DAM DEVELOPPEMENT INTERNATIONAL RDC,S.a.r.l

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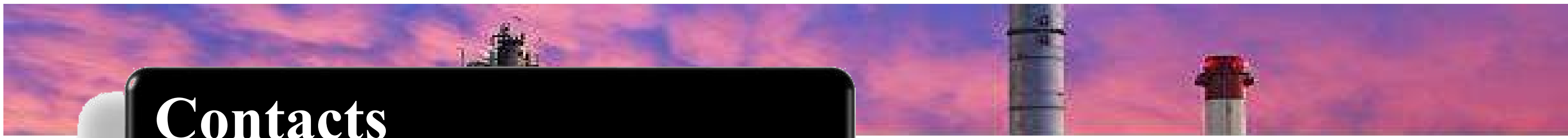
BUSINESS PLAN

CSR&DAM- OIL REFINERY PROJECT IN DRC

CSR Solutions
Corporate Social Responsibility

BUSINESS PLAN

This document has been developed to assist in raising US$11.27B by CSR & DAM RDC SARL. to develop 300,000 barrels per day oil refinery. It will be situated in the Karamba area, in Fizi territory , South Kivu Region of Democratic Republic of Congo.



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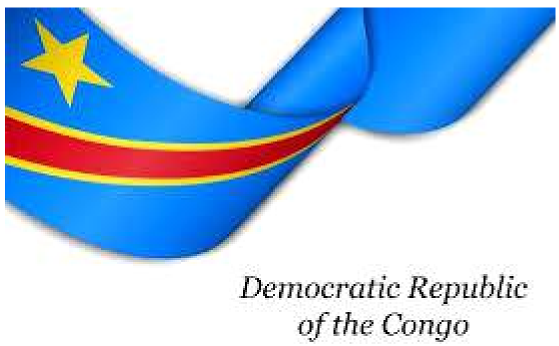

Acknowledgement

This business plan is predominantly based on the original work and feasibility studies conducted by:

- CSR SOLUTIONS
- DAM DEVELOPPEMENT INTERNATIONAL RDC Sarl

We are grateful to these consulting firms.

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DRA Global is a diversified global engineering, project delivery and operations management group headquartered in Perth, Australia, with an impressive track record spanning more than three decades. Known for its collaborative approach and extensive experience in project development and delivery, as well as turnkey operations and maintenance services, DRA Global delivers optimal solutions that are tailored to meet clients' needs.

Project Auditors:
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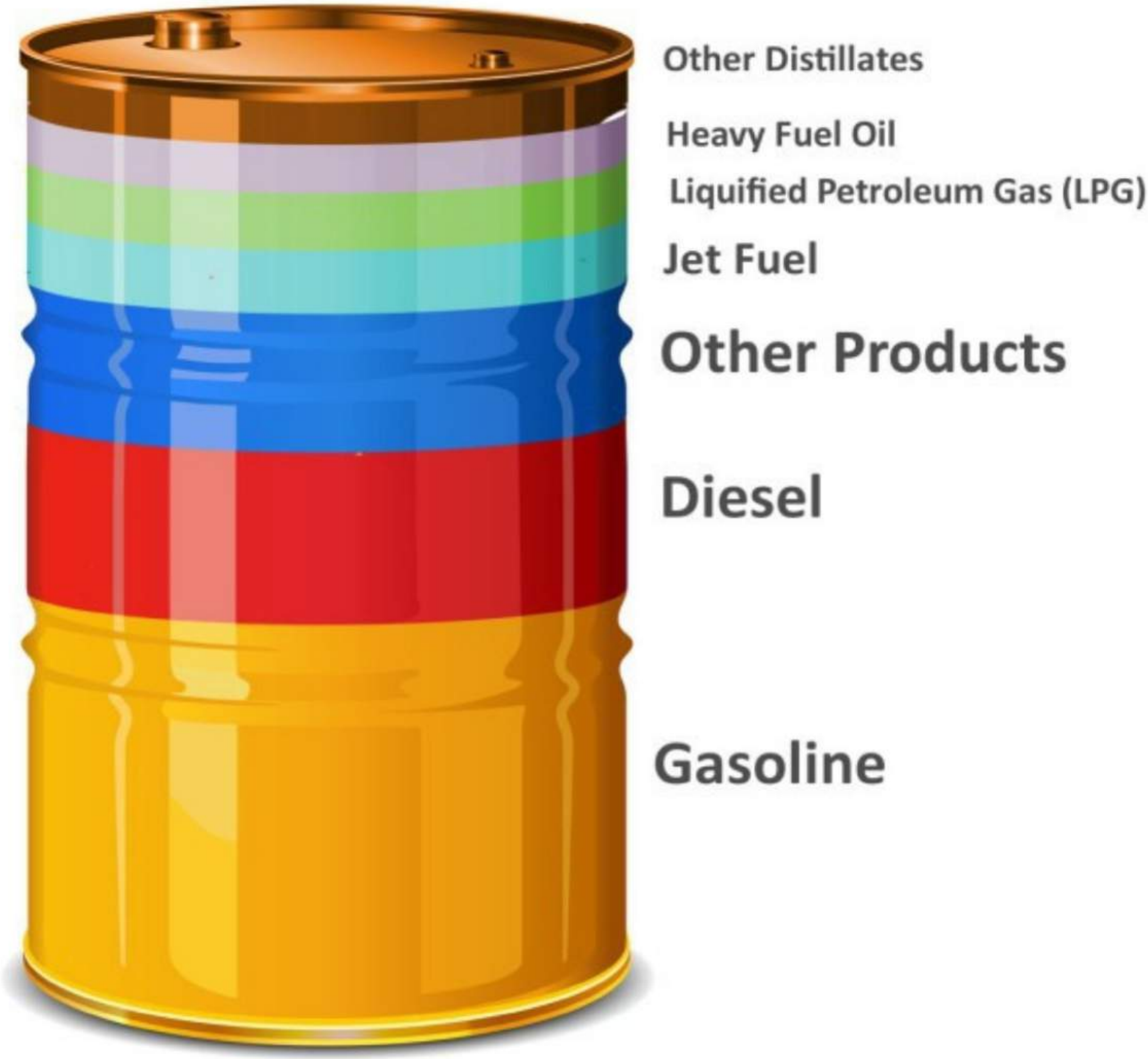
Other Distillates
Heavy Fuel Oil
Liquified Petroleum Gas (LPG)
Jet Fuel
Other Products
Diesel
Gasoline

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Chapter 1
EXECUTIVE SUMMARY

OVERVIEW

As part of policy directions of government of DRC to make the private sector the engine of growth, side by side the deregulation of the downstream petroleum industry in DRC, the project promoters have come up with this oil refinery project. The key objective is to serve as import substitution entity to serve DRC, Africa and beyond. This project proposes to establish 300,000 barrels per day oil refinery in DRC.

FUNDING REQUIRED

A total funding of $11.27B (Eleven Billion and Two Hundred and Twenty Seven Million United Sates Dollars) is needed to establish this oil refinery.

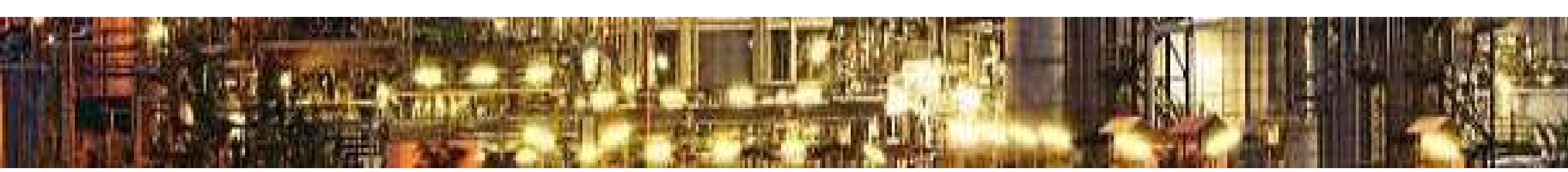
The proposed capital structure is 15% equity and 85% debt.

Currently, the skin-in-the-game of the project promoters is in excess of $7M (Seven Million United States Dollars)

INVESTMENT APPRAISAL

The Net Present Value (NPV), Internal Rate of Return (IRR) and Discounted Payback Period (DPP) have been used to evaluate the project bankability. This project has NPV of $2.08B and IRR of 13.66% over the 10 year period, and DPP of 6 years and 3 months.

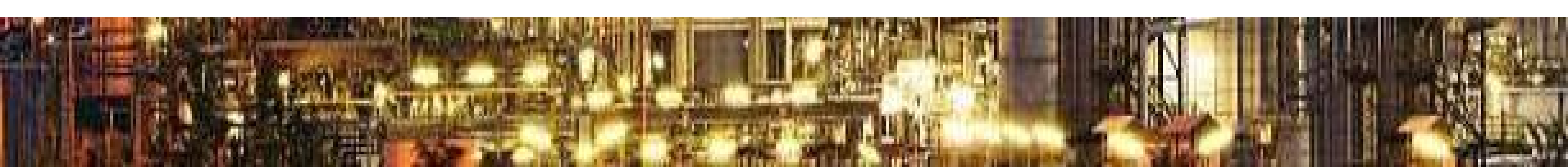
These mean that the project is financially viable and worth favourable consideration of lenders/investors.



PROJECT RISK

To ensure successful implementation of this project, the project promoters have planned to ensure that all risky areas and critical success factors are well addressed. These include:

1. Off-take Agreements: Prospective project off-takers have been identified and currently at the formalisation and finalisation stage.
2. Repayment Risk: To guard against loan repayment risk, 6 months project stabilisation period has been proposed in order to accumulate some cash to serve as back-up to handle any unforeseen cash inflows insufficiency.
3. Easy Entry & Exit for Equity Holders: The promoters have plan to list the project on the London Stock Exchange and New York Stock Exchange within 4 years of commencing operations. This will enhance the ability of equity holders to trade their shares for cash anytime they decide.
4. Raw Material Risk: Feedstock supply agreements are currently being finalised with large global feedstock suppliers in order to ensure constant availability.
5. Crude Oil Prices Volatility: Considering the crude oil price volatility in recent past years, the promoters have planned to deploy effective price hedging strategy to keep prices within manageable range.
6. Management Risk: To curb management risk, the promoters are currently in touch and finalising offers to poach internationally acclaimed oil refinery managers/experts to strengthen the project management team.
7. Defaulting Risk: To ensure certainty of cash inflows, clients will be required to arrange for bank instruments to cover any credit sales offers.



COUNTRY RISK

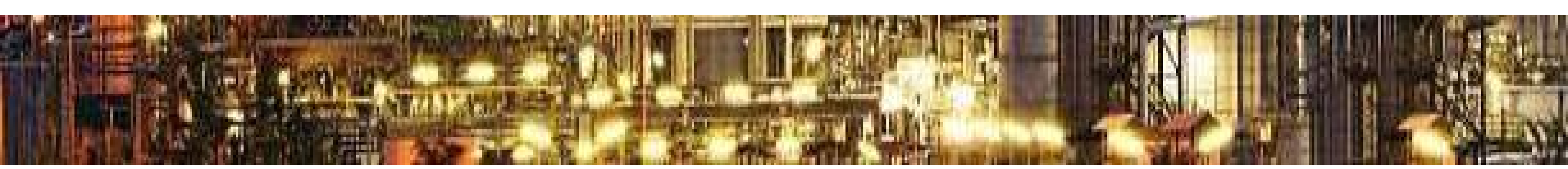
For many years, DRC has been accommodating several multinational companies, including international oil majors such as Total DRC, COBIL, ENGEN DRC,CPPN/GNPP,SEP CONGO, SOCIR, SPSA COBIL, GINK OIL, etc.

Some of the reasons to buttress attractiveness of DRC as investment destination include:

1. A country with resounding democratic credentials;
2. Enacted specific laws to incentivize foreign investors (e.g. DRC Investment Promotion Centre " ANAPI");
3. No act of discrimination against foreign-owned or controlled businesses;
4. Easy repatriation of profits;

SUSTAINABLE DEVELOPMENT

Bearing in mind the current international outcry about the adverse contribution of oil and gas industry on the warming of this planet, CSR-DAM plans to conduct its operations in responsible manner by following recommended best practices. Besides, it plans to inculcate the 17 sustainable development goals of United Nations in all operational activities in order to contribute to improvements in human lives, poverty alleviation, protection of the physical environments etc.



Chapter 2

PROJECT DESCRIPTION

OVERVIEW

Traditionally, oil refineries in most African countries (including DRC) are owned and operated by governments or entities controlled by governments. This was in line with collectivism principle to ensure that essential goods and services are under the control of the government to ensure fair and equitable distribution. However, insurmountable inefficiencies that have been witnessed as reality in most countries have activated discussions for possible participation of private sector in this regard.

Following from the Structural Adjustment Programme sponsored by World Bank and International Monetary Fund in the late 1980 in DRC, private sector was identified as engine of economic growth and therefore requires utmost attention of the government. Since then, other policies and programmes have been introduced by successive governments to make the private sector flourish and drive the economic prosperity of DRC. One of these is the deregulation of the downstream petroleum operations in DRC to allow open and unrestricted participation of private sector entities.

Considering the in-depth knowledge of project promoters in the oil and gas industry, alongside a quest to diversify their business portfolio, they have come up with this oil refinery project with several objectives including:

1. Supporting the efforts of various governments in Africa and beyond in their quest to reduce unemployment situation
2. Improving foreign exchange
3. Improving national strategic stocks in DRC and beyond
4. Taking advantage of expected benefits that will arise from the petroleum hub project (a $50B ticket project) currently being promoted by Government of DRC, etc.

CAPACITY & COMPONENTS

The project proposes to construct a 300,000 barrels per day crude oil processing refinery. The refinery will be designed to be integrated, self-sufficient and will be delivered as a complete package with the required power backups.

The complete package will comprise of the following processing units:

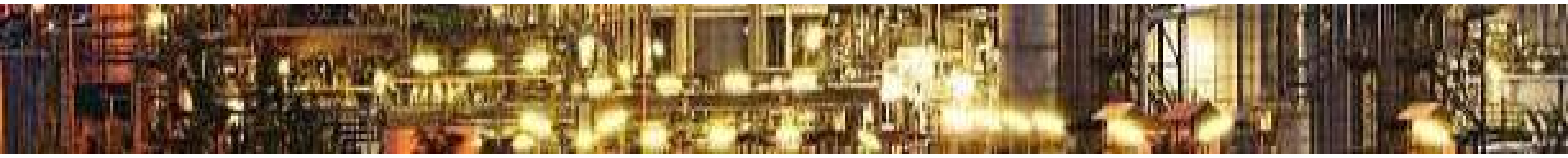
1. The Hydroskimming/Topping Units (the primary units):
   - Atmospheric Distillation Unit (ADU) (i.e. the Crude Distillation Unit (CDU)),
   - Vacuum Distillation Unit (VDU);
2. The Deep Conversion Units (the secondary units):
   - Catalytic Cracking Unit (CCU)
   - Hydrocracking Unit (HCU)
   - Delayed Coker plant

FUNDING NEEDED

The estimated total project value is US$11.27B with the following components:

1. Equity – 15% ($1,690,500,000)
2. Debt – 85% ($9,579,500,000)

The project promoters have so far committed equity of $7,081,000 into the project. Thus, the new funds (additional funds) needed is $11,262,919,000.



PROPOSED APPLICATION OF FUNDS

These are categorised into 5:

Construction Cost ($8.24B)

- covers expenditure on buildings/infrastructure, processing plant, jetty, midstream piping infrastructure, tank farm infrastructure and ancillary construction costs.

Other Capex ($7.98M)

- includes expenditure on all equipment (except that of processing plants), instruments, hospital furniture & fittings, vehicles, power generators etc.

Working Capital ($2.30B)

- includes raw material cost (crude oil), salaries & wages, administrative expenses, and other expenses anticipated until the project cash flows are able to support operational needs.

Pre-Feed Exp. ($582.09M)

- includes land and relocation of local community, arrangements fees, development consultants fees, pre-feasibilities studies, incidental expenses etc.

Pre-Operating Exp. ($130.66M)

- includes cost on architectural and structincidentalural designs, bill of quantities, geotechnical investigations, equipment specialist consultancy services, fire & safety, business development consultancy services etc.

PERMITS

The project will have a License to establish a private petroleum refinery from the National Petroleum Authority (NPA), the downstream petroleum industry regulator in DRC.

OFF-TAKERS

There are 4 off-taker groups:

The project promoters are at various stages of discussions with the 4 off-taker groups identified above. Discussions are not completed because the formal permit from National Petroleum Authority authorising CSR&DAM to build oil refinery will receive in July 2021.

Besides, most of these off-taker groups want the project promoters to demonstrate availability of fund to start the project before giving firm commitment to buy the outputs.

GUARANTEE

The expected cash inflows from the project are the guarantee to ensure repayment of investors for this project.

It is on this basis that the project promotors are endeavouring to bring on board entities with capacity to pay on schedule as off-takers to buy the outputs of the project.

Thus, although Bank Guarantee or SBLC or Insurance Guarantee is unavailable, there is firm assurance of investment recoupment.

FUNDING MODEL

The project promoters are flexible and opened to discuss all funding types, traditional or creative. Thus, equity funding, debt funding, mixture of debt and equity, BOT etc. are opened for negotiation.

PROJECT LOCATION

Land size of over 2,000 acres has been secured for this project at FIZI in the Region of South Kivu in DRC. The land is about 3 km away from the sea.

Preliminary site investigative studies have been conducted and they confirm suitability of the land for this oil refinery project. These include geotechnical surveys, social studies, environmental and traffic impact assessments.

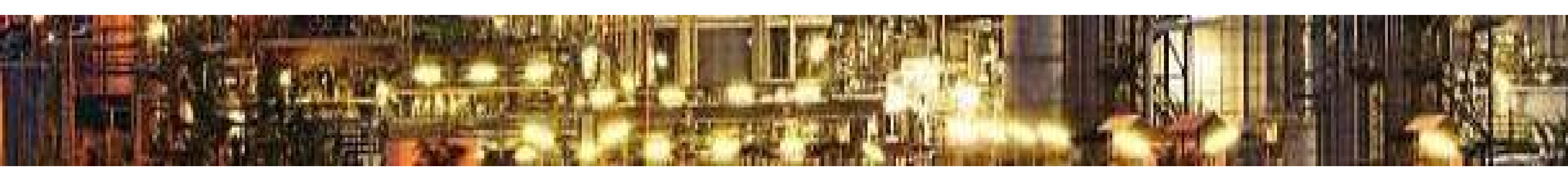
TARGET MARKET

This project is planned to accommodate the needs of Central African nations and other international clients who are forced to source for petroleum products outside Africa due to absence or inadequacy of such oil refinery facilities. This is what the project is predominantly intended to curb in order to create jobs and improve economy of the Central African sub-region and beyond.

OUTPUTS

The below are the various outputs expected from the project:

1. Gasoline
2. Naphtha
3. Diesel Oil
4. LPG
5. Kerosene
6. Jet-Kerosene
7. MGO
8. Petcoke and Residue Bitumen.



CONSTRUCTION PERIOD

As per technical assessment of the project engineers, the construction of the whole refinery and various ancillary preparatory activities will be completed in 36 months (3 years). Therefore operations of the refinery will start at the beginning of year 4 or 37th month. Construction is expected to start by September 2021.

REPAYMENT/REDEMPTION

The project promises to fully repay debt investors within 6.5 years after construction and project stabilisation period. Repayment will be made on monthly basis.

Besides, since high cash inflows are expected throughout the life of the project, enough cash will be available to redeem investment of any equity partner who would want to exit; within short notice after the debt partners have been repaid.

FEEDSTOCK SUPPLIERS

Several feedstock suppliers have submitted their formal expression of interest to supply feedstock to the CSR&DAM Refinery upon completion. Besides, the promoters have identified 5 international large feedstock suppliers in diversified geographical locations across the world, and they are at the final stage of formalising discussions. The choice of diversified locations is predominantly to insulate CSR&DAM from probable adverse effects from international energy politics among some know countries such as Iran, USA, Venezuela, Russia etc.

OWNERSHIP

This oil refinery project is owned by CSR &DAM. It was incorporated under DRC's Companies Act of 2001, on 13th , 2015 as a limited liability company and was certified to commence business on 2nd December 2020 by the Minister of National Economy in DRC.

It is authorized to carry on business in Onshore and Offshore Oil & Gas services, serve as representatives of foreign oil and gas projects and service companies, general Oil & Gas consulting services and has just added oil refinery to its business lines.

DIRECTORS AND SHAREHOLDERS

CSR&DAM currently has a two-member Board of Directors, who are also the shareholders (50%/50%). Their names are as follows:

1. Mr. TCHAKUBUTA BYAOMBE NEHEMIE, a Congolese and
2. Mr. DAVID POIRIER , a Canadian

NEHEMIE and DAVID have diverse backgrounds in business management. Notable among their experience is the establishment of African Ventures & Investments .

FINANCIAL HIGHLIGHTS

Highlights Based on Cash flows

Net Cash Flows/Cash Available

On annual basis, operating cash inflows are expected to be higher than operating cash outflows throughout the period under review (year 4 to 10). That is, there will be positive net operating cash flows overtime (annually), and the figure for each year will be higher than loan repayment instalments to be made in respective years.

The expected net operating cash flows from year 4 to 10 will be $1.91B, $1.65B, $2.00B, $2.37B, $2.80B, $3.27B and $3.81B respectively. However, cash that will be available in the tills of CSR&DAM each year before loan repayment will be the net cash flow for that year plus closing cash balance for the preceding year. Thus, cash available for repayment for respective years will be $2.50B, $3.04B, $2.81B, $2.95B, $3.53B, $4.57B and $6.15B.

These figures give indication that there will be enough liquid funds to repay the loan as required annual instalments will be $2.23B for each year, except year 4 which will be $1.11B as the 1st half of the year will be for project stabilisation and therefore no loan repayment will occur.

Free Cash Flows

Since loan repayment shall not affect the ability of CSR&DAM from operating, provision will be made from cash available to cater for the next operating period's unavoidable expenditures (working capital needs and new capex needs). The resultant figure shows the true/real cash available from which loan repayment could be made. Since loan

repayment will actually be on monthly basis, free cash flows have been assessed on monthly basis. Based on the assessment, free cash flows are expected to be positive and greater than monthly loan repayment commitments for all the 78 months within which loan repayment will be expected to be made.

In year 4, the free cash flows for month 7, 8, 9, 10, 11 and 12 will be $1.58B, $1.51B, $1.45B, $1.39B, $1.31B and $1.22B respectively. Essentially, the unavoidable expenditure for the ensuing month being considered here is working capital needs as no new capex is expected to be made.

Bankability Appraisal

Investment appraisal techniques such as Net Present Value (NPV), Internal Rate of Return (IRR) and Discounted Payback Period (DPP) have been applied to this project to assess its viability. This project has NPV of $2.08B and IRR of 13.66% over a 10 year period, and DPP of about 6 years and 3 months. These mean that the project is financially viable and worth favourable consideration of investors.

Conclusion

Based on the foregoing cash flow assessments, the project has strong financial footing and viability. Therefore, investors should not hesitate to come on board.

Besides, as high cash balances are expected throughout the life of the project, effective cash management strategies can be deployed to further boost the liquidity of the project. For example, since expansion cannot be done in the short run, excess or idle cash balance could be invested to obtain interest income. This would improve the liquidity of the business and cash that would be available for future expansion plan.

Kindly check the appendix 1 (from page 71) for more details in the financial plan.

Highlights Based on Non-Cash Flows

Net Profit

The financial projections of this project show that there is high potential for project success and growth of CSR&DAM . Profitability is expected right from the first year of operation. Based on the revenue estimates and provisions for direct and indirect cost, the analyses indicate that profit after tax from year 4 to 10 will be $560.63M, $607.36M, $1.08B, $1.60B, $2.19B, $2.84B and $3.56B respectively.

In aggregate terms, Net Profit and Net Profit Margin for the project will be $12.8B and 22.16% respectively.

EBITDA

The Earnings Before Interest, Tax, Depreciation and Amortization (EBITDA), a key measure of real operational performance is very inspiring over the same time frame of year 4 to 10. It will be $1.56B, $1.97B, $2.39B, $2.86B, $3.39B, $3.98B and $4.64B respectively.

In aggregate terms, the EBITDA for this project will be $20.79B and EDITDA to Revenue will be 37.07%.

Other metrics

The project has the following aggregate metrics:

1. Gross Profit and Gross Profit Margin of $21.36B and 38.09% respectively.
2. EBIT of $17.42B.
3. ROCE (Return on Capital Employed) of 194% (far higher than the WACC of 10%)
4. Interest Coverage Ratio of 542% and Debt Service Coverage Ratio of 1.21 or 121%. Kindly check the Appendix A (from page 105) for more details in the financial plan.

SWOT ANALYSES

STRENGTHS

- Government of DRC and Investment Grade entities as offtakers lend credibility to the project.
- Project promoters have successful & rich experience in implementing projects.
- The project promoters have already secured license from National Petroleum Authority to establish oil refinery.
- Proximity of the project location to Baraka Port
- Expected tax economies as the project is located outside city.
- Availability of large land size to support future expansion.
- Availability of qualified labour force.

WEAKNESSES

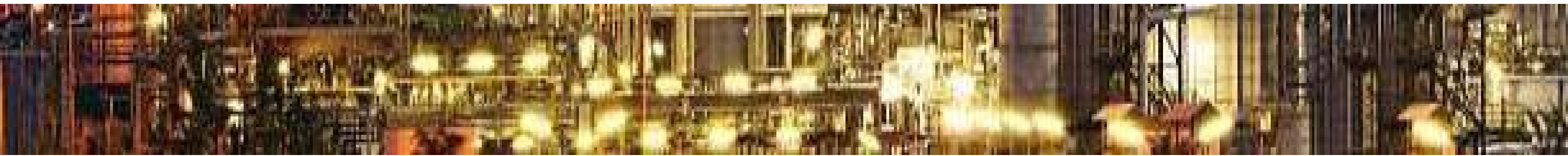
- Absence of Bank Guarantee or collateral to easily attract lenders
- Need to poach top international oil refinery managers and experts to complement current staff. This could be very expensive.
- New project and imminent problems which the promoters may not readily have solutions.

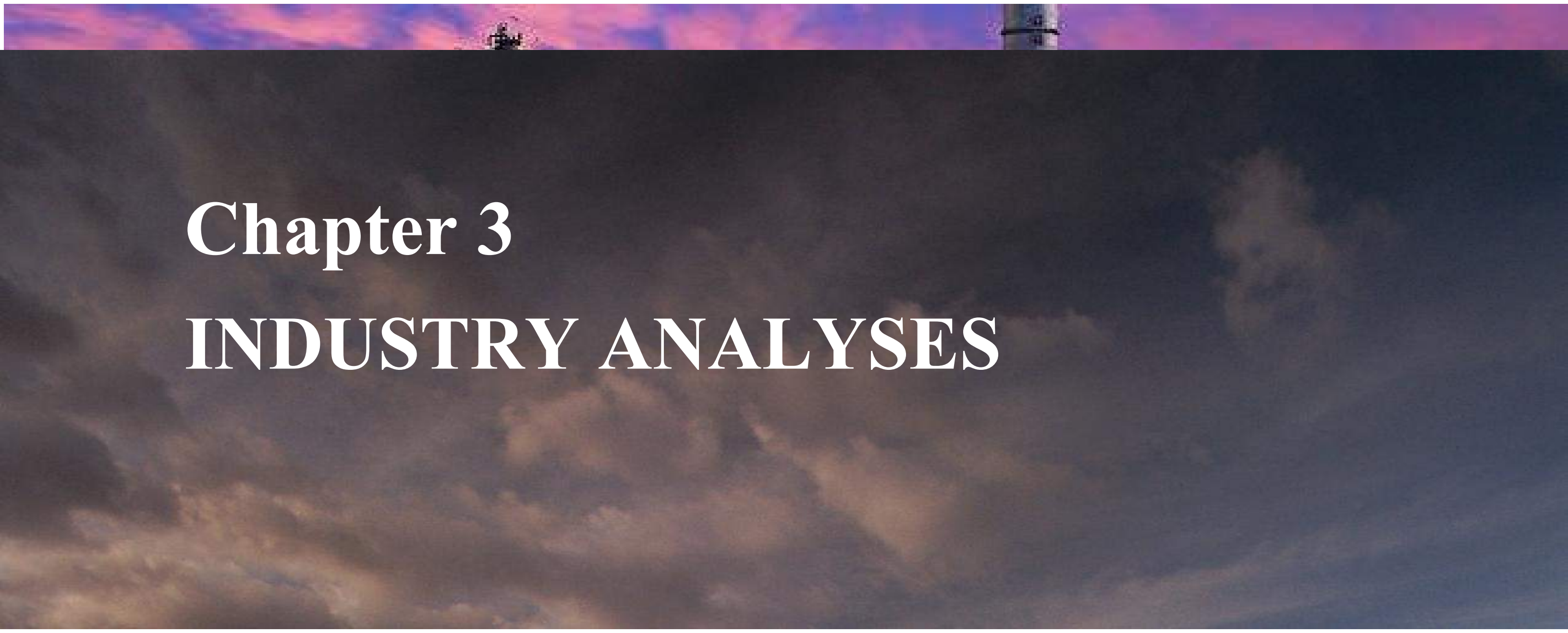
OPPORTUNITIES

- Current inadequate strategic national oil storage in DRC, Central African countries and beyond presents ready business to this project.
- Location Tax Economies are expected as the project is located outside major city/town.
- There is reaonable availability of good infrastructure

THREATS

- Possible collusion or unfair competition by existing or potential competitors
- Emergence of new oil refinery with similar capacity in DRC or neighbouring countries.
- Unfavourable movements in the prices of crude oil and refined products.
- Unfavourable international political dynamisms • International energy political tensions
- Unfavourable changes in required product specifications such as the International Maritime Organization's sulphur specification for bunker fuel oil scheduled to take effect from the beginning of 2022.
- Strict government regulation, in particular, those relating to environmental policy.
- Possible increase in taxes by government in the near future to address environmental concerns.
- Pressures posed by unionisations.





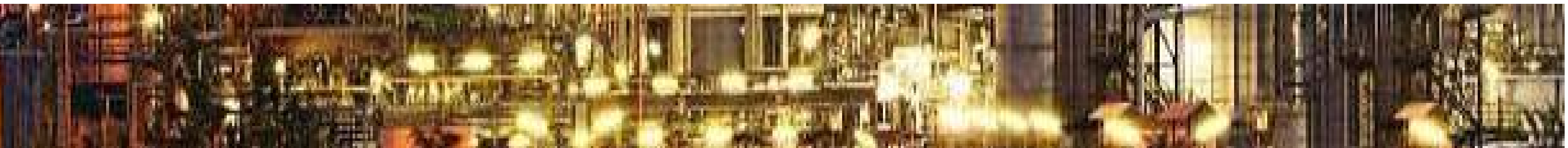
Chapter 3
INDUSTRY ANALYSES

As CSR&DAM plans to operate on international scale, with Africa as the main focus, the industry analyses consider DRC (as host country), Central Africa and Africa at large. The analyses is broken down into:

1. Historical Background
2. Industry Description & Regulation
3. Demand and Supply Conditions
4. Jockeying for Position (Competition)
5. Major Challenges

Historical Background

There were no oil refineries in Africa afore 1954. All refined products were supplied to Africa from European and American refineries through programmes ran by Shell and Mobile. Within a space of 50 years from 1954 to 2004, a total number of 48 oil refineries were built in Africa. In 1954 the first African refineries were built in Algiers (CFP/Total) and Durban (Socony/Mobil). These were followed by the building of Luanda refinery (Petrofina) in 1958, and refineries in Kenya (Shell/BP), Ghana (ENI/Agip), and Senegal (consortium), in 1963. In the 1960's refineries were also built in Cote d'Ivoire, Gabon, Tanzania, Nigeria (Port Harcourt I), and Capetown.



In the 1970's, following nationalisation of the oil industry in many countries, several state controlled refineries were built, such as Arzew in Algeria, Warri in Nigeria, CORAF in Congo, and SoNaRa in Cameroon.

All the refineries are basically of the topping/reforming type, except for the 4 refineries in South Africa, 2 in Egypt, 3 in Nigeria, 1 in Cote d'Ivoire, and 1 in Ghana, There are also 3 Synfuel plants (coal and gas feedstock) in South Africa. The total active distillation capacity for the continent is around 3 million b/d (15 million mt/yr), an average of 79,000 b/d per refinery.

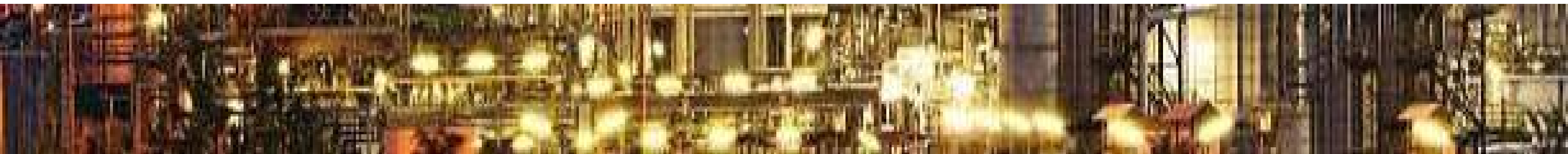
The largest refinery in Africa is the Skikda refinery in Algeria (300mbd), the second largest the Ras Lanuf plant in Libya (220mbd). In Sub Saharan Africa, the largest are the Port Harcourt refinery I and II in Nigeria (210mbd), and the Shell/BP Sapref refinery in Durban (165mbd).

The major oil refining countries in Africa are South Africa, Nigeria, Egypt and Algeria:

1. South Africa has 4 refineries and 3 synfuels plants.
2. Nigeria has three oil refineries, all owned by the Nigerian National Petroleum Company (NNPC).
3. Egypt has 9 refineries, 8 out of these are operated by Egyptian General Petroleum Corp (EGPC). The exception is the MIDOR Refinery in Alexandria.
4. Algeria has 4 refineries.

It is imperative to mention that factors such as low worldwide refining margins, small local markets, high operating cost (due to small size) and poor yields have forced several refineries to shut down in Africa.

Following from the above, it could be inferred that CSR&DAM Oil Refinery will be one of the biggest in Africa, considering proposed capacity of 300,000 barrels per day.



REGULATION DESCRIPTION

Regulation Description

Law No. 15/012 of August 1, 2015 on the general regime for hydrocarbons
The Democratic Republic of Congo has a potential in hydrocarbon resources, in particular in three main basins: the coastal basin, the central basin and the western branch of the East African rift.

Since the country's independence in 1960, the mining and hydrocarbon sectors were governed by the same legislative text This is [Ordinance-law n ° 67-231 of 11 May 1967 on general legislation on mines and hydrocarbons . This text was repealed by Ordinance-Law n ° 81-013 of April 2, 1981 on general legislation on mines and hydrocarbons.

Law No. 007/2002 of July 15, 2002 establishing the Mining Code creates a separation of these two areas, leaving that of hydrocarbons under the empire of the old law which has become unsuitable in view of the evolution of the sector.

Indeed, the Democratic Republic of Congo is called upon to respond to two major energy challenges, namely: the development of its hydrocarbon resources and the satisfaction of the growing need for energy for the well-being of the population and the development of economic activities.
Also, this law is timely. In accordance with the provisions of articles 9 and 202 point 36, litera f, of the Constitution of February 18, 2006, as amended by law n ° 11/002 of January 20, 2011, it sets up mechanisms to strengthen the activities of prospecting, exploration and exploitation of hydrocarbons with a view to their evaluation and a balanced sharing of the oil rent, It also has

the principles which should henceforth govern refining activities , transport-storage and distribution of petroleum products.

In this context, it brings several innovations, in particular:

1.Coverage through its field of application of all segments of the hydrocarbon sector, namely: upstream petroleum grouping together the prospecting, exploration and production of hydrocarbons and downstream petroleum grouping together the activities of refining, transport, storage and distribution of petroleum products;

2. the assertion of State ownership over the hydrocarbon resources from the subsoil up to the point of export;

3. the obligation for the State to invest in geological, geophysical and geochemical research with a view to evaluating its hydrocarbon resources;

4. assertion of State ownership over scientific and technical data resulting from hydrocarbon activities;

5. taking into account all hydrocarbon resources, conventional and unconventional;

6. the establishment of a hydrocarbon regime based mainly on the production sharing contract and subsidiarily on the service contract,

7. the establishment of a specific tendering procedure for the attribution of hydrocarbon rights different from the procedure organizing public contracts;

8. Affirmation of the principle according to which the Council of Ministers ensures the control and regulation of the tendering procedure due to the strategic nature of hydrocarbon resources;

9. the establishment of the rule according to which the hydrocarbon rights, in this case, the right to explore and to exploit are granted only by way of contract, to the exclusion of the pemis

10. the principle of the creation of the national hydrocarbon company;

11. the creation of a fund for future generations;

12. strengthening local content in hydrocarbon activities in order to train national skills and involve local businesses in said activities;

13. the social responsibility of oil companies in order to involve them in the challenges of sustainable development in favor of the populations directly affected by oil works, through contributions and a provision for social interventions both during the exploration phase and operating phase;

14. strengthening the protection of the environment and cultural heritage;

15. the creation of four tax zones, in order to build an upstream petroleum tax system that takes into account the geological and environmental reality of our country,

16. the affirmation of the principle according to which the hydrocarbon rights regularly acquired before the entry into force of this law retain their validity until their expiration. When they are renewed, they will be governed by the provisions of this law.

17. the consecration and grouping of the main general principles of downstream oil currently scattered in regulatory texts; the definition of the methods of constitution of stocks of petroleum products, in particular strategic and security stocks;

18. the strengthening of the repressive system.

Ratifications

There are international regulatory frameworks which the downstream players (especially oil refineries) are bound to observe as a result of ratifications by Parliament of Democratic Republic of DRC . The current spate of heightened interest by all and sundry to fight against climate change to reduce the ever-increasing global warming has led to several countries and organisations joining forces to fashion-out policies and strategies of common interest.

In this regard, the Parliament has ratified some international conventions on climate change, bio-diversity, land degradation and other environmental issues that are of interest to DRC. Some of these international conventions include United Nations Framework Convention for Climate Change, Kyoto Protocol, etc.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DEMAND & SUPPLY CONDITIONS

DRC

As per Chamber of Oil Distributors (2019), the national consumption of petroleum products was about 3.88 million tonnes in 2018, 12.3 per cent higher than the 2017 consumption of 3.46mt.

A total of 3.73 million tonnes was consumed by the non-power sector, representing 83 per cent of gross consumption, while 738,076 million tonnes (17 per cent) was consumed by the power sector as fuel for power plants, crude for power and propane.

Out of the 165 registered oil marketing companies (OMCs) and LPG marketing companies (LPGMCs) in 2018, 14 companies were active, 63 sold products above 10,000 million tonnes, while 88 sold volumes below 10,000 million tonnes.

For detailed National Petroleum Authority's figures on supply for various petroleum products, kindly review Appendix B (page 109) to this document.

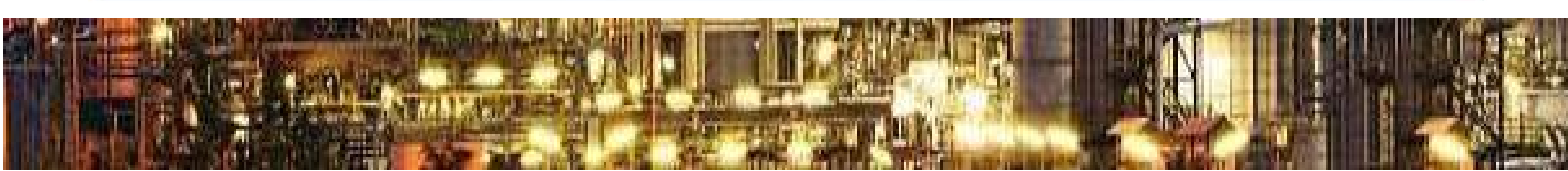
In relation to supply, the local market still relies on importation to meet growing market demand as local refining capacity is very low (even operating at full capacity).

Central of Africa

The demand for refined petroleum products in Central Africa is expected to witness a CAGR (Compound Annual Growth Rate) of 4.72% in the period 2019-2024. This is expected to be higher in the subsequent years. The major factors driving the market include strong economic growth, increasing number of vehicle sales and usage, and penetration of LPG in recent years. Central Africa's fuel market growth rate is estimated at over 4% yearly. Currently, the total refinery capacity in the region is estimated as 500,000 barrels per day leaving a shortfall gap of 1,500,000 barrels which is closed by import of refined products from Antwerp-Rotterdam-Amsterdam (ARA) region by oil trading majors such as Trafigura, Glencore and Vitol.

Considering the planned project of Government of DRC to make the country a hub for refining of petroleum products in the Central African sub-region, it is expected that attention of the world, especially the oil majors will be attracