of the licensing regime has been extremely lax. The NPA leadership in 2017 (October) advised industry of its intent to fully enforce the licensing regulations.

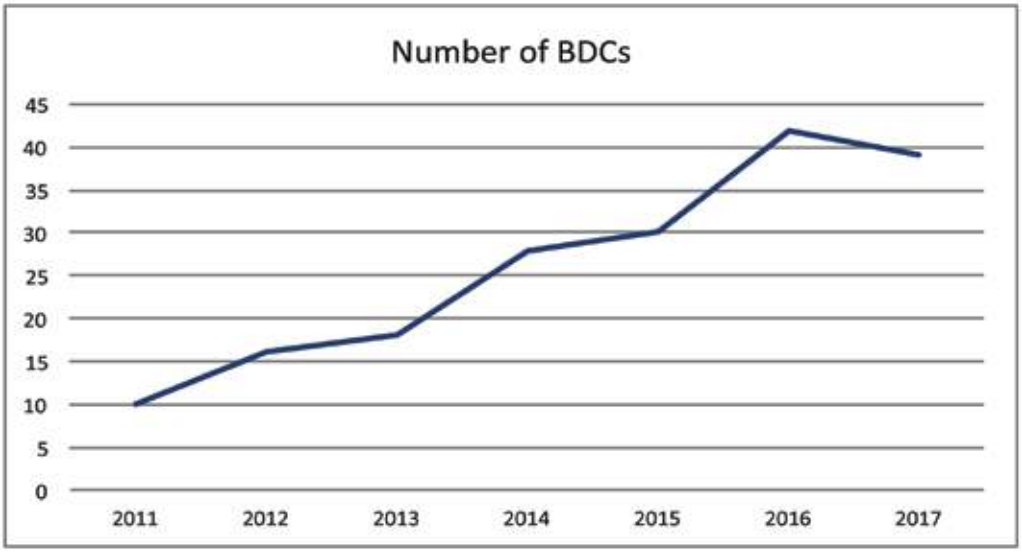


Figure 1: Number of BDCs 2011-2017

The key compliance requirements include; full payment of the license fees, the dedicated storage of 40,000m^3, trading lines of up to $60mn and equity capital of GHS30mn. The NPA is undertaking an evaluation of all licensees to ensure full compliance after which non-compliant licensees will have their licenses revoked. As at the end of 2017, two out of 41 BDCs had the licenses revoked.

It must however be noted that while no new license was issued in 2017, one was issued in quarter 1 of 2018.

Out of the 41 BDCs, 31 imported products over the 2017 fiscal year. This is a major improvement compared to 2016 where only 19 out of a total of 42 BDCs imported products.

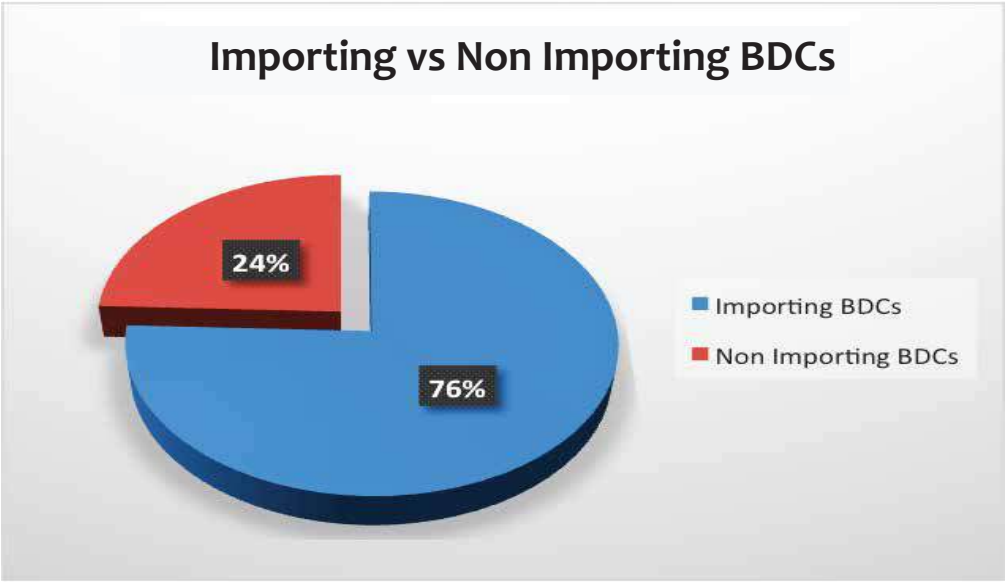


Figure 2: Importing vs Non Importing BDCs

The International Oil Trading companies have in recent times been aggressive on procuring Oil Trading Licenses to enable them trade ex-rack to BDCs. In effect this usurps the envisioned role of BDCs which is to manage the supply chain and trade from FOB (ex-refinery) in USD per metric ton to GHS per litre ex-rack. This development has been inspired by the financial weakness in the BDC industry resulting from years of non-payment of government under-recovery indebtedness to BDCs. As these debts are being paid and restructured, funding confidence is expected to be revived to enable BDCs revert to their original role. The emergence of the IOT model onshore Ghana as OTCs will be disastrous for the BDC function and will rob Ghana of all the gains and competence it has been growing over the years in the oil trading business. The BDC role provided a mechanism to level the pricing playing field between local and foreign OMCs. It provided a mechanism for Ghana to grow local entrepreneurs and human resource skills in the oil trading business. It also provided a mechanism to enable local players own and invest in key downstream infrastructure like tank farms among others.

The BDC trading skills have evolved from ex-rack to ex-ship and is expected to reach the ultimate point of trade, ex-refinery if allowed to grow. This will position Ghana as a major trading nation in Africa. The entry of the IOTs reverse the progress achieved and destroys Ghana's opportunity to grow. It will keep Ghana as a "taker" and not a "maker".

1.9 Local Content & Participation

The Local Content and Participation Policy for the Downstream Sector was submitted to Cabinet for consideration in 2017 and approved in April 2018. The policy is expected to culminate into a Downstream Local Content Act. The policy aims to, among others, attract increased local value-added investments, create more job opportunities and indigenise knowledge, expertise and technology in the downstream sector. The CBOD supports the policy but insists that it must be structured in a manner that does not negatively vary the interest of the existing foreign owned petroleum service providers (PSPs).

1.10 Ghana's Petroleum Hub

Government seeks to make Ghana Africa's first petroleum hub by 2030. The project is partly anchored on the 30mn metric tonnes per year West African market which continues to grow. Strategically, the project is leveraging Ghana's political stability, the absence of similar infrastructure, the central location for the region, access to the sub-regional market amidst tax incentives, closeness to international shipping routes and the relatively stable macroeconomic environment.

The hub enclave will require a total land size of about 20,000 acres to accommodate the various types of infrastructure necessary for the operations. It is to be situated within Bonyere traditional area in the Jomoro District of the Western Region to facilitate trading activities. Government considers the existing infrastructure inadequate for hub operations. New infrastructure will be developed in the hub enclave to facilitate operations. This new infrastructure earmarked for development has been categorised into four (4):

I. Key Infrastructure which includes jetties, storage tanks, refineries, LNG facility, hub transmission infrastructure, power plant, petrochemical plant, lube blending plant, and transmission and storage infrastructure for the land-locked countries;

II. Infrastructure for offshore activities will be used to support nautical services, repair and maintenance, exploration and rig equipment servicing, and would also include facilities such as off-dock yard and dry-dock facilities for vessel repair, engineering and de-commissioning;

III. Ancillary infrastructure includes water treatment facilities, waste management

facilities, commercial services, residential area (with social amenities), security and emergency response centre, solid logistics, transportation network, laboratory and a light to medium industrial area;

IV. Social amenities include health facilities and educational and training facilities among others to provide various services for the hub.

It is estimated that the total cost of developing the petroleum hub will be US$50 billion. Out of this amount, it is expected that 90% would be the cost of infrastructure to be provided by private investors. The government of Ghana is to invest the remaining 10%.

Developing the Petroleum Hub is expected to create jobs, increase tax revenue and lead to the economic transformation of the nation.

The incentives to investors would include; ease of doing business in Ghana, and other fiscal incentives that the government would provide such as lower corporate taxes, tax exemptions, withholding tax exemptions during construction, repatriation of profits, etc.

Implementation of the Petroleum Hub shall be guided by a plan which spells out timelines for the achievement of various phases of the project. The key infrastructure in the plan would be implemented over a 12-year period (2018-2030) and would be executed in three (3) phases. This will be preceded by some preparatory activities including; concept development , structuring the legal and regulatory regime, the establishment of a Petroleum Hub Development Authority/Development Company, site identification, acquisition of land and investment promotion. The first phase (2019-2022) of the project will involve the construction of the power plant, initial storage infrastructure of 1,000,000m^3 and port facilities with multiple berths. This should be enough to commence trading activities.

The second phase (2022-2025) of the project will involve the construction of the first batch of two (2) refineries of 150,000bpsd each and one petrochemical plant with processing capacity of 45,000bpsd. This stage would also involve the addition of 4,000,000m^3 storage infrastructure.

The third phase (2025-2030) will involve the construction of the second batch of two (2) more refineries of 150,000bpsd each and one more petrochemical plant with processing capacity of 45,000bpsd. This stage would also involve the addition of a further storage infrastructure of 5,000,000m^3 . This will bring the total storage in the hub to 10,000,000m^3. We expect government to revise its refinery capacity outlook upwards.

Chapter 2

Financial Review

The payment of all outstanding validated claims and the partial removal of indirect subsidies to BOST/Goil comparatively improved the financial performance of the industry. Estimated BDC premiums averaged $66.60/mt in 2017 compared to $47.82/mt in 2016. A total of GHS619.48mn was paid to BDCs through the Energy Bond programme. All BDC claims remained assigned to Legacy Bonds Limited, a Special Purpose Vehicle jointly owned by the CBOD and the Ghana Association of Bankers with a mandate to provide central administration of the BDC claims and indebtedness to the banking sector.

The above coupled with on-going interventions by the CBOD and the Ghana Association of Bankers to address liquidity loss through trade credit and forex risk using the CREPT and Oil FX Market models, has propped up funding confidence in the sector.

2.1 GoG Indebtedness to BDCs

The year under review commenced with an outstanding validated government debt to BDCs of US$140.61mn (GHS604.97mn) and unvalidated[2] claims of US$274.55mn (GHS1.16bn). It ended with validated claims fully paid and an unvalidated claim of US$366.78mn (GHS1.62bn). This followed the payment of US$140.61mn through the energy bond programme. The unvalidated claims comprise Real Value Factor, 2013 forex loss under-recoveries (FLUR) and FLUR-Interest (FLURI) claims.

2.2 ESLA BOND Programme

The joint proposal by the Ghana Association of Bankers and the CBOD through Legacy Bonds Limited to securitise the Energy Sector Levies Act proceeds and issue corporate bonds through an SPV for the payment of energy sector debts, was favourably considered by government. This culminated into what is now termed the Energy Bond and was issued through ESLA Plc, the SPV nominated for the transaction.

According to the Ministry of Finance, the bonds were issued in two phases. Phase one was issued on 23rd October, 2017 sized GHS2.4bn and was issued as a seven-year bond with a semi-annual coupon of 19%. Phase two was issued on 27th October 2017 sized GHS 2.29bn and was issued as a 10-year bond at a semi-annual coupon of 19.5%pa.

2.3 Payment of Validated Claims

Legacy Bond Limited, assignees of the BDC payments, swapped the full validated BDC claims outstanding for the ESLA bonds. This in effect implied the payment of US$140.35mn (GHS619.48mn) as the full payment of all outstanding validated claims. These claims represented the outstanding amount on the 2011-2015 validated FLUR claims.

[2] This refers to claims yet to be audited and valiadated by an independent auditor and accepted by government

2.4 Unpaid Claims

2.4.1 FX Loss Under-Recoveries (FLUR)-2013

These claims represent FLUR on transactions that were omitted during the 2011-2013 FLUR audit. The total claim filed was US$40.2mn.

The Ministry of Finance commissioned Ernst & Young (EY) within the year to validate these claims. The report by the auditors (in May 2018) revised the validated claim to US$28.56mn out of which US$25.68mn is being attributed to GoG.

2.4.2 Real Value Factor (RVF)

This refers to the financial cost incurred by BDCs for the delayed payments of price under-recoveries.
The RVF claims at the end of the 2017 financial year stood at GHS 847mn (US$191mn). These claims are yet to be validated. They continue to grow at the applicable interest rate.

2.4.3 Forex Loss Under-Recovery Interest (FLURI)

This refers to the financial cost borne by BDCs for the delayed payment of FLUR by government.

A total claim of US$134.67mn has been filed by BDCs. This amount is yet to be validated by GoG or an independent auditor and continues to grow as it remains unpaid.

2.4.4 RVF and FLURI Negotiations

The government commissioned a 5-man committee to undertake a conceptual review of the RVF and FLURI. The committee acknowledge the conceptual legitimacy of the claims but recommended that government negotiates with BDCs on the parameters and magnitude of the claims.

LBL, assignors of the claims, continue to negotiate with government on behalf of BDCs. The offer being negotiated by LBL and government may result in an estimated haircut of GHS824mn.

2.4.5 GoG Liability Summary

Table 1:

Liability	Claim as at 31st December 2017	Revised claim
FX Loss 2013 outstanding	*US$*40,228,347 *[GHS177,724,814]*	US$25,684,262* *[GHS113,470,501]*
RVF (As at 31st December 2017)	US$191,885,527 *[GHS847,731,070]*	US$87,667,566** *[GHS387,306,539]*
FLUR Interest (As at 31st December 2017)	*US$*134,668,778 *[GHS594,409,194]*	*US$*52,332,491** *[GHS231,199,711]*
Total	US$366,782,652 *[GHS1,619,865,078]*	US$165,684,319 *[GHS731,976,751]*

GHS/US$=4.4179 (BoG selling rate as at 31st December 2017)
**Based on completed audit validation*
***Based on GoG negotiation parameters.*
[GHS equivalent]

2.5 BDC Premiums

BDC premiums improved from an average $47.82/mt and $53.79/mt in 2016 to $66.60/mt and $64.12/mt in 2017 for PMS and AGO respectively. This was driven by the levelling of the competing field with the partial removal of the indirect subsidies to GoEnergy/Goil through BOST. BOST's trading dipped from 1.93mn mt in 2016 to 366,086 mt in 2017 as trading losses in the previous year began to take its toll on supplier credits. This compelled GoEnergy to trade on its own and price fairly as it faced the same conditions as the general market.

The BDC premium recovery has however been lagged by the occurrence of transfer pricing by some BDCs with significant management control over oil marketing companies. This is further explained in section 2.6.4.1.

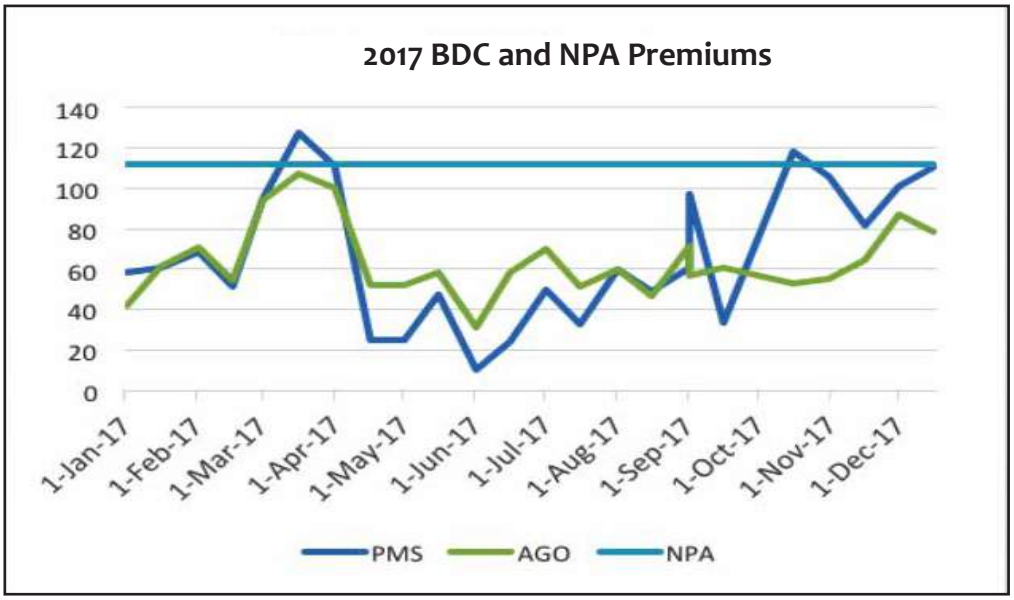


Figure 3: 2017 BDC and NPA Premiums

2.6 Taxes and Regulatory Margins (TRM)

2.6.1 Impact on Prices

Taxes remained an integral part of the price displayed at the pump throughout the year. As a percentage of pump prices, taxes and regulatory margins (TRM) have reduced from a high of 42.83% in January to 37.86% in December 2017. This was a result of the general increase in ex-ref prices following increases in crude prices and government's reduction of the Special Petroleum Tax (SPT) from 17.5% to 15% and the removal of the excise duty effective 16th March 2017.

Taxes and regulatory margins (TRM) averaged 40% of pump prices for PMS and AGO in 2017. The average TRM for 2017 is estimated at GHS1.65/ltr and GHS1.62/ltr for PMS and AGO respectively.

2.6.2 Petroleum Tax Revenue

Petroleum taxes[3] generated about GHS4,436.56mn for the 2017 fiscal year, according to reports from the Ministry of Finance and the GRA. The taxes accounted for about 13.77% of total government 2017 tax revenue. We however estimate, based on NPA volume reports and the analysis of pump prices, that an amount of about GHS4,924.41mn should rather have been reported for the period. This excludes lost tax revenues from smuggling and export product dumping.

The excise duty share of revenue contribution reduced from 1% to 0.34% of the total revenue claim. This low proportion is due to the removal of the excise duty in the second window of March 2017. The SPT, EDR Levy and Road Fund accounted for 90.77% of the taxes generated. Gasoline and gasoil (gasoil regular, marine, mines included) remained the largest contributors to the petroleum tax revenue, contributing 93.23% of the revenue.

[3]This relates to pump price taxes only
[4]Total projected 2017 Tax Revenue according to the 2018 budget amounted to GHS31.78bn

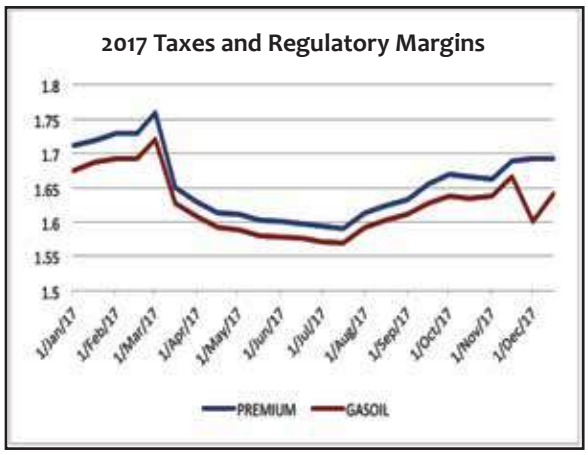


Figure 4: 2017 Taxes and Regulatory Margins

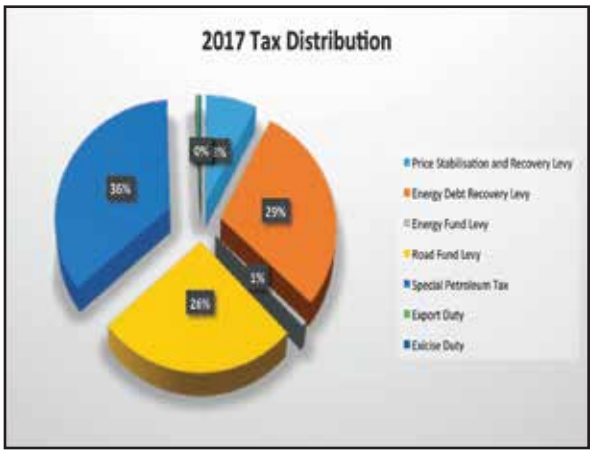


Figure 5: 2017 Tax Distribution

Table 2: Government 2017 Petroleum Tax Collections

TAXES	ACTUAL COLLECTIONS
	GHSmn
Price Stabilisation and Recovery Levy	345.31
Energy Debt Recovery Levy	1,293.03
Energy Fund Levy	30.65
Road Fund Levy	1,151.96
Special Petroleum Tax	1,582.12
Export Duty[5]	18.23
Excise Duty[5]	15.26
TOTAL	4,436.56

Source: Ministry of Finance, Ghana Revenue Authority, CBOD

2.6.3 ESLA Under-Reporting

An analysis of the NPA OMC performance data shows that government failed to account for GHS576.63mn for 2016 and GHS339.16mn for 2017 in ESLA taxes. The 2016 volumes indicate that government earned a total of GHS3,875.56mn (assuming that GoG's report on the receipts from the power sector and the balance brought forward from the Petroleum Debt Recovery Levy Account are accurate). However, the report by the Minister of Finance to Parliament stated that GHS3,298.94mn was raised. The variance analysis is captured Table 4.

The Minister of Finance reported to parliament that an amount of GHS3,151.74mn was realised in ESLA receipts for 2017. This position is irreconcilable with computed ESLA receipts earned, based on NPA confirmed 2017 OMC performance data, which indicates that GHS3,490.90mn should have been collected. The variance analysis is reported in Table 4.

[5]Excise duty and Export Duty were computed using NPA's 2017 OMC Performance Statistics. Government actuals not available at the time of publication.

Table 3: 2016 PERFOMANCE OF ESLA (PETROLEUM RECEIPTS)

ESLA LEVY	MoF ESLA REPORT	CBOD COMPUTED	VARIANCE
	GHSmn	GHSmn	GHSmn
ENERGY DEBT RECOVERY LEVY	1,197.91	1,524.90	(326.99)
Balance b/f on Petroleum Debt Recovery Levy Account	83.27	83.27	-
PRICE STABILISATION AND RECOVERY LEVY	338.47	403.02	(64.55)
ROAD FUND LEVY	1,204.18	1,384.27	(180.09)
ENERGY FUND LEVY	29.84	34.84	(5.00)
PUBLIC LIGHTING LEVY	168.38	168.38	-
NATIONAL ELECTRIFICATION SCHEME LEVY	276.87	276.87	-
TOTAL	**3,298.92**	**3,875.55**	**(576.63)**

The situation is extremely alarming and suggestive of high level corruption and tax evasion. It is imperative that government commissions an investigation into this matter immediately. Considering the potential depth of corruption and the magnitude involved as well as the possibility of more parties being compromised, we recommend a public inquiry and a forensic audit undertaken by any of the top 4 audit firms (i.e. EY, KPMG, PWC or Deloitte).

Table 4: 2017 PERFOMANCE OF ESLA (PETROLEUM RECEIPTS)

ESLA LEVY	MoF ESLA REPORT	CBOD COMPUTED	VARIANCE
	GHSmn	GHSmn	GHSmn
ENERGY DEBT RECOVERY LEVY	1,293.03	1,442.88	(149.85)
PRICE STABILISATION AND RECOVERY LEVY	345.31	381.70	(36.39)
ROAD FUND LEVY	1,151.96	1,301.62	(149.66)
ENERGY FUND LEVY	30.65	33.91	(3.26)
PUBLIC LIGHTING LEVY	179.71	179.71	-
NATIONAL ELECTRIFICATION SCHEME LEVY	151.08	151.08	-
TOTAL	**3,151.74**	**3,490.90**	**(339.16)**

2.6.4 Tax Revenue Leakages

Transfer pricing, re-export dumping and smuggling account for the main leakages in petroleum consumption tax revenue. These occurrences negatively impact the profitability of legitimate businesses and translates into a further loss of corporate income tax to the state.

2.6.4.1 Transfer Pricing

The SPT being ad valorem (15% on ex-depot prices) enabled some BDCs with controlling interest in OMCs or vice-versa to transfer pricing. This is done by simply reducing ex-depot prices (the SPT tax base) to their OMCs to reduce the SPT obligations. This increased the OMC margin and zeroed out or negated BDC

[4]Excludes a balance brought forward of GHS83.27mn from the PDRL Account

margins at the expense of government revenue and enabled the OMC entity to compete better on pump prices. The tax structure was also prone to the situation where some BDCs without OMC control may have facilitated the evasion of taxes through under-invoicing.

The reverse analysis of actual pump prices indicates that SPT for 2017 should stand at about GHS1,731.05mn. A review of actual collections by the Ghana Revenue Authority (GRA) shows a negative variation of GHS148.93mn. This we believe is significantly accounted for by transfer pricing.

The 2017 SPT GRA collections of GHS1.58bn is 1.6% lower than the GHS1.607bn collections of 2016. This may be simplistically explained by the 5.76% reduction in volumes of SPT based products and the revision of the SPT rate from 17.5% in 2016 to 15% for most part of 2017.

However, a more thorough review renders this explanation untenable. The about 17% increase in prices reverses the negative impact of the 5.76% decrease in volumes and the 2.5% drop in SPT rate. The mitigating impact of the upward price changes in 2017 should effectively yield about 8% increase on 2016 SPT revenue. This further affirms the CBOD estimate of GHS1,731.05mn which is a 7.69% increase on the 2016 actual collections.

The above analysis exposes the occurrence of transfer pricing and under-invoicing and justifies government's decision to convert the SPT to a specific tax. It may however be necessary that further investigations are conducted into the matter and the culprits held to account.

2.6.4.2 Re-Export Dumping and Smuggling

The illegal trade of export products dumping, and shore smuggling continued unabated. Perpetrators of this trade evade the tax regime and contribute significantly to revenue leakages. The revenue loss in taxes and regulatory margins from smuggling and export dumping is estimated at GHS1.4bn for 2017. This marks a 64.71% increase in revenue loss from the NPA 2016 position of GHS850mn. This estimate is computed on a smuggled volume of about 856,000mt extrapolated from an analysis of historical data adjusted by sub-sector consumption growth (mines and rigs).

The shore smuggling operation using built-for-purpose homemade canoes with 60,000 litre capacities increased. Despite regulatory efforts by the NPA, little commitment from government to arrest culprits and nip this practise in the bud was observed.

2.7 Industry Fundability

Funding confidence in the industry drastically dropped since 2014 as BDC repayment defaults increased. This was mainly attributed to unpaid under-recoveries, OMC trade credit defaults, trade losses and the diversion of funds by some BDCs. This led to a significant withdrawal of funding from the banking sector. To fill this gap, supplier credits using open account and collateral management schemes were adopted by some International Oil Traders.

Funding confidence remains sub optimal, despite the marginal improvement, more because of the liquidity leakages in the BDC operating structure. Four major risks dubbed the BDC Risk Kite hamper the fundability of the industry. This comprises Legacy Debt, Trade Credit, Forex Risk and Core Pricing Risk.

Figure 6: BDC Risk Kite

2.7.1 Legacy Debt

This refers to the financial burden of unpaid GoG debts which continues to erode BDC capital and limits member trading capacity.

The CBOD collaboration with LBL is expected to address this risk as payment is secured from government. With most of the debt expected to be resolved by Quarter 2, 2018, the Risk Kite may become a Risk Triangle.

2.7.2 Trade Credit Risk

This refers to the cost of the industry's ageing profile in trade credit advanced mainly to OMCs. The increased delays in payments by OMCs is taking a major toll on BDC financing costs and access to working capital. This erodes BDC margins and capital. The CBOD CREPT project is expected to help address this risk. Details are discussed in section 5.2.1

2.7.3 Forex Risk

In the absence of adequate and reasonably priced FX hedging tools on the Ghanaian market, most BDCs adopt in-house FX estimation tools to manage open FX positions. As these estimators fail or are forced by competition to estimate lower, the industry exposure to FX losses increase. This exposure threatens capital and the viability of members.

The CBOD Oil FX Market (OFM) project is expected to address this risk. Details are discussed in section 5.2.2

2.7.4 Core Pricing Risk

This refers to the frequent acts of under-pricing courtesy of competition and incompetent pricing mainly by new entrants and BOST.

Chapter 3

Market Review

Ghana remained a net exporter of petroleum in 2017 buoyed by a surge in crude production despite being a net importer of refined products. 2017 imports and exports of refined products both fell while official local consumption increased.

3.1 Imports of Petroleum Products

Total petroleum imports decreased from 4.4mn metric tonnes in 2016 to 3.87mn metric tonnes in 2017. This comprised of a fall in imports of LPG products, crude for power and crude for refinery. Crude imports for refining were largely non-existent as the country's main refinery, Tema Oil Refinery, was held back by mechanical failures. These challenges have been partly resolved enabling TOR to resume operations in 2018. An increased dependence on locally produced natural gas reduced the dependence on crude for power generation. The official refined products import volumes fell significantly as a result of the gradual shift from export dumping to canoe and shore smuggling whose data are not captured as imports.

Out of the 64 licensed importers, 34 companies imported products in 2017, of which the annual imports of 15 companies was not equivalent to the standard single cargo size of 30kt. 10 licensed companies were totally inactive. This further legitimises efforts to rationalise the industry and ensure licensees deliver value to the economy.

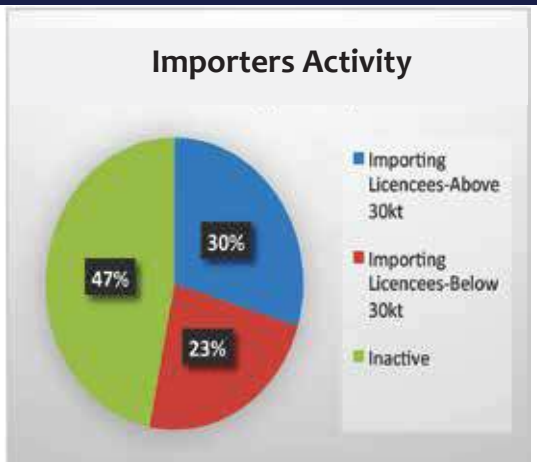


Figure 7: Importers Activity

The largest importer in 2016, BOST dropped to 4th place after a fall in imports from 1.93mn metric tonnes to 366,086mt in 2017. BOST was faced with major debt challenges arising from its import activities in 2016 and 2015. The accrued debt from trade losses compelled traders to withdraw their open account facilities and demand payment. The government as a result, initiated efforts to have GNPC and the National Petroleum Authority offer BOST a bailout, of sorts, from its growing indebtedness to traders.

The removal of indirect subsidies by the Ministry of Finance further exposed the inefficiencies in the BOST trading activity. In effect, there was no source of funds to partly cushion the growing losses. GoG opted to have GoEnergy, a commercially-focused and majority-owned government entity, to represent government in the BDC trade. The focus on GoEnergy instead of BOST provided GoG with an

objective visibility into the BDC trade and eliminated the recurrence of losses which burden tax payers unfairly.

Fueltrade replaced BOST as the largest importer, bringing in products of up to 688,658mt representing 18% of total imports. Major private importers included Juwel Energy, Cirrus Oil, Blue Ocean, Ebony and Chase Petroleum.

Despite being the largest distributor in 2017, GoEnergy maintained the anomaly of not being amongst the top 10 importers. GoEnergy opted to procure products ex-rack/in-tank Ghana from other BDCs and International Oil Traders instead of importing.

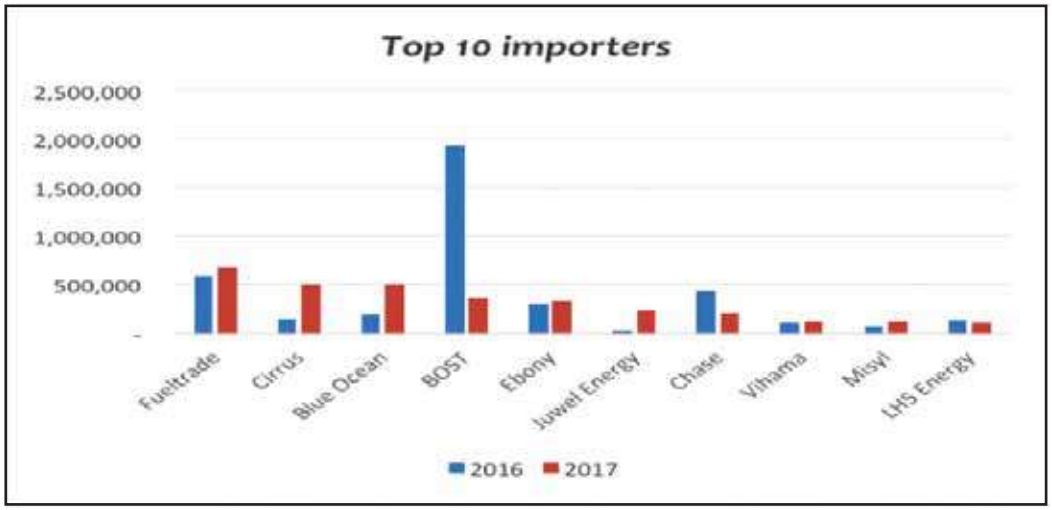


Figure 8: Top 10 Importers

Total gasoline imports in 2017 increased by 11% compared to 2016 volumes. Gasoline imports started the year at 107,073 mt and declined throughout the first quarter.
Imports peaked in June at 161,406mt but declined in July to 86,359 mt. Gasoline imports closed the year at 132,600mt.

Gasoil imports increased by 12% from 1.59mn metric tonnes in 2016 to 1.78mn mt in 2017. Gasoil imports in January stood at 127,448mt and reached a peak of 219,433mt in April. Imports for the subsequent months were fluctuating. Imports of gasoil closed 2017 at 132,600mt.

Imports of LPG fell significantly relative to 2016. Total volume of LPG brought into the country in the year under review was 197,418mt, far below the 312,155mt imported in 2016. This was due to an increased dependence on local LPG. Imports of LPG peaked in the month of August at 20,868mt while January recorded the lowest volume of LPG imports.

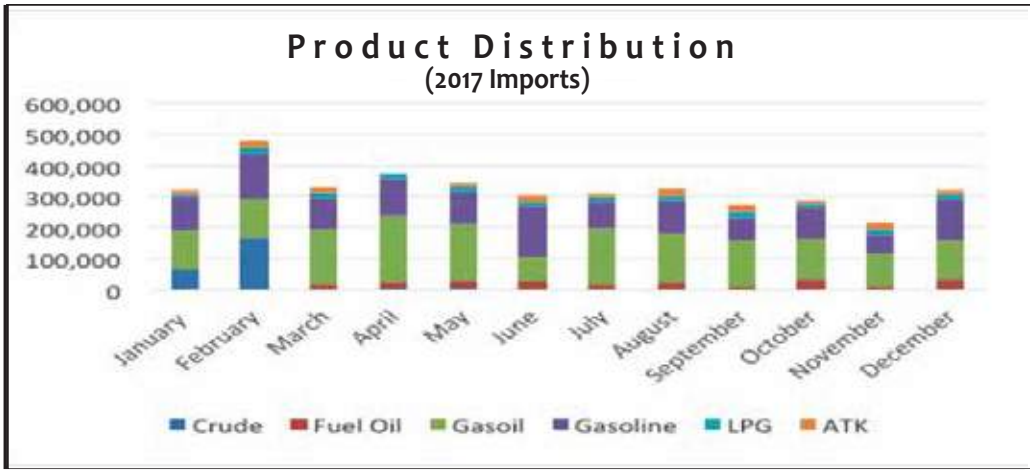


Figure 9: 2017 Product Mix

3.2 Crude Imports

The challenges faced by the FPSO Kwame Nkrumah in 2016 were partly resolved, making the TEN and Jubilee fields fully operational and optimised. Production was further buoyed by the operationalisation of the Sankofa-Gye-Nyame (SGN) fields at about 30,000bbls/day. These positive occurrences boosted the 2017 crude production from 32.21mn bbls in 2016 to 54.97mn bbls, an over 70% increase. This provided Ghana with about 200% coverage of its non-power sector petroleum product consumption (90% refinery efficiency assumed). This further affirmed Ghana as a net exporter of petroleum.

A total of 233,283mt of crude equivalent to 1.67mn barrels was imported in 2017. About 43% of this was committed to the power sector and 57% for refining.

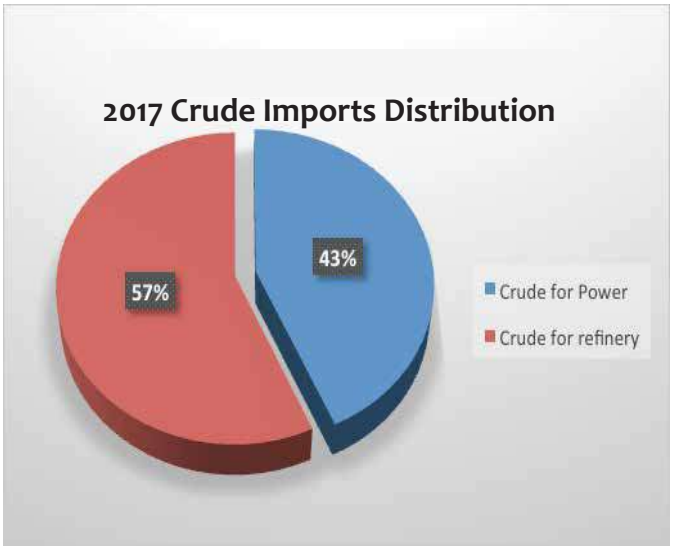


Figure 10: 2017 Crude Imports Distribution

3.3 Exports

Refined product exports reduced by 75,996mt from 532,803mt in 2016 to 456,807mt in 2017 marking a 14% fall. Naphtha exports which accounted for 20% of 2016 exports dropped considerably from 112,810mt to 194mt, marking a 99.83% drop. RFO also saw a major drop from 69,832mt to 53,035mt. These occurrences accounted for the general drop in export volumes despite the 9%, 14% and 60% growth in PMS, AGO and LPG exports respectively. RFO and Naphtha are mainly locally-produced. The fall in refinery activity in 2017 accounted for the low production of both products and the consequential fall in their export volumes.

Figure 11: 2017 Export Distribution by Products

Mali and Burkina Faso were Ghana's major export destinations. CITAC indicates that Ghana's share of Burkina Faso's imports was 10% for AGO and 7% for PMS. Ghana contributed no significant volume to Mali's AGO imports but contributed 4% to its PMS imports. Senegal and Cote d'ivoire were the main supply sources for Mali's AGO and PMS respectively. Burkina Faso continued to show preference for Benin, Togo and Cote d'ivoire as their import routes. This does not augur well for Ghana. We recommend a focused review of policy and market dynamics to better understand and explore ways of making Ghana the preferred route.

TOR maintained their leadership of the refined petroleum export sector despite dropping from 47% to 41% after losing market share to private sector players. Blue Ocean toppled PWSL as the largest private sector exporter despite decreasing their market share from 9% in 2016 to 8% in 2017. Ebony, Aspen and Juwel gave way to Pluton Oil, Firm Energy and Cirrus Oil as top 10 exporters.

The dumping of export products in-country to evade taxes continued in 2017. This illegal trade poses a major risk to the sustainability of legitimate businesses who struggle to compete with illegal traders on price.

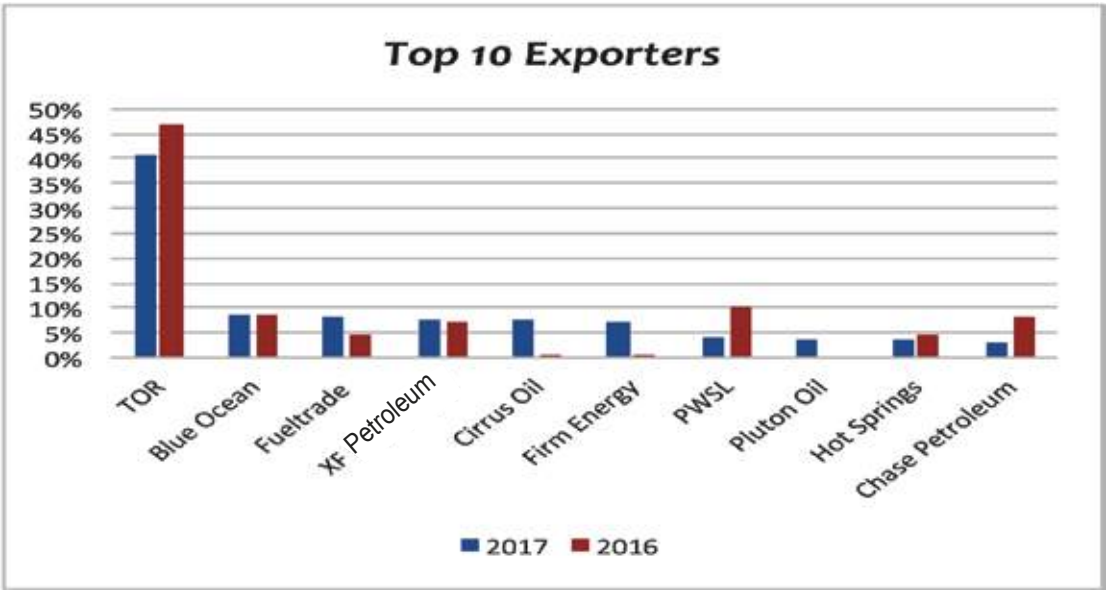


Figure 12: Top 10 Exporters

3.4 Distribution

GoEnergy maintained its leadership of the bulk distribution sector with an 18.7% market share despite a 3.44% drop from its 2016 position. Its distribution fell by 89,277mt from 733,021mt in 2016 to 647,744mt in 2017. This was accounted for by a fall in its regular gasoline market share from 28.98% in 2016 to 25.21% in 2017 and a fall in its regular gasoil market share from 26.69% in 2016 to 25.34% in 2017. These were driven by the withdrawal of government's indirect subsidies to GoEnergy through BOST which levelled prior pricing advantages enjoyed by its parent OMC, Goil. GoEnergy remained weak in the distribution of gasoil to offshore rigs and mines. This highlights growth opportunities for the market leader and competing strategies for other BDCs.

Blue Ocean edged out Ebony Oil and Gas (Ebony) as the ATK market leader, growing its 38.56% market share in 2016 to 53.76% in 2017. Ebony placed second after dropping its market share from 47.06% in 2016 to 40.86% in 2017 .

Eco Petroleum which ranked 9th in the overall BDC market share was the largest distributor of LPG (30.90%). It effectively leveraged on Quantum Terminal's storage and gantry facility in Atuabo that gives it priority access to locally produced LPG from the Ghana National Gas Company. Vihama which ranked 11th maintained its place as the largest distributor of premix fuel. Its 100% market share in 2016 was reduced to 62.71% following the active participation of Med Petroleum and Richelle Energy in the 68,755mt premix business.

Blue Ocean replaced Chase Petroleum as the largest private distributor with a 12.71% share in 2017 up from its 8.18% share in 2016. Cirrus Oil, Ebony and Fueltrade completed the top-5 chart of distributors. Vihama lost its position in the top 10 to Misyl Energy, dropping from 7th in 2016 to 11th in 2017.

Despite being the largest importer for 2018, Fueltrade focused more on trading stocks with other BDCs other than its own distribution to Oil Marketing Companies. It distributed only 35% of its import volume. Vihama on the other hand was observed to have taken a more conservative position with focus on its primary capture market in terms of its relative controlling interest in some OMCs.

Out of the 43 BDCs and refineries, 33 distributed products. The top 5 controlled 56.96% and the top 10 78.64% of the total market share. 17 out of 43 BDCs distributed higher than the standard cargo size of 30,000mt in the entire year while 16 distributed below the standard cargo size. 10 distributors were inactive in 2017.

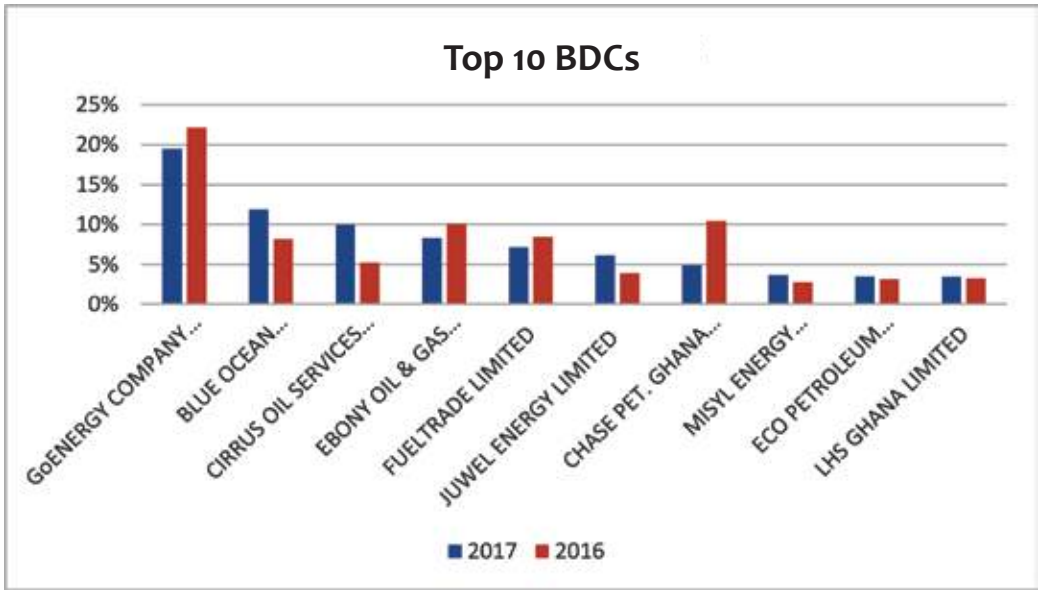


Figure 13: Top 10 BDCs

3.5 Consumption

National consumption increased from 3.33mn metric tonnes to 3.46mn metric tonnes (a 4% increase). This correlates with the 2017 national real GDP growth of 3.6%. However, an analysis over the last 17 years showed a weak positive correlation between GDP growth and consumption growth. We estimate that consumption actually grew higher but fell short of being recorded as a result of increased smuggling and export dumping.

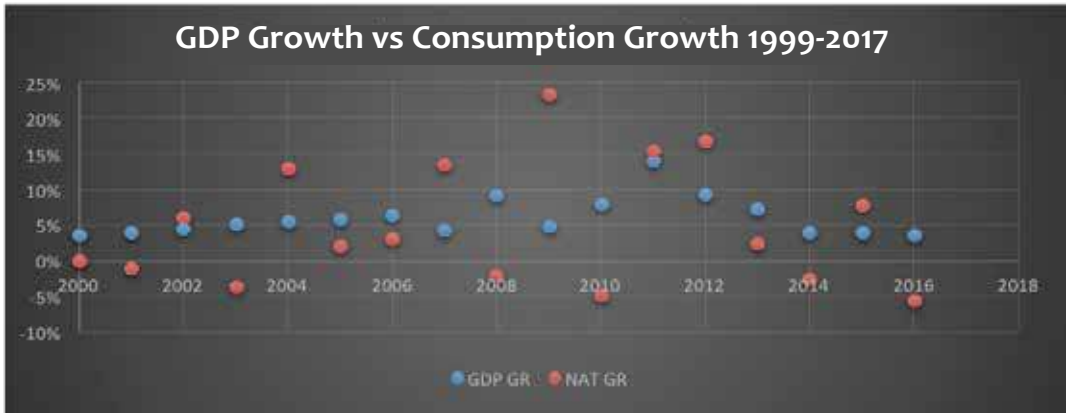


Figure 14: GDP Growth vs Consumption Growth 1999-2017

Gasoline demand increased marginally by 0.32% from 1,069,175mt in 2016 to 1,072,567mt in 2017. Gasoil consumption for 2017 totalled 1,661,475mt. This was made up of 1,202,589mt of regular AGO, representing 72% of total gasoil consumption for 2017, 121,069mt of marine gasoil, representing 7% of total gasoil oil consumption, 262,043mt of gasoil mines and 75,773mt of gasoil oil rig consumption, representing 16% and 5% respectively.

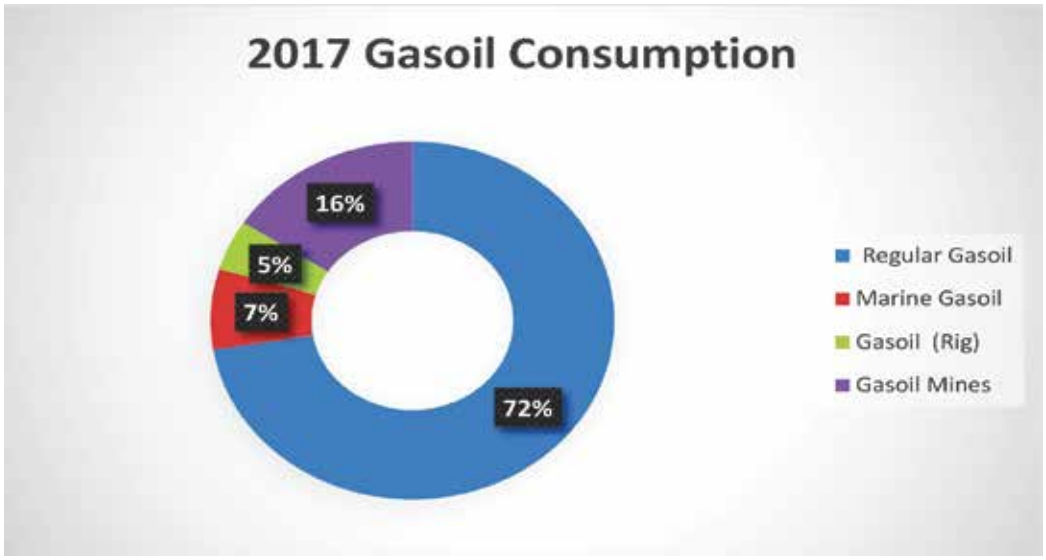


Figure 15: 2017 Gasoil Consumption

Regular AGO remained the largest consumed product with a share of 34.72% although volumes decreased in 2017 by 247,256mt. This is mainly attributable to the fall in official regular gasoil consumption which is under reported due to smuggling. Consumption for gasoil mines and gasoil rig increased by 20% and 21% respectively. Gasoil rigs was boosted by increased petroleum offshore production and exploration activities following the resolution of Ghana's dispute with Cote d'Ivoire at the International Tribunal of the Law of the Sea (ITLOS). Consumption of marine gasoil increased by 233%. This astronomical growth is not explicable by increased marine productivity but rather the diversion of untaxed Marine Gasoil (Foreign) into the mainstream regular gasoil market. MGO (Foreign) consumption, as a result of the diversions, increased from 2,413mt in 2016 to 88,908mt in 2017. To address this illegal trade, government in the early part of 2018 imposed taxes on MGO (Foreign) to eliminate any form of arbitrage encouraging the illegal trade.

The consumption of LPG increased by 28% from 281,474 mt in 2016 to 358,931mt in 2017. This was driven by an increase in the use of LPG (propane) to fuel power plants in 2017. Demand for premix also saw a 22.82% increase from 55,980mt in 2016 to 68,755mt in 2017. This growth is also attributable to increased illegal diversion of the highly subsidised premix product into the mainstream unsubsidised PMS trade.

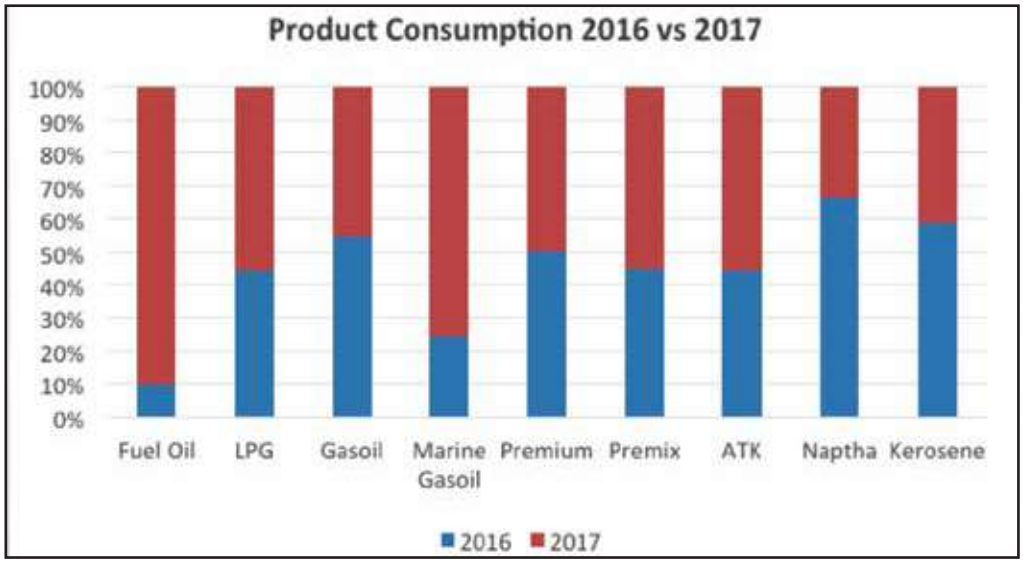


Figure 16: Product Consumption 2016 vs 2017

3.5.1 Zonal Consumption - Gasoil

The Accra & Tema Plains (ATP) zone remained the largest consuming zone in Ghana with a 50% share of national consumption. This marks a 2% increase in share. Its actual volumes however reduced by 13% from 684,546mt in 2016 to 594,724mt in 2017. This was followed by the Kumasi zone, with a 29% share of national consumption, the Takoradi, Bolgatanga and Buipe zones consumed 11%,4.07% and 3.65% respectively, while the Mami Water zone recorded the least consumption of 21,173mt representing 1.79% of national consumption.

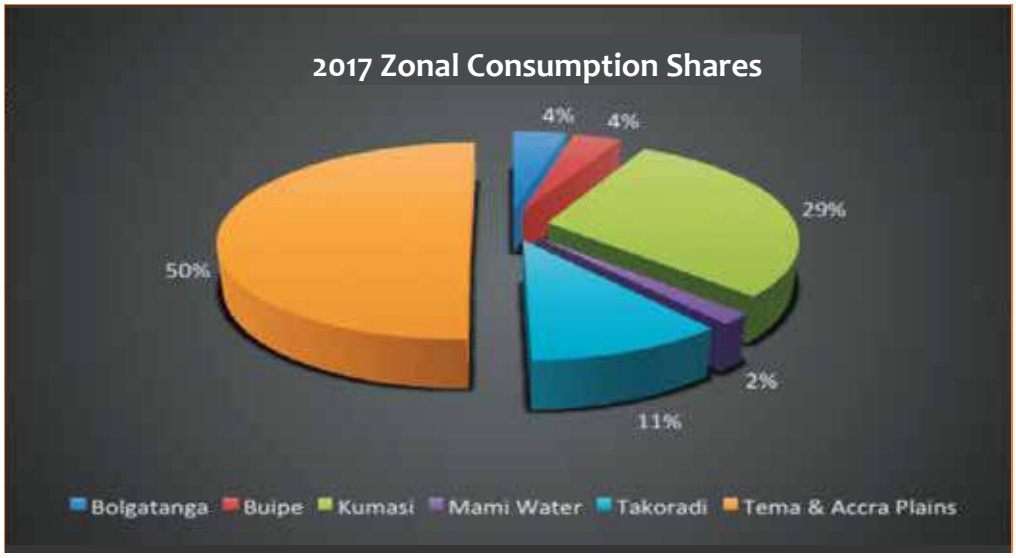


Figure 17: 2017 Zonal Consumption Shares - All products

Volumes of products especially gasoil consumed across the zonal areas have been consistently dropping from 2015 to 2017 for gasoil-regular. Gasoil consumed across the zones between 2015 and 2017 fell by 89,821 mt representing a 25% drop. The Mami Water zone saw a 67% decline in volume from its 2015 position while products consumed in Kumasi in 2017 fell by 18% compared to 2015. The Buipe, Bolgatanga and Accra & Tema Plains zones witnessed a 36%, 22% and 19% drop in products consumed in their respective zones when also compared to 2015.

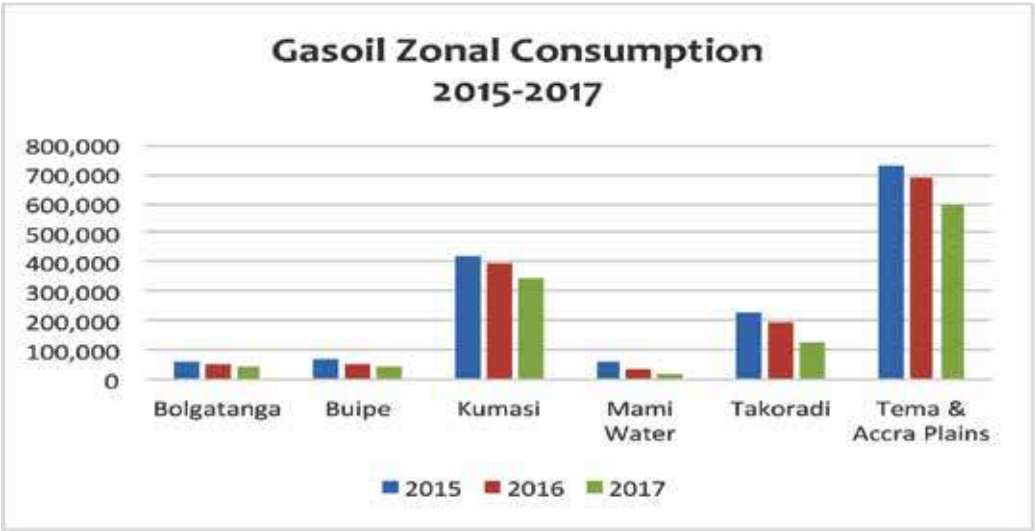


Figure 18: Gasoil Zonal Consumption 2015-2017

3.5.2 Zonal Consumption -Gasoline

Zonal consumption of gasoline from 2015 to 2017 saw similar patterns observed with gasoil. With the exception of the Accra & Tema Plains which witnessed a 1% increase in volumes consumed within the period under consideration, all other zones saw significant declines in consumption. The Mami Water zone witnessed a 59% drop in consumption from 2015, while the Bolgatanga, Buipe, Kumasi and Takoradi recorded declines of 41%, 6%, 9% and 22% respectively.

Zonal consumption data mainly covers sales to retail outlets.

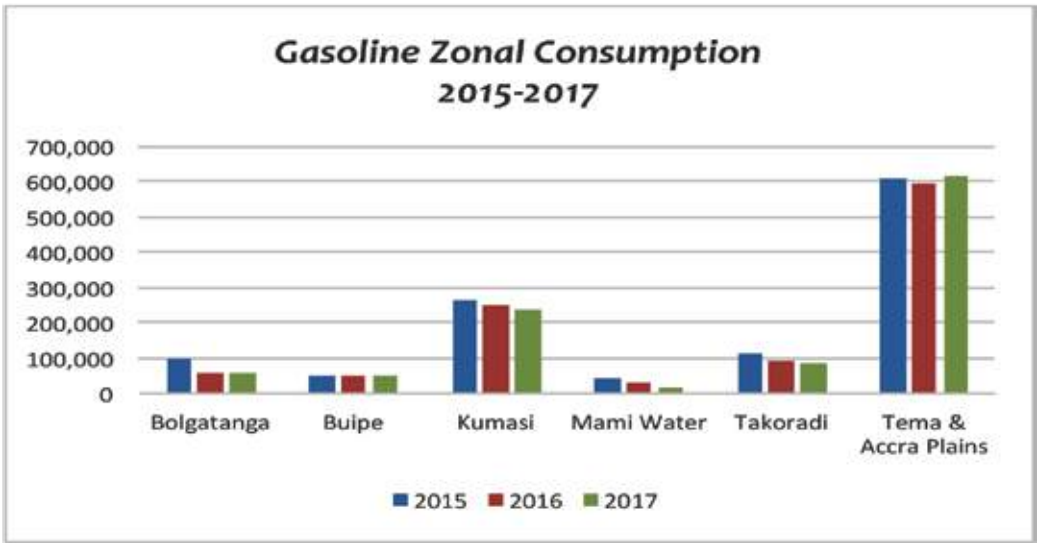


Figure 19: Gasoline Zonal Consumption 2015-2017

3.6 Pricing

3.6.1 FOB prices

FOB prices for 2017 averaged $554.80/mt and $483.53/mt representing a 20% and 27% increase in 2016 average FOB prices of both PMS and AGO respectively. The average inter-window (first and second half of every month) International Market Price (IMP) change for 2017 stood at 1% for both PMS and AGO.

IMP began the first window of 2017 at $531.03/mt and $474.53/mt for gasoline and gasoil, respectively. The highest inter-window increase was 13% for PMS and 8% for AGO in the second window of September. This was as a result of a reduction in global supply in August caused by temporal shutdowns of refineries in the US after Hurricane Harvey. The year ended with FOB price capped at $600.86/mt and $559.86/mt for gasoline and gasoil, respectively, this represents a 13.15% and 17.98% increase in the price of gasoline and gasoil, respectively relative to year start prices.

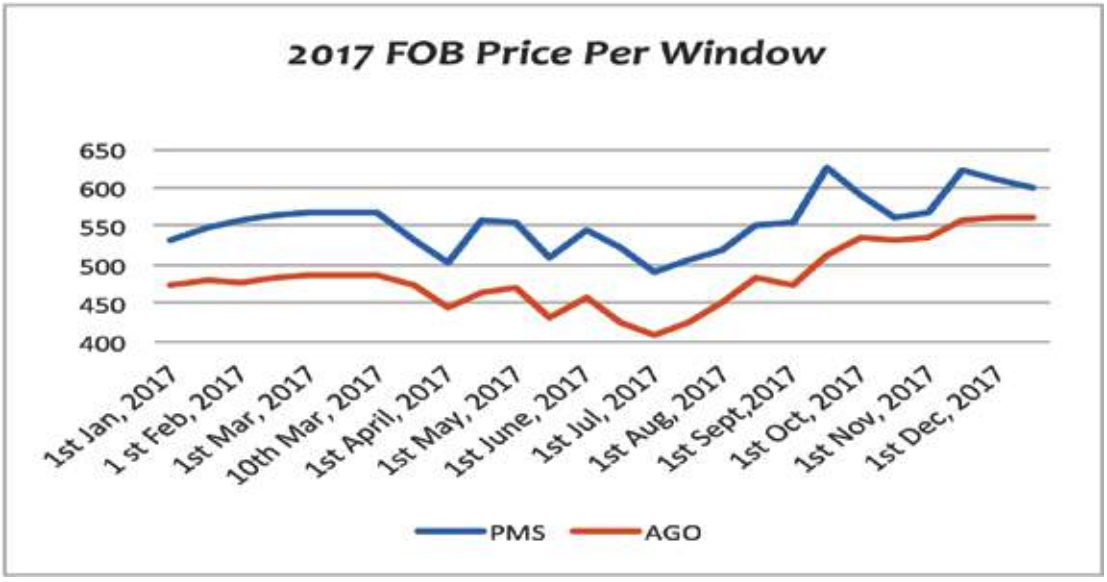


Figure 20: 2017 FOB Price Per Window

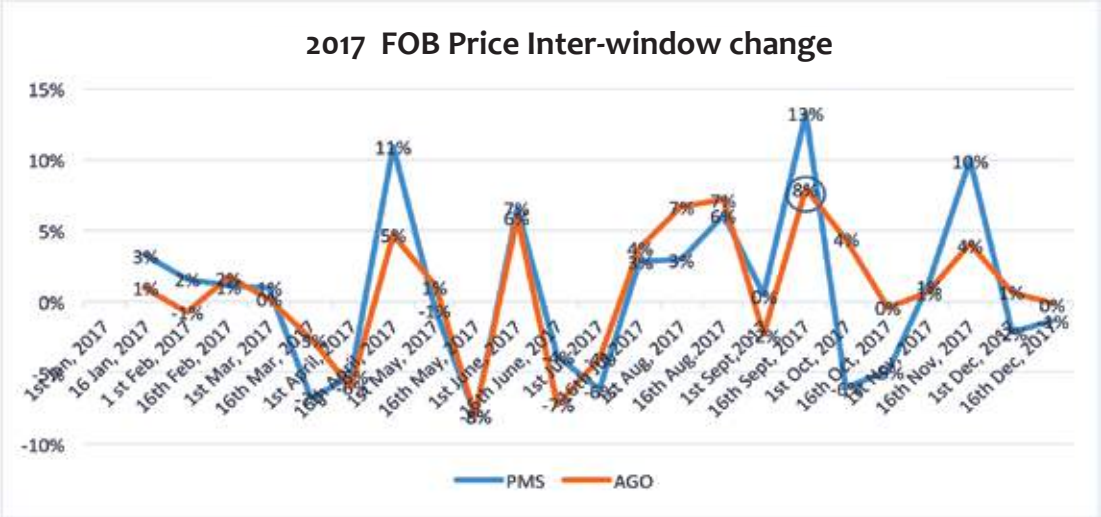


Figure 21: 2017 FOB Price Inter-window change

3.6.2 Average Ex-Pump Price Review

Average ex-pump prices started the year at GHS4.04/ltr and GHS4/ltr in January for PMS and AGO respectively. The year closed with ex-pump prices at a year high of GHS4.47/ltr and GHS4.46/ltr in the 2nd window of December, marking a 12% and 13% increase for PMS and AGO respectively. A number of factors including changes in FOB prices of gasoline and gasoil, changes in exchange rates and policy decisions on taxes, levies and margins during the year resulted in swings in ex-pump prices of petroleum products.

Prices experienced an average inter-window change of 0.43% and 0.46% for PMS and AGO respectively in the year.

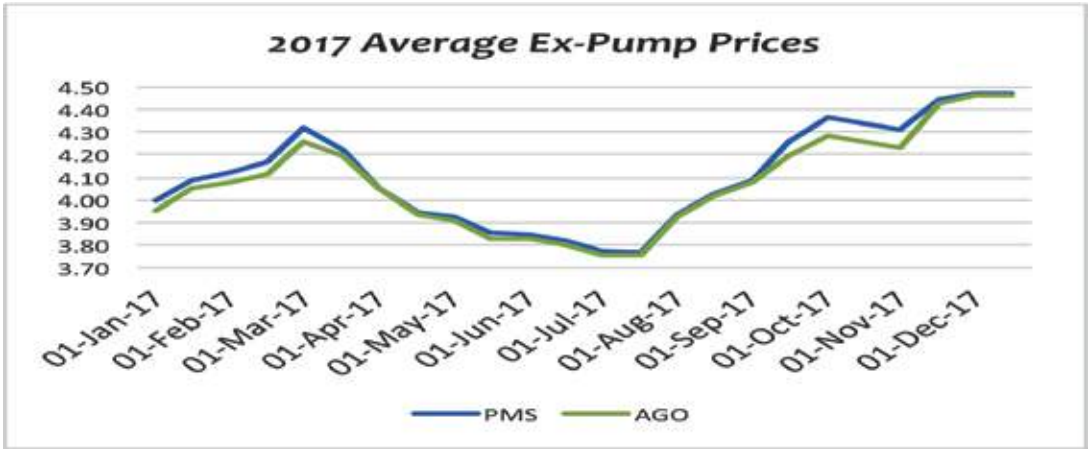


Figure 22: 2017 Average Ex-Pump Prices

Ex-pump prices for 2017 averaged GHS4.108/ltr and GHS4.076/ltr for gasoline and gasoil respectively. This was 17% and 18% higher than the average prices observed for both products in 2016.These average market prices were about 7.5% less than the NPA average window price estimates.

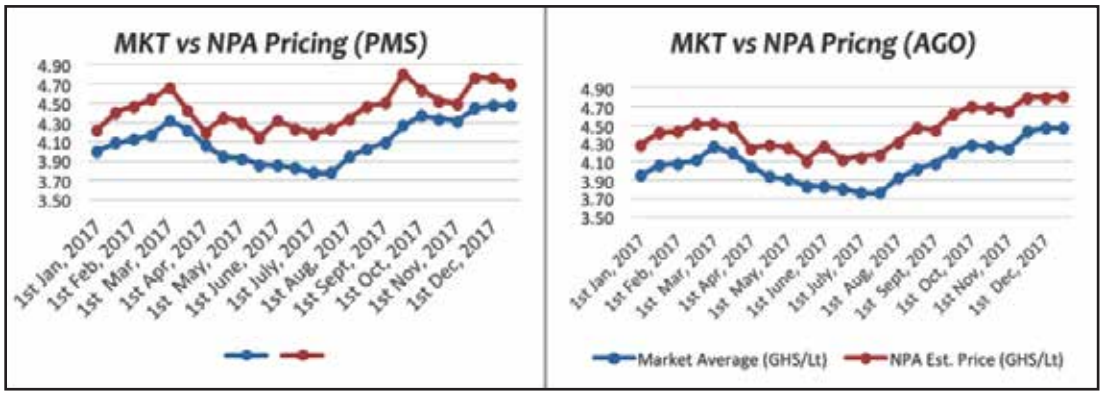


Figure 23: MKT vs NPA Pricing (Gasoline)

Figure 24: MKT vs NPA Pricing (Gasoil)

3.6.3 Forex Rate

The average BoG GHS/USD rate (BoG FX) for 2017 experienced an 11% increase from 3.9130 in 2016 to 4.3514 in 2017. It started 2017 at 4.2098 and ended the year at 4.4179 marking a 4.94% change. Its average month on month change stood at 0.40%.

February experienced the highest month-on-month change with a 3% increase from the January average forex rate (BoG). March experienced the next highest month-on-month change with an increase of about 2.5%. This was significantly influenced by market uncertainty in policy following the change in government on January 7th, 2017. After the appointment of the new Minister of Finance and the successful issuance of the GHS9.7bn 10-year bond which increased USD flows, confidence rebounded and yielded a 6.4% fall in the BoG FX indicating a cedi rebound.

A regression analysis of data for 2016 and 2017 indicates that the BOG FX impacted local prices more in 2017 than 2016. It was shown that a cedi increase in BoG FX rate (cedis per dollar) caused PMS prices to increase by GHS0.2 per litre in 2016 compared to GHS0.92 per litre in 2017. The results also showed that a cedi increase in BoG FX rate (cedis per dollar) caused AGO prices to increase by GHS0.84 per litre in 2016 and GHS0.86 per litre in 2017.

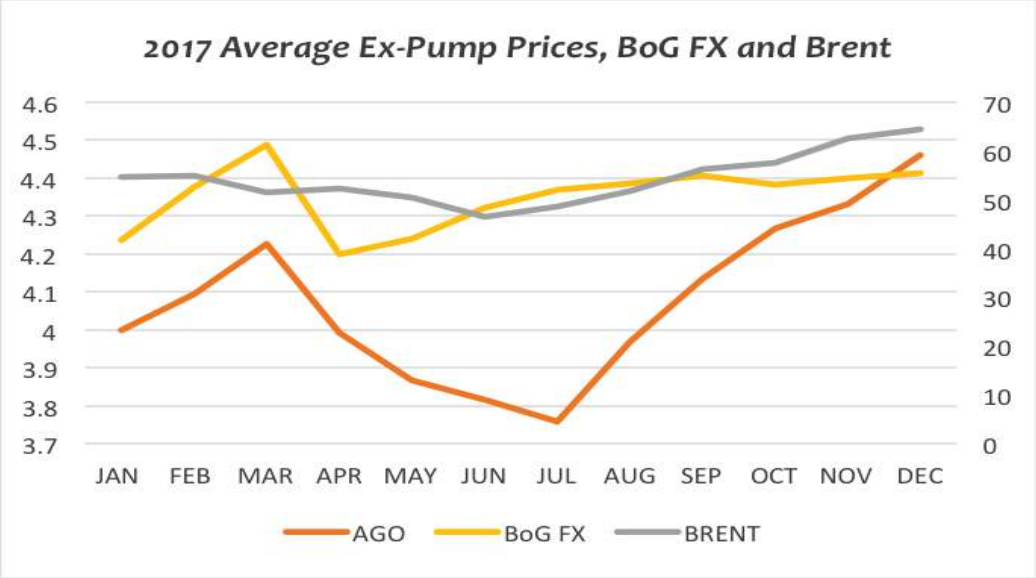


Figure 25: 2017 Average Ex-Pump Prices, BoG FX and Brent

Chapter 4

Infrastructure Review

4.1 Storage

Ghana's storage capacity reached 2.09mn m^3 following the commissioning of Blue Ocean's TMPT's 116,000m^3 gasoil, gasoline and LPG facility. 1.35mn m^3 (64.6%) of the national storage was for refined products, 281,000m^3 was for power sector crude and 456,376m^3 for refinery crude. 91% of the refined storage is in Tema. The national tank turn stands at 0.17 times per month, 83% lower than the globally accepted minimum efficient tank-turn of 1. This clearly indicates that Ghana's storage facilities are grossly underutilised.

AGO maintained its position as the refined product with the largest storage facility. The storage capacity for AGO stood at 616,129m^3 marking a 29.44% share of total storage.

Gasoline share of total storage was 28.03% representing 586,628m^3.
The addition of an 8,000m^3 capacity for LPG by Blue Ocean in 2017 shored up the country's LPG storage capacity to 28,813m^3.

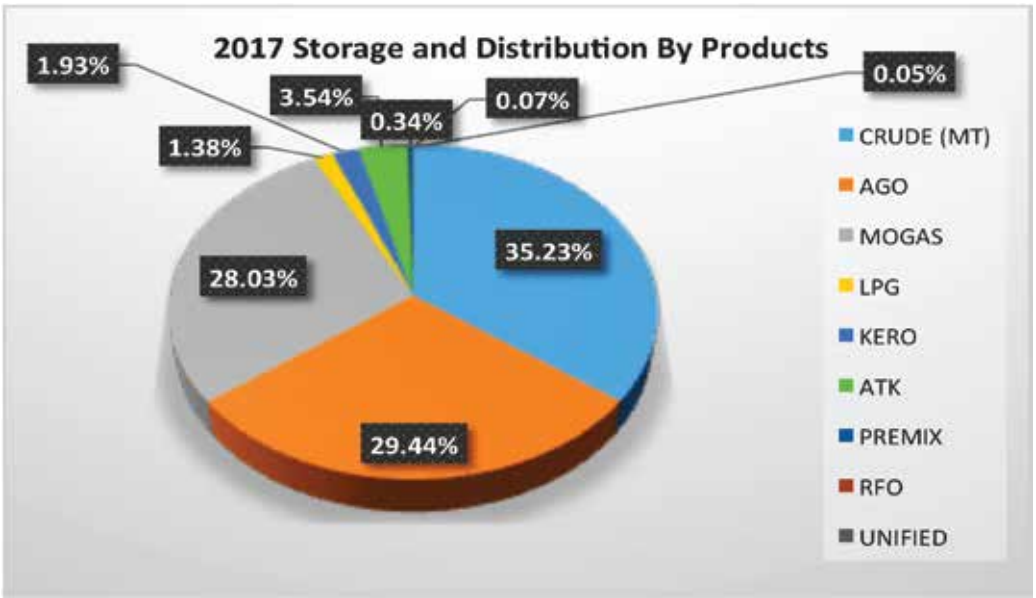


Figure 26: 2017 Storage and Distribution by Products

Government remained the largest storage provider of both refined products and crude oil while the private sector maintained its position as the largest non-refinery storage capacity provider. The private sector contributed about 648,295m^3 of storage capacity for products.

Tema Tank Farm Ltd. maintained its position as the largest private sector storage provider with a capacity of 192,000m^3 representing 30% of the total private storage capacity, followed by Blue Ocean who provided 26.7% of the private storage capacity.

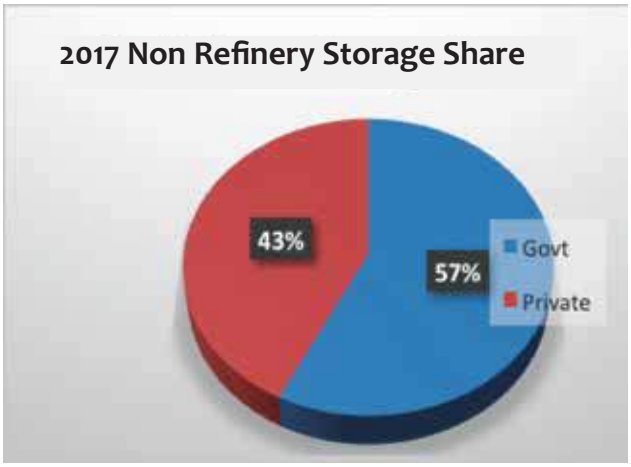


Figure 27: 2017 Non Refinery Storage Share

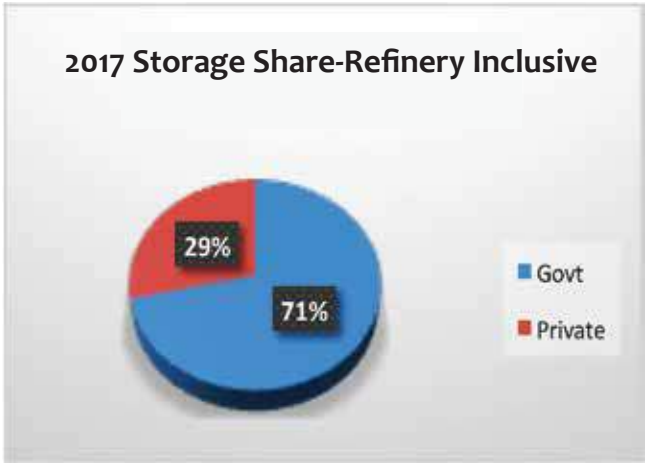


Figure 28: 2017 Storage Share-Refinery Inclusive

NATIONAL PRODUCT STORAGE CAPACITY 2017

DEPOTS/ PRODUCTS	VRA	STATE-OWNED			PRIVATELY-OWNED										TOTAL STORAGE (MT)
		BOST	TOR	GHANA GAS	SAHARA	ASOGLI	CIRRUS	TEMA TANK FARM	FUELTRADE-TFC	PLATON GASOIL	BLUE OCEAN	GHANSTOCK	JUHI	QUANTUM	
CRUDE (MT)	242,400	-	383,876		-	30,000	-	72,000	-	-	-		-		727,376
AGO	2,000	219,691	117,085		28,156		34,000	70,000	47,337	1,153	72,700	24,000	-		616,129
MOGAS		169,375	201,760		15,291		25,000	50,000	50,691	-	67,600	-	-		580,629
LPG		-	9,913	6,400	-		-	-	4,000	-	8,000	-	-	1,500	29,813
KERO		24,796	15,505		-		-	-	-	-	-		-		40,301
ATK		-	44,608		-		3,000	-	-	-	25,000		1,500		74,108
PREMIX		-	7,016		-		-	-	-	-	-		-		7,016
FPC		-	1,127		-		-	-	-	300			-		1,427
UNIPEC		-	-		-		-	-	-	1,153	-		-		1,153
TOTAL	244,400	413,863	780,093	6,400	43,367	30,000	66,000	192,000	105,028	2,600	173,300	24,000	1,500	1,500	2,083,000

Figure 29: National Product Storage Capacity 2017

4.1.1 Pipeline Projects

The Woodfields and Quantum Terminals projects are expected to add a total of 195,031m^3 storage capacity to the industry. The Quantum project which is expected to be commissioned in the third quarter of 2018 is made up of 35,502m^3 of AGO, 33,557m^3 of PMS tankage and 32,800m^3 of LPG. Out of the Quantum LPG project, 31,600m^3 is to be dedicated to power generation and 1,200m^3 to domestic consumption. Woodfields is made up of a 61,372m^3 capacity for gasoline and a 63,400m^3 capacity for gasoil. The commissioning of the above tankage will increase the private sector's total storage to 874,926m^3.

4.2 Mooring & Jetty

The industry continued to operate with four main discharge/loading facilities: the All Buoy Berth (ABB), the Single Point Mooring (SPM), the Tema Oil Jetty and the Takoradi Oil Jetty.

The All Buoy Berth with its 50,000mt dead-weight capacity and offloading capacity of about 970mt per hour remained Ghana's primary discharge access facility. The ABB which is linked by a network of pipelines to tank farms in the Tema/Kpone general area accounted for 88% of all imports in 2017. This represents a 6% increase in its 2016 operating share of 83%. It operates with a draft of 12.2 meters.

The draft limits of the Takoradi Jetty (8.4meters) and the Tema Jetty (9.6 meters) limits vessel options and are not viable alternatives to the ABB. The 24 meter draft Tema SPM with its 155,000mt dead weight capacity remained dedicated to crude discharge.

Chapter 5

Outlook & Recommendations

5.1 Industry Risks Outlook

5.1.1 Forward Integration by IOTs

The BDC function was introduced in 2006 partly as an intervention to enable local entrepreneurs build capacity to manage the international supply chain, finance and trade petroleum products in USD per metric ton from refineries all over the world to the depot racks onshore Ghana in pesewas per litre. To this end, licensing was solely granted to local entrepreneurs. Hitherto, the entire trading chain was fully managed by international traders with locals just as agents.

The BDC intervention successfully led to local entrepreneurs investing in infrastructure and the development of skills of Ghanaians to progressively deliver this value proposition. The BDC function moved IOTs from onshore to the offshore trade with BDCs delivering products at similar premiums. In effect, the BDC function yielded higher economic, financial and social returns through increased job creation, local skill development and investment in infrastructure. Today, BDCs deliver products to the market at an average $66/mt, 41% lower than the NPA's benchmark premium.

Prior to 1998, the oil marketing sector was fully controlled by foreign entities like Shell, Total BP, ELF, Agip etc. Indigenous entrepreneurs first entered the oil marketing space in 1998, with the advent of Allied Oil. Between then and 2004, other indigenous Oil Marketing Companies also joined the industry. Owing to the objective of fully deregulating the sector, it was clear that in the absence of a BDC function, International Oil Marketing Companies riding on the back of their integration with their parent companies will annihilate the local Oil Marketing Companies. This situation had major security and socio-economic implications for the country. As a result, the BDC function that required all Oil Marketing Companies to buy from the BDCs at the government determined price served as a major leveller to ensure the fair growth of all Oil Marketing Companies. As at date these OMCs have employed tens of thousands of Ghanaian youth and developed skills in the management of the sector.

In recent times, various International Oil Trading companies have been embarking on efforts to integrate forward by procuring Oil Trading Licences which will allow them to import finished products and sell to BDCs in-tank and in effect ex-rack. Coupled with internal hedging mechanisms that may accrue to IOTs who are also investing in the upstream sector of Ghana, the aspirations intended for Ghana as a country through the BDC function will be affected and gains totally eroded. The BDCs will at this point, fail to localise the knowledge and control of the supply chain from ex-refinery anywhere in the world to ex-rack in Ghana. Local BDCs will in effect soon become totally irrelevant and defunct. What value will they be delivering when they buy ex-rack from

suppliers and sell ex-rack to OMCs? What control and skill will they be localising?
The pioneers of the BDC industry evolved from being IOT agents, in-tank traders, ex-ship traders to tank farm owners. They are now expected to grow into ex-refinery (International) traders with all supply chain and trading skills which can be applied to their Ghana trade and other markets in West Africa, all in natural fulfilment of government's quest to make Ghana a downstream hub.

The first setback to the full realisation of the BDC function vision was the burdening of BDCs with enormous government debt which eroded BDC capital and weakened access to finance to grow the trade. This setback led to a reversal of gains such that BDCs could hardly trade ex-ship and had to revert to in-tank trades. With the BDC debt issues being resolved amidst efforts to rationalise the industry, the industry is progressively strengthening to realise the full effect of its value proposition. Nurturing the forward integration of IOTs will make it impossible to optimise the BDC role.

Policy should rather be positioned to enable the BDC function transcend its current depot operations, credit management and ex- ship trade to ex-refinery international trade.

5.1.2 Policy and Regulatory Inconsistency

The consistency and predictability of policy and regulatory positions will remain critical in the attraction of investment to advance the course of the industry.

In 2016 the employment of indirect subsidies through BOST for the benefit of Goil distorted the market and accrued significant losses to the private sector in ways that may be irreparable in the case of some players. While we may admit that this was not replicated in 2017, government is yet to provide clarity on the role of BOST. Increasingly there has been continuous interest expressed by BOST to join the BDC trade other than focusing on its core object of managing strategic stocks. The private sector is typically not worried about the idea of BOST trading but rather the fact that as a government entity heavily controlled by politics, it will not trade fairly. BOST with the support of indirect subsidies from government and the absence of personal accountability on the part of its management may wilfully operate at losses by offering below fair market prices and compel the private sector to accrue losses which in turn will erode private capital and threaten the financial sector.

The CBOD maintains that government ought to have visibility in the BDC trade as part of its monitoring of the deregulation policy. It however believes that GoEnergy (majority-owned by government and GSE-listed parent company, Goil) is structured to operate commercially and profitably and as such will give government that needed visibility. However, indications are that GoEnergy, the largest BDC, prefers to have BOST undertake the trading on its behalf. Its preference is informed by the fact that it will be insulated by irresponsible interventions (unfunded subsidies, for example) by government to indirectly thrust losses on their trade.

5.1.3 Illegal Trade

The perpetuation of the illegal trade is increasingly assuming new heights with more sophistication. In recent times, intelligence received indicates that the illegal trade which used to be partly exposed by the presence of unmarked petroleum products in various outlets is currently being replaced with marked cargo, making it difficult to identify. This situation as mentioned above and as discussed in section 1.4 will continue to rob government of more tax revenue, distort market prices and erode the capital of legitimate businesses in the industry. Industry remains baffled by the depth of the inertia of government and the weak commitment of key security agencies to support the regulator in fighting this menace.

5.1.4 Trade Operations Risk

The BDC Risk Kite discussed in section 2.7 continues to pose a major risk to industry. It is expected that the interventions being embarked upon by the industry in conjunction with the banks will help address the problem.

5.1.5 Mooring Facility

Ghana's continuous dependence on the ABB/SPM for the discharge of about 88% of our imports poses a single point failure risk to the economy. Any major occurrence that may force a shutdown of the facility may yield major economic crisis in the form of shortages. The CBOD continues to facilitate the activities of Pexus Mooring (a consortium of BDCs) in its efforts to develop an alternate SPM offshore Tema.

5.2 Restructuring the Trade

The industry's fundability remains low as a result of the BDC Risk Kite discussed in section 2.7. To address this risk, the BDC trade structure ought to be redesigned to minimise or eliminate liquidity leakages. The CREPT model, the Oil FX Model, the enforcement of the licensing regime and the payment of the legacy debts are expected to address these risks.

5.2.1 CREPT

A review of industry data as at 2016 indicated that over 60% of sales were in breach of prior agreed trade credit terms. BDC-OMC trade credit terms have evolved from 2 days to 7, 14, 30 and 60 days. Most remain in breach for over 45 days. In some cases, trade credits have been overaged by as much as 730 days. The BDC trade credit exposure is estimated at GHS800mn in 2017. This exposure is mainly unsecured and, in many cases, doubtful. This erodes BDC capital and threatens their commercial sustainability.

For an industry that trades about a billion Ghana Cedis per month, a 30-day breach yields a loss of about GHS20mn to the industry per month (in terms of real cost or lost treasury returns). This situation presents a major commercial viability risk to the industry and a liquidity loss challenge to the banking sector.

The current credit bureau regime effectively provides information on crystallised bank debts but not contingent liabilities. BDCs are therefore capable of procuring LC financing from various banks without banks having knowledge of the BDCs total contingent liability. As a result, BDCs are able to "teem and lade" to cover occurrences of liquidity losses without creditor (banks and open account suppiers) visibility. This expose creditors to major impairment loss arising from the full crystallisation of a BDC's inability to honour its obligations after subsequent periods of liquidity losses. This phenomenon encourages irresponsible behaviour in the industry and leads to the erosion of funding confidence. This situation is unsustainable for the industry and the economy.

The CREPT model is a trade credit monitoring and rating platform to provide banks, suppliers, BDCs and OMCs with trade credit visibility. The platform will be governed by new industry-wide trade credit protocols and is expected to be owned and administered by an SPV set up by the Ghana Association of Bankers and the CBOD. Dun and Bradstreet are the nominated operators of CREPT.

5.2.2 Oil FX Market

Prior to the price deregulation era, the BDCs in their transactions with banks were contractually responsible for the supply of forex (FX) to cover their trades. The BDCs in turn had their FX supply and pricing risk 'underwritten' by government through the Central Bank. BDCs therefore had no responsibility for setting FX prices for their sales. BDCs were focused on the managment of trading and credit risk.

Government on the other hand, was responsible for paying losses arising from its own forex mispricing. Between 2011 and 2015, the FX loss incurred by GoG was USD850mn.

Under the current deregulation structure, government no longer underwrites the FX pricing and supply risks. This implies that BDCs price their FX for their own trades and as a result, any form of loss arising from mispricing is borne by them. Events of mispricing reduce the adequacy of cedi inflows from a given transaction to meet the related USD obligations underwritten by an LC issuing bank or suppliers. This poses a major liquidity risk to transactions funded by the banking sector or suppliers.

The proposed solution is to develop an Oil FX Platform dedicated to the downstream sector to trade both spot and forwards. The platform will be owned and administered by an SPV owned by the Ghana Association of Bankers and the CBOD. The OFM is expected to serve as the sole medium for FX supply to BDCs & OTCs. This will increase the flow of FX into the industry and ensure efficient FX pricing to reduce the occurrence of FX losses. It will also increase financier visibility in the BDC trade. This helps reduce information asymmetry and prevent teeming and lading.

The platform is expected to be powered by Thomson Reuters' FXall.

5.3 BOST: A Way Forward

5.3.1 Background

BOST was set up in 1993 as a major response to frequent strike threats by staff of the country's only refinery and supplier of fuel, Tema Oil Refinery. It was purposed to hold strategic stocks on behalf of the Government of Ghana to temporarily mitigate fuel shortages and insecurities in the event of strikes or refinery challenges.

As a policy, it aimed at holding about six weeks of fuel stocks. At the commencement of BOST's Strategic Stock Programmes (SSP), under the J.A. Kufour-led government, the structure was designed to have stocks refreshed every three months. Refreshing was important to ensure products maintained their physical properties for the market when required. Products were refreshed every 3 months by trading refresh-due stocks through TOR or BDCs at GoG set ex-refinery prices and procuring replenishment stocks.

Proceeds from the refresh-sale were used to fund replenishment stocks. When set ex-ref prices are lower than the procurement price, losses occur and are funded by the GoG through the strategic stocks levy. In most cases, there were losses. It must be noted that while it was possible to refresh stocks through swapping TOR production with refresh-due stocks, to ensure the absence of losses, this was not encouraged.

BOST Strategic Stock Trading Cycle

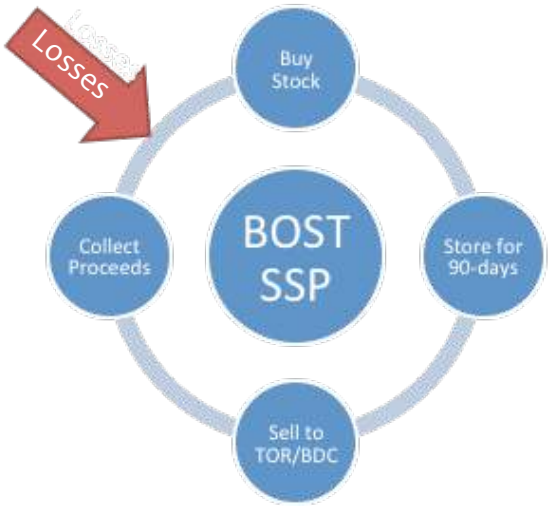


Figure 30: BOST Strategic Stock Trading Cycle

The Mills-led regime was doubtful about BOST's success with trading following an inheritance of significant debt at BOST. It opted to have BOST focus on providing an infrastructure backbone for the industry. To ensure product security, the government endeavoured to maintain funding confidence in the BDC structure by paying subsidies on time. This led to the growth in stock levels from less than a week (2009) to about eight weeks (2010-2011) for AGO. PMS saw a growth in stock from about 1 day (2009) to 6 weeks (2010-2011) of stock.

In 2014, BOST recommenced the operation of a strategic stocks programme which in effect was a constant trade programme. GNPC was the first to finance this SSP and led to significant losses following which, GNPC withdrew.
This was followed by a revised structure that had international oil traders finance BOST's SSP through open-account suppliers' credit supported by government's 'guarantees' against which the trader may procure insurance. Stocks were not held and refreshed, they were traded through BDCs mainly GoEnergy. The sale of products below the purchase price yielded losses underwritten by BOST's shareholder, GoG. Prices at which BOST sold products were at the discretion of the BOST management. This SSP programme increased product availability in the country as well as government's exposure to financial losses.

5.3.2 BOST Losses

In 2008, the commodity price hikes saw increased agitations for government to reduce prices. In response, GoG opted to remove the strategic stock levy from price build-up. Growing losses from BOST's trading therefore had no funding source, hence BOST's losses (about $100mn) increased leading to the pledging of the BOST margin to Standard Chartered Bank and First Atlantic Bank. The debts incurred at that time remain partly unpaid.

The 2014 SSP also led to losses of over $235mn. This equates to about 6 weeks' worth of the country's current consumption of fuel. These losses were accrued despite various incentives like preferential Forex from the Bank of Ghana and a guaranteed off-take from GoEnergy for the benefit of Goil. Indications also suggest the 2017 SSP increased the BOST debt.

In effect for every period that GoG has embarked on a Strategic Stock Programme, it has compounded losses and exposed GoG to financial losses.

Trading is not necessarily unprofitable but requires rigour and efficiency. This efficiency has proven absent with most GoG fully owned companies and agencies who trade in the downstream sector. The continuous occurrences of these losses and the burden it places on the fiscal purse, inhibits GoG to deliver efficiently on its socio-economic programmes. This situation is unsustainable.

5.3.3 Strategic Stocks

Strategic stocks are necessary for the country both for security reasons and supply balance prudence. The key issue when addressing strategic stocks is in respect of how it is done. Strategic stocks need not create losses to the State but rather create value to the State.

5.3.3.1 Strategic Stock Options

Option 1: PSP Regulatory Requirement

This option will require all operators responsible for the bulk supply or production of refined fuel to hold a minimum stock which will sum up to the country's target minimum stock. This may be referred to as the Minimum Operator Stock (MOS). The MOS may be appropriated by the GoG, at its will when required,

with fair and predetermined compensation granted to Petroleum Service Providers (PSPs).

The holding cost may be financed through any of the following:

1. PSP funds.
This will indirectly lead to BDCs/Refineries (PSPs) incorporating the holding cost of the MOS in their traded prices. The competition under the current deregulation regime will drive PSPs to ensure they incur the least minimum cost possible.

2. Alternatively, GoG may introduce a direct margin or levy chargeable to consumers for financing the holding cost. This will be most welcomed by PSPs but will be less efficient. The cost charged will not be optimal. In addition, government will be held responsible for increasing prices.

The MOSs may be held in BOST and other private facilities but monitored fully by BOST. It should be mandatory for a PSP not to hold stocks below the MOS.

Option 2: Government Invests in Strategic Stocks

Government may invest in financing its own strategic stocks. Such stock will be held and managed by BOST with expressly defined asset management protocols. This investment may be gradual.
1. This will burden government with a major investment outlay and withhold investments to other socio-economic interventions key to government's success.
2. The funding may be from the price stabilisation and recovery levy or the introduction of a Strategic Stock Levy.

3. An active hedge program must back any physical commodity positions held by BOST to ensure value preservation and avoid potential financial losses associated with holding stocks/ refined petroleum products for long periods.

Option 3: Combine Options 1 & 2

Government through BOST procures stocks of its own and in addition, require PSPs to hold the MOS which will be accounted for as part of the national security stock.

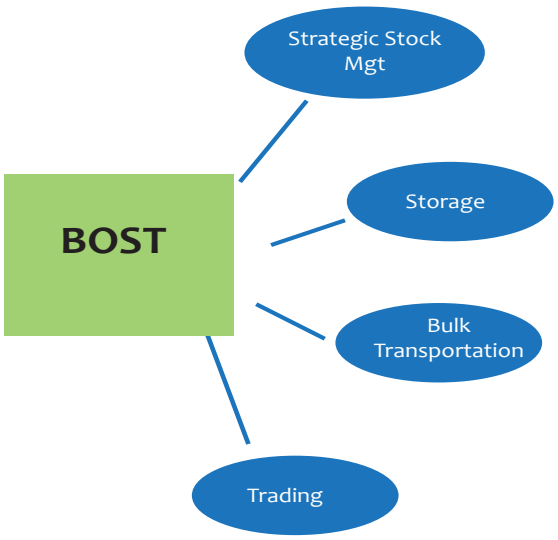
GoG's stocks will be held in the BOST system while PSP stocks may be held in any depot but monitored by BOST.

5.3.4 Refreshing Stocks and Eliminating Trading Losses

The main vehicle used to incur losses has been the refreshing programme through trading. Refreshing need not occur by trading security stocks and realising its losses. Products in the BOST system and private depots are naturally refreshed by BDCs and OTCs through the comingling and introduction of trading stocks. It is therefore unnecessary to seek to trade under any refreshing programme.

The zonalisation policy may be encouraged to increase the flow of trading stocks from the PSPs into the BOST system to ensure a cost free refreshing programme.

5.3.5 Role of BOST



The primary essence of BOST has been to provide management for the country's strategic stocks. In pursuit of this, it has engaged in storing, transporting and trading petroleum products. Its investments have provided the infrastructural backbone for the country's downstream sector. This has positioned BOST as an important player in the industry and will be critical in shaping its sustainable future.

The losses BOST incurs has mainly been from the following:

1. Trading activities (be it directly or under the guise of stock refreshment)

2. Product losses from the poor management of its storage and bulk transportation activities.

To insulate government from the recurrence of these losses, the role of BOST will have to be well structured.

5.3.5.1 Addressing trading losses

To avoid trading losses, BOST may have to be barred from trading. As indicated in point 5.3.4, security stocks do not need to be traded, rather BOST may adopt one of the following or a combination of both:

1. Direct PSP trading stock into the BOST system through efficient zonalisation and continuous product comingling. This naturally refreshes security stocks at no trading risk or cost to the country.

2. Swap refinery output or PSP imports with refreshed-due stocks (if security stocks are not comingled).

5.3.5.2 Addressing product losses

There have been 3 main sources of product losses:
1. Poor depot management;
2. BRV under deliveries;
3. Pipeline siphoning/leakages.

5.3.5.2.1 Poor depot management

• This may be addressed by investing in competent depot management and efficient systems coupled with stringent accountability and operating policies on the part of management. This will require frequent stock and operational audits (external) at very short intervals to arrest any source of loss and inefficient management. Managers may have to be held personally liable for such losses.

• Alternatively, the management of the depots may be outsourced to private contract managers with an added responsibility to underwrite any depot related product losses.

5.3.5.2.2 BRV under deliveries

BRV under deliveries during inter depot transfers managed by BOST are chargeable to the accounts of transporters. However, the charges levelled against the transporters are sometimes inadequate for BOST to replenish the lost stock. Even when they are adequate, there is no clear mechanism for replacing the stock. As a result, the charges are accrued to the books of BOST and the lost products are not necessarily replenished.

To address this, charges billable against transporters must be tied to ex-ref prices

plus all taxes, levies and margins. The assumed ex-ref price must be based on the indicative prices advised by BDCs. A given BDC with stock in the BOST system shall be compensated with the value of the ex-ref price in consideration for the product loss incurred. This may be done on a pro rata basis for all users of the BOST system. In so doing, the charges levelled against transporters will directly be used to compensate BDCs with no replenishment responsibility on the part of BOST, hence no product losses will be incurred. The taxes, levies and margins may be paid to their respective collecting agencies except for the marketers' and dealers' margins which may be retained by BOST. In addition, the transporter may be penalised through an additional fine.

5.3.5.2.3 Pipeline siphoning/ leakages:

There should be no attempt to use the challenged pipelines for inter depot transfers until such a time when technology and management mechanisms are competent enough to prevent further losses.

5.3.6 Government trading

There is a need for government to have visibility in the trading and pricing of petroleum products. The absence of BOST as a trader in the industry will not in any way deprive government of this policy view. Government can maintain visibility in the trade through GoEnergy and Goil, in which it maintains majority shareholding. GoEnergy necessarily ought to operate profitably and efficiently. Its operations are therefore unlikely to lead to direct financial losses to government.

5.3.7 Infrastructure

5.3.7.1 Storage

The national storage capacity is 1.355mn m^3 (product only). At an annual consumption of about 4.2bn ltrs, the country has storage coverage of about 4 months stock and a maximum storage utilisation outturn of 3 times a year or 0.26 per month. This is lower than the globally accepted efficient minimum tank-turn of 1 per month or 12 per year. This is inefficient and an indication of an economy that is grossly over-tanked if focused on the local market.

BOST's share of products storage capacity is 30.5%. On the back of this data, it is evident that investment in storage is less optimal or grossly inefficient. It may therefore be less prudent to promote the idea of BOST further investing in storage facilities.

While private capital has significantly augmented landed storage capacity, floating storage capacity has remained non-existent. The country fully depends on foreign fleets to provide marine haulage and floating storage to meet its needs. This somewhat poses a security risk for the country in the event of a major crisis. It may therefore be worth considering for BOST to invest in marine fleet and floating storage to meet the country's needs.

5.3.7.2 In-land transportation

BOST remains the appropriate government agency to develop the country's downstream pipeline and rail network for the efficient movement of petroleum products. By virtue of the investment and the access limitations (e.g. right of way), these facilities are ideally industry's common infrastructure which may be spearheaded by BOST in conjunction with the private sector. The development of a petroleum rail network is more crucial considering its multipurpose use and economic impact.

5.3.8 Recommendations

Recommendations on the way forward for BOST have been mentioned in the various sub-sections. It is hereby highlighted below.

5.3.8.1 Operating Activities

a. Reposition BOST to focus on the management of strategic stock and not trading.
a. Bar it from trading products or refreshing products through reselling to avoid losses.

b. Promote the zonalisation policy to facilitate natural refreshing.

c. Promote product swapping for non-comingled refresh-due stocks.

d. Monitor and enforce Minimum Operating Stock policies for industry in conjunction with the NPA.

b. Focus BOST on providing the infrastructure backbone for the industry.

a. Drive investments in marine tankers and rail network in conjunction with the private sector.

b. Efficiently operate depots to facilitate effective redistribution.

c. Withhold considerations for additional storage investments.

d. Favourably consider recommendations under 5.3.5.2 in the management of product losses.

5.3.8.2 Strategic Stocks Management

A combination of government investing in strategic stocks and the use of regulations to require petroleum service providers (BDCs and refineries) to hold a minimum stock level is recommended. This is explained in Option 3 above.

Maintain GoG trading and pricing visibility in the downstream sector through GoEnergy and Goil if they remain directly or indirectly listed on the GSE with other non-government shareholders. This ensures increased responsibility and accountability.

5.4 MARPOL 2020

In October 2016 the International Maritime Organisation's (IMO) Marine Environment Protection Committee (MEPC) decided that the sulphur content in Marine Fuel Oil be reduced from 3.5% to 0.5% i.e. 5000ppm effective 1 January 2020. This decision has become what is popularly referred to as the MARPOL (Marine Pollution) 2020. The International Energy Agency (IEA) posits in its 2017 midterm oil outlook report that: "Lowering the bunker fuel emissions cap from 3.5% to 0.5% is easily the most dramatic change in fuel specifications in any oil product market on such a large scale"

MARPOL 2020 will render High Sulphur Fuel Oil (HSFO) technically illegal to use on marine vessels unless such vessels have scrubbers installed in them . In the short term most vessels are not expected to make the necessary investment in scrubbers.[6]

This situation is expected to have a negative impact on the demand and price of high sulphur fuel oil (HSFO) and high sulphur crude, typically heavy crude. The impact of this situation on prices of many distillates remains unclear but for certain there shall be an impact. Producers of heavy crude may ramp-up investment in hydro and fuel crackers to yield more high value middle distillates to optimise returns. The demand and price for HSFO may realise a resurgence if the price differential between LSFO and HSFO reaches a threshold which justifies more investment by vessel owners in scrubbers.

On the other hand, the positive differential between heavy crude oil and light crude oil is expected to increase with an increase in demand and price for low sulphur fuel oil. Marine gasoil may prove to be a viable alternative to LSFO, thereby increasing marine gasoil demand which may impact the general price of gasoil.

5.4.1 Implications for Ghana

Ghana's production of sweet light crude is expected to augur well for the economy when MARPOL 2020 commences. MARPOL 2020 will drive the strengthening of sweet crude differentials which will imply a comparative increase in Ghana's petroleum receipts. The Ghanaian refineries are designed primarily to process light crude. Standard fuel oil quality from the

[6] Scrubbers are a diverse group of air pollution devices that can be used to remove some particulates or gases from industrial exhaust steams
Source: https://en.wikipedia.org/wiki/Scrubber

Tema Oil Refinery possess sulphur content of about 0.35% and in rare cases a maximum of 0.5%. This places local refineries perfectly within the MARPOL 2020 requirements. The local refineries led by the Tema Oil Refinery may just be well placed to be a major supplier of Low Sulphur Fuel Oil for the marine market. As LSFO prices increase and the differentials with middle distillates reduces, the refineries may be best placed to optimise their returns.

It is therefore important that further analysis of our situation is undertaken to ensure that policies and decisions are well placed to enable our local refineries profit and optimise their operations from this opportunity. We highly recommend the setting up of an inter sectorial committee made up of representatives from the marine sector, the Ghana Standards Authority, the Ghana Ports and Habours Authority, the Navy and the petroleum industry to analyse necessary policy interventions to enable Ghana position herself to optimise the benefits and opportunities from MARPOL 2020.

5.5 Ghana Petroleum Hub - A Review

The first phase of the petroleum hub is aimed at creating a redistribution hub for active trading activities and is expected to involve the construction of an initial storage infrastructure of 1,000,000m^3 capacity and port facilities with multiple berths. This facility will present traders with opportunities to effectively blend products onshore and optimise varied product specifications and supply options. Products redistribution for the region as at today is mainly done offshore Lome (the capital of Togo) riding on the back of low port charges, committed security and competitive freight charges. Very large crude carriers (VLCCs) and other long-range vessels lighter their vessels by ship-to-ship (STS) with smaller vessels.

The success of Phase One of the Petroleum Hub may be significantly dependent on the extent of the cost competitiveness it may have over the existing Lome structure. This value proposition may have to be tested and perfected using existing facilities in the Tema area. The Tema area currently houses 91% of Ghana's refined product storage. With Ghana's tank-turns highly inefficient at 0.17 per month, an effective test run of the Petroleum Hub Phase One concept using the Tema facilities will enable Ghana maximise the utilisation of these economic assets and drive confidence in the development of the full-blown project. This test run may have to be viewed more as the Hub-trigger than a test run. The investment cost for the rollout of a Tema Hub- trigger run will be significantly lower as it will run partly on existing underutilised infrastructure. This will make it easier for the injection of capital into the industry.

5.6 Crude Oil and Pump Prices

An analysis of Ghana's January 2017 to March 2018 pump prices indicates that at a 1% level of significance, a dollar increase in the price per barrel of Brent crude will result in a three (3) pesewas per litre increase in the pump prices of the country's most consumed products, gasoline and gasoil . This level of sensitivity heightens the implications of crude price increase on the Ghanaian market. Brent Crude prices started 2018 Q1 at $66/bbl and ended the quarter at $69.02/bbl, indicating a 3.5% increase in price. It also ended 2018 Q1 at a level 32% higher than it ended 2017 Q1.

The rally experienced in the crude market and the increased compliance to OPEC's production cut interventions have inspired upward changes in the projections of major forecasters like Reuters, Bloomberg, Goldman Sachs and other Wall Street majors. Most projections have suggested a peak between $75/bbl and $85/bbl while others have projected a possible return to $100/bbl. It is, therefore, imperative that government adopts smart risk mitigating solutions that will help stabilise prices on the market and mitigate potential abrupt macroeconomic shocks.

5.6.1 Our Recommendation

The pricing structure in a price deregulated market like Ghana limits government's options in insulating the market from major price swings. Government, not being the buyer of products, may be unable to hedge against actual deliveries. It must therefore seek to hedge against cash settlements.

Government must identify its political and economic crude price threshold (CPT). The CPT will be the crude price at which government considers it necessary to directly intervene or support ex-pump prices. The CPT then becomes the *strike price* in a given hedge programme. The hedge programme should be designed to cover significant portions of the country's consumption. The income generated from the hedge should be used to reduce the petroleum tax burden on consumers through the ex-pump price build-up. In effect, when crude prices rise beyond the CPT and government rakes in hedge income, taxes in the pump prices will be reduced to the extent of the hedge income. In a situation as this, the crude price increase is expected to increase the ex-refinery prices. But with the reduction of taxes the pump prices will be expected to remain significantly the same, ceteris paribus.

Of the derivative choices that may be available to government in this structure, we recommend the choice of an Option which should be funded using proceeds accrued from the Price Stabilisation and Recovery Levy (PSRL). The rollout of this proposal may require legal amendments to the ESLA for increased flexibility on the part of the Minister of Finance to vary taxes as and when crude prices exceed the CPT.

5.7 Conclusion

The progress made over the resolution of the BDC debt and the NPA's expressed commitment to fully rationalise the licensing regime presents the industry with a basis for total reforms in 2018. The industry's ability to tighten all avenues of liquidity leakages as discussed in the BDCs' Risk Kite, will define the effort to position the industry for sustainable growth.

It will be erroneous for industry players to think that the anti- private sector stance of government in 2016 may not recur.

Despite the current government's manifesto promise to ensure BOST reverts to its primary object of managing and maintaining strategic stocks, there has been continuous schemes and manoeuvrings by government officials and other traders to revert to the 2016 policy position of having BOST actively participate in trading despite the losses it accrued and despite government's existing presence in the industry through GoEnergy. The motivation for the manoeuvrings cannot be far from what is known by industry as a whole. Where there is profiteering in chaos, there will always be an incentive to nurture chaos.

The above and other key risks discussed

Appendix 1

PETROLEUM PRODUCTS EXPORT JANUARY-DECEMBER 2017

Qty (MT)						
COMPANY	GASOIL	GASOLINE	LPG	NAPHTHA	RFO	TOTAL
Springfield Energy Limited	-	-	-	-	-	-
Cirrus Oil Services Ltd	22,269	13,093	-	-	-	35,363
Chase Petroleum Ghana Ltd	2,467	11,396	-	-	-	13,862
Fueltrade Company Ltd	2,614	3,510	31,750	-	-	37,874
Petroleum Warehousing & Supplies	7,090	10,890	-	-	-	17,979
Aspen Ltd	-	-	7,878	-	-	7,878
Energie Reference Ltd	-	-	-	-	-	-
Vihama	-	-	-	-	-	-
Dome Energy	2,901	907	-	-	-	3,808
Juwel Energy	2,764	812	-	-	-	3,576
Ebony Oil & Gas	2,249	4,682	-	-	-	6,931
XF Petroleum	16,332	19,674	-	-	-	36,006
Blue Ocean Investment	20,886	17,498	-	-	-	38,384
Hotsprings	9,539	7,026	-	194	-	16,760
Firm Energy	17,040	14,751	-	-	-	31,791
Oil Channel	-	-	-	-	-	-
RePetroleum Limited	208	-	-	-	-	208
Pluton Oil	11,242	4,971	704	-	-	16,916
Chesdeg Co. Ltd	-	-	-	-	-	-
Strata Energy Limited	-	-	-	-	-	-
TOR	68,890	63,820	-	-	52,900	185,610
Platon Oil and Gas	3,727	-	-	-	134	3,862
						456,807

Source: National Petroleum Authority

Appendix 2

PETROLEUM PRODUCTS IMPORT JANUARY-DECEMBER 2017

	CRUDE	GASOIL	GASOLINE	LPG	DPK	ATK	FUEL OIL	TOTAL
			QTY (MT)					
Alfa Petrol		39,151.64	19,750.00	10,786.39				69,688.03
Battop			1,000.00					1,000.00
Blue Ocean		185,220.89	176,587.60	3,495.97	69,145.27	37,839.53	29,166.41	501,455.68
BOST	123,669.705	189,996.27	168,068.00	8,021.89				366,086.16
Chase/TTF/SONABHY		101,089.77	118,755.84					219,845.60
Chesdeg								-
Cirrus		288,354.49	95,680.85				116,653.79	500,689.13
Deen								-
Dome								-
Dominion			22,173.08					22,173.08
EAGLE		20,503.31	15,484.74					35,988.05
Ebony		107,038.70	161,092.01		50,640.28	23,759.37		342,530.35
ECO/SAGE		4,500.00	4,500.00					9,000.00
Firm Energy								-
Fueltrade		357,752.67	181,206.29	149,699.91				688,658.87
GENSER ENERGY								-
GLOBEX		15,223.35	16,500.00					31,723.35
Hask/NOVO		5,000.00	1,500.00					6,500.00
Juwel Energy		138,821.47	91,183.72					230,005.19
LHS Energy		77,452.56	31,600.00					109,052.56
Maranatha		15,516.34	9,910.05					25,426.38
Misyl		86,926.14	28,959.91					115,886.05
Mobile Oil								-
Nation Services								-
Oilchannel			4,400.00					4,400.00
Oiltrade								-
Peace								-
Platon	8,383.73							-
PWSL			9,479.00	25,413.85				34,892.85
Rama Energy		2,083.19						2,083.19
Redfins								-
Rhema Energy								-
SAHARA		19,549.82						19,549.82
SHELL								-
Springfield								-
Woodfields							35,953.41	35,953.41
Strata Energy			15,400.00					15,400.00
SUBINGO Energy Co. Ltd		30,309.17	41,142.03					71,451.20
TOTAL								-
Vihama		51,408.94	68,682.29					120,091.23
Vitol/ADINKRA	60,597.37	4,500.00						4,500.00
VRA	40,632.70	19,960.00						19,960.00
WI ENERGY		4,000.00						4,000.00
XF Petroleum & Engineers		16,500.00	27,549.83					44,049.83
TOTAL	**233,283.51**	**1,780,858,72**	**1,310,605.23**	**197,418.02**	**119,785.55**	**61,598.90**	**181,773.61**	**3,885,323.53**

Source: National Petroleum Authority

Appendix 3

BDC PERFORMANCE STATISTICS JANUARY- DECEMBER 2017

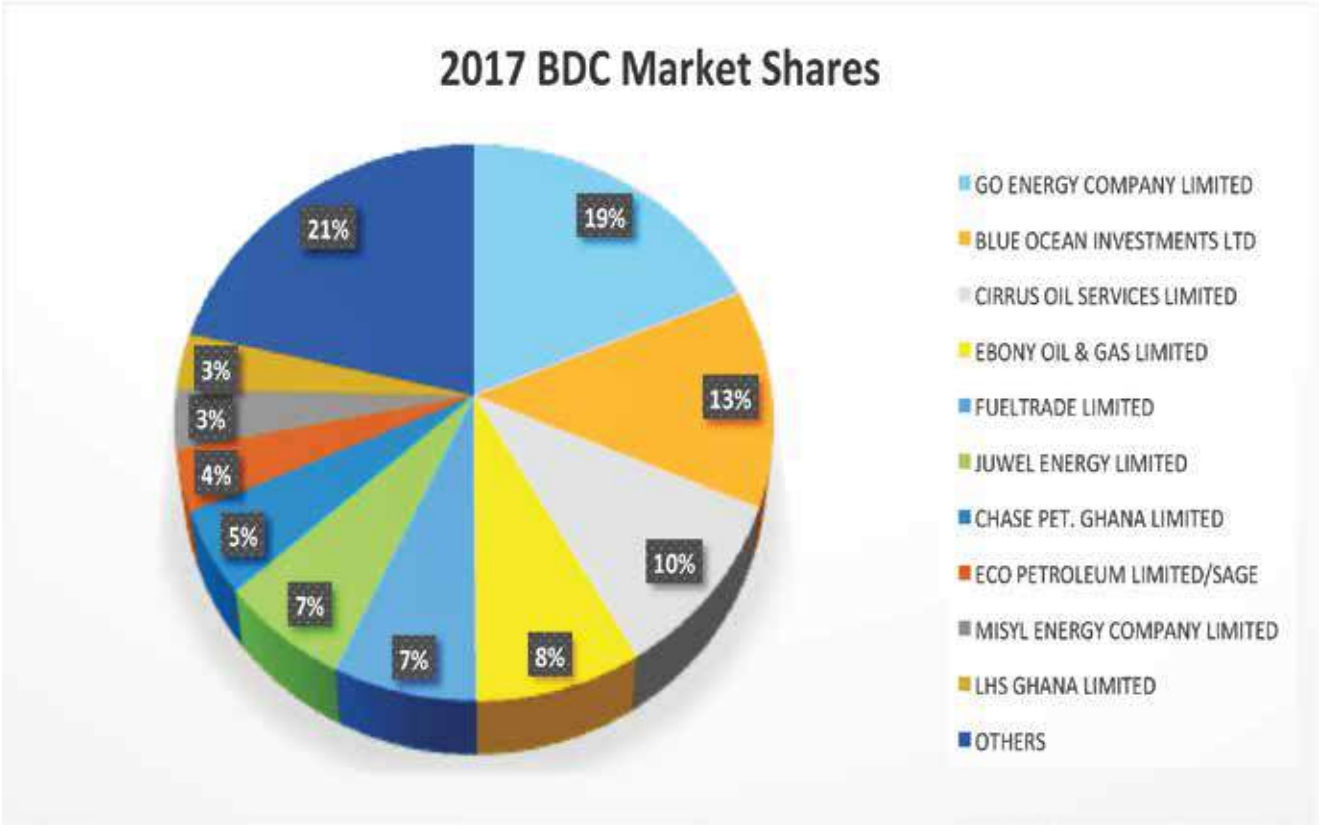
Qty (MT)

No	Company	Fuel oil	Gas oil	Marine Gasoil (Local)	Unified	Kerosene	LPG	Premium	Premix	Marine (Foreign)	Gasoil(Mines)	ATK	Gasoil (Rig)	Total
1	AEL ENERGY COMPANY LIMITED	-	-	-	-	-	-	-	-	-	-	-	-	-
2	ALFAPETRO GHANA	-	26,693	468	-	-	-	14,350	-	1,551	-	-	-	43,062
3	BATTOP ENERGY LIMITED	596	3,304	-	-	-	-	1,011	-	1,141	-	-	-	6,053
4	BLUE OCEAN INVESTMENTS LTD	14,416	159,610	3,439	-	689	626	151,767	-	11,688	5,118	89,584	3,464	440,400
5	CHASE PET. GHANA LIMITED	-	62,123	2,799	-	-	-	74,239	-	259	31,173	-	-	170,592
6	CHROME ENERGY RESOURCES LIMITED	-	-	-	-	-	-	-	-	-	-	-	-	-
7	CIRRUS OIL SERVICES LIMITED	103,768	98,545	1,479	-	15	-	42,900	-	1,005	86,937	-	21,153	355,803
8	DEEN PETROLEUM GHANA LIMITED	-	-	-	-	-	-	-	-	-	-	-	-	-
9	DOME ENERGY RESOURCES LIMITED	-	84	-	-	-	89,918	64	-	426	-	-	-	90,491
10	DOMINION INT. PETROLEUM LIMITED	-	-	-	-	-	-	8,148	-	-	-	-	-	8,148
11	EAGLE PETROLEUM COMPANY LIMITED	-	44,167	-	-	11	-	38,011	-	-	-	-	-	82,188
12	EBONY OIL & GAS LIMITED	4,807	97,196	1,818	-	4,418	-	104,164	-	1,551	1,886	68,084	-	283,924
13	ECO PETROLEUM LIMITED/SAGE	-	4,623	-	-	-	110,902	6,446	-	-	-	-	-	121,971
14	FIRM ENERGY	-	6,898	-	-	-	-	11,621	-	-	-	-	-	18,519
15	FUELTRADE LIMITED	-	19,229	54	-	-	92,758	7,806	-	95	125,147	-	-	245,089
16	GLOBEX ENERGY LIMITED	-	9,729	-	-	-	-	15,126	-	2,829	-	-	-	27,684
17	GoENERGY COMPANY LIMITED	719	304,703	5,068	-	-	14,075	270,347	-	16,077	3,452	2,420	30,882	647,744
18	HASK OIL CO. LIMITED	3,259	1,037	411	-	-	-	3,893	-	1,867	-	-	-	10,467
19	JUWEL ENERGY LIMITED	-	102,384	801	-	-	-	107,881	-	10,243	3,504	-	-	224,813
20	L.I.B GHANA LIMITED	-	-	-	-	-	-	-	-	-	-	-	-	-
21	LHS GHANA LIMITED	-	54,174	3,865	-	-	-	41,819	-	13,398	-	-	-	113,256
22	MARANATHA OIL SERVICES	-	37,598	-	-	-	-	26,325	-	-	4,514	-	-	68,437
23	MED PETROLEUM COMPANY LIMITED	-	2,475	-	-	-	-	7,256	22,456	-	-	-	-	32,186
24	MIMSHACH ENERGY LIMTED	-	1,107	-	-	-	-	3,018	-	-	-	-	-	4,125
25	MISYL ENERGY COMPANY LIMITED	-	56,871	5,074	-	-	-	21,888	-	16,245	311	-	20,274	120,664
26	MOBILE ENERGY RESOURCES LTD.	-	3,159	-	-	-	48	771	-	-	-	-	-	3,978
27	NATION SERVICES LTD.	-	-	-	-	-	-	-	-	-	-	-	-	-
28	OIL CHANNEL LIMITED	-	20,160	-	-	-	-	34,287	-	1,169	-	-	-	55,616
29	OIL TRADE COMPANY LIMITED	-	7,561	-	-	-	-	17,390	-	-	-	-	-	24,950
30	PEACE PETROLEUM COMPANY	-	-	-	-	-	-	-	-	-	-	-	-	-
31	PET. WAREHSN & SUPPLY	-	25,883	4,601	-	453	27,813	18,530	-	342	-	6,521	-	84,143
32	PLATON GAS OIL LIMITED	1,404	49	-	1,125	-	-	-	-	639	-	-	-	3,217
33	RAMA ENERGY LIMITED	-	11,810	677	-	-	-	8,180	-	6,065	-	-	-	26,732
34	RHEMA ENERGY CO. LTD	-	608	68	-	-	-	721	-	-	-	-	-	1,397
35	RICHELLE ENERGY LIMITED	-	1,875	-	-	-	-	2,455	3,186	-	-	-	-	7,515
36	SA ENERGY LIMITED	-	-	-	-	-	-	-	-	-	-	-	-	-
37	SPRINGFIELD ENERGY LIMITED	-	-	-	-	-	-	-	-	-	-	-	-	-
38	SUMMIT PETROLEUM LIMITED	-	-	-	-	-	-	-	-	-	-	-	-	-
39	TEMA OIL REFINERY (TOR)	-	842	-	-	-	22,765	802	-	-	-	37	-	24,445
40	TIMELESS OIL COMPANY LIMITED	-	-	-	-	-	-	-	-	-	-	-	-	-
41	VIHAMA ENERGY LIMITED	-	34,361	989	-	-	-	31,087	43,113	583	-	-	-	110,134
42	XF PETROLEUM & ENGINEERING LTD.	-	2,246	228	-	-	27	265	-	1,734	-	-	-	4,500
43	WI Energy	-	1,487	323	-	-	-	-	-	-	-	-	-	1,810
	TOTAL	128,970	1,202,589	32,161	1,125	5,586	358,931	1,072,567	68,755	88,908	262,043	166,645	75,773	3,464,053

Source: National Petroleum Authority Website
www.npa.gov.gh

Appendix 4

Source: National Petroleum Authority Website
www.npa.gov.gh



Source: National Petroleum Authority Website
www.npa.gov.gh

Appendix 5

PETROLEUM TAX REVENUE

Tax Revenues	GASOLINE	GASOIL	KEROSENE	MGO LOCAL	RFO	LPG	UNIFIED	MGO Foreign	ATK	GASOIL MINES	GASOIL RIGS	TOTAL
EXCISE DUTY	7,709,262	5,599,062	18,255	29,031	82,783	477,413	10,571	-	-	1,040,010	295,934	15,262,322
ENERGY DEBT RECOVERY LEVY	586,742,021	583,503,585	-	1,141,813	5,199,659	102,380,032	-	-	-	127,144,936	36,765,734	1,442,877,790
ROAD FUND	572,431,240	569,271,800	-	-	-	-	-	-	-	124,043,840	35,869,009	1,301,615,889
ENERGY FUND	14,310,781	14,231,795	69,300	-	1,299,915	-	-	-	-	3,101,096	896,725	33,909,612
PRICE STABILISATION AND RECOVERY LE	171,729,372	142,317,950	-	-	-	27,670,279	-	-	-	31,010,960	8,967,252	381,695,813
EXPORT DUTY		-	-	-	-	-	-	236,542	17,992,134			18,228,676
SPT	693,381,794	683,441,017	2,127,892	17,845,545	-	127,272,602	648,453	-	-	160,053,935	46,281,831	1,731,053,070
Total	2,046,304,471	1,998,365,219	2,215,447	19,016,389	6,582,358	257,800,326	659,024	236,542	17,992,134	446,394,778	129,076,485	4,924,643,172
Product Share of Revenue	41.55%	40.58%	0.04%	0.39%	0.13%	5.23%	0.01%	0.00%	0.37%	9.06%	2.62%	100.00%

NPA OMC 2017 VOLUMES (ltrs)	1,431,078,100	1,423,179,500	6,930,000	38,060,444	129,991,486	276,702,788	1,503,000	105,216,775	206,739,600	310,109,600	89,672,522	

NPA CATEGORIES AND SCOPE OF LICENCES AS AT DEC. 2017

There are more than twenty categories of Petroleum Service Providers (PSPs) that are licensed by the National Petroleum Authority (Authority) to operate in Ghana's petroleum downstream industry. The licences and scope include the following;

1. Bulk Distribution Company Licence

This licence authorises a company to import crude oil as well as procure, store, distribute and sell petroleum products wholesale to Oil/LPG Marketing Companies.

2. Oil Trading Company Licence

This licence permits a company to engage in Oil Trading activities; specifically, to procure, import, supply and sell crude oil and petroleum products to the refineries, BOST and BDCs with the consent of the Authority.

3. Oil Marketing Company (OMC) Licence

The licence authorises a company to procure finished petroleum products locally from the BDCs, TOR and BOST for sale to bulk customers and the public through retail stations and reseller outlets.

4. LPG Marketing Company (LPGMC) Licence

A company with this licence is permitted to procure, store and sell liquefied petroleum gas to bulk customers and the public through LPG refilling plants throughout the country.

5. Bulk Oil Storage Licence

The licence authorises a company to own, manage, develop and operate storage depots; rent or lease any of its storage depots to any petroleum service provider.

6. Bunkering (Offshore) Licence

This licence authorises a company to bunker ocean going vessels, trawlers and fishing vessels within the contiguous zone of Ghana.

7. Bunkering (Onshore) Licence

The said licence authorises a company to engage in the storage, terminalling, delivering and handling of petroleum products to ships, oceangoing vessels, trawlers and fishing vessels.

8. Bunkering (Services) Licence

This licence permits a company to engage in the bunkering of oceangoing vessels, trawlers and fishing vessels under the strict supervision of the Ghana Bunkering Services Limited and the Ghana Ports and Harbours Authority.

9. Bulk Road Vehicle Inspection Company Licence

A company with this licence is authorised to conduct and certify the road worthiness of Bulk Road Vehicles (BRVs) engaged in the haulage and distribution of petroleum products.

10. Bulk Transportation of Petroleum Products Licence

The licence authorises a company to operate as bulk transporter of petroleum products using licensed bulk road vehicles.

11. Calibration of BRV and Underground Tanks Licence

The calibration licence authorises a company to calibrate Bulk Road Vehicles and

Underground Storage Tanks for the storage of petroleum products.

12. Conventional Buoy Mooring (CBM) & Single Point Mooring (SPM) Systems Licence

This licence authorises a company to develop and operate facilities for the offloading of refined petroleum products from tanker vessels of capacities up to 75,000 tonnes (dead weight) into designated storage facilities. The SPM is for offloading crude oil from tanker vessels of capacities up to 150,000 tonnes (dead weight)

13. Gas Processing Plant Licence

The licence authorises a company to procure and process raw gas from the Jubilee Fields into Liquefied Petroleum Gas (LPG) for sale to companies licensed by the Authority to distribute and market LPG; and export to any foreign market under customs seal.

14. Lubricant Blending (Contract) and Marketing Licence

This category of licence authorises a company to blend for sale to bulk customers including Oil Marketing Companies and licensed Petroleum Service Providers.

15. Manufacture of Lubricating Oils Licence

This licence authorises a company to own, manage, develop and operate lube oil manufacturing and blending plants.

16. Non-destructive Test Inspection Services Company Licence

This licence permits a company to conduct non-destructive test (NDT) on petroleum product storage tanks.

17. Petroleum Product Tank Cleaning Services Licence

The licence authorises a company to undertake the mechanical cleaning of petroleum/petroleum product storage tanks as well as Bulk Road Vehicles (BRVs).

18. Petroleum Product Export Licence

This licence authorises a company to procure, store and export petroleum products to neighbouring countries under customs seal.

19. Petroleum Product Refinery Licence

A company is authorised by this licence to procure and process crude oil into petroleum products for sale to companies licensed by the Authority to distribute, export and market petroleum products; any other entity that may be licensed by the Authority to procure petroleum products from the refinery; and for export to any foreign market.

20. Waste Oil Recycling & Treatment Licence

This licence authorises a company to collect, haul, store and process waste oils and offer the recycled product for sale to industries. The licence authorises a company to operate a Waste Oil Recycling and Treatment Plant.

21. Petroleum Product Retail Station/ LPG Refilling Plant Licence

This licence authorises an Oil/LPG Marketing Company to operate a petroleum product retail station/LPG Refilling Plant and offer for sale petroleum products to the public through such facilities.

22. Construction Permit

Construction permits are issued to enable companies construct petroleum downstream related facilities such as storage depots, retail outlets, refineries etc.

OBJECT AND FUNCTIONS OF THE NATIONAL PETROLEUM AUTHORITY (ACT 691)

The object of the Authority is to regulate, oversee and monitor activities in the petroleum downstream industry and where applicable do so in pursuance of the prescribed petroleum pricing formula.

To achieve the object, the Authority shall:

(a) monitor ceilings on the price of petroleum products in accordance with the prescribed petroleum pricing formula

(b) grant licenses to applicants under this Act

(c) maintain a register and keep records and data on licenses, petroleum products and petroleum marketing service providers

(d) provide guidelines for petroleum marketing operations

(e) protect the interests of consumers and petroleum service providers

(f) monitor standards of performance and quality of the provision of petroleum services

(g) initiate and conduct investigations into standards of quality of petroleum products offered to consumer

(h) investigate on a regular basis the operation of petroleum service providers to ensure conformity with best practice and protocols in the petroleum downstream industry

(i) promote fair competition amongst petroleum service providers

(j) conduct studies relating to the economy, efficiency and effectiveness of the downstream industry

(k) collect and compile data on:

(i) international and domestic petroleum production, supply and demand, (ii) inventory of petroleum products, and (iii) pricing of petroleum products for the information of the public which the Board considers necessary for the performance of its functions

(l) periodically review in consultation with petroleum service providers the prescribed petroleum pricing formula and publish in the Gazette the respective formula

(m) publish in the Gazette the ex-refinery prices and ex-pump prices of petroleum products based on the prescribed petroleum pricing formula

(n) monitor daily the import parity price of refined petroleum products and publish the price periodically in the Gazette

(o) collaborate with relevant institutions for purposes of this Act

(p) oversee open and transparent international competitive bidding for the procurement of petroleum products and crude oil

(q) approve charges for the provision of petroleum services within the downstream industry

(r) monitor and evaluate operations of the UPP Fund established under section 62 to ensure the achievement of the object of the Fund

(s) approve expenditure charge on the fund under this Act

(t) publish in the Gazette user fees for monopoly infrastructure and

(u) Perform any other function that is ancillary to the object of the Authority and assigned to it under this Act.

Source: National Petroleum Authority Website
www.npa.gov.gh

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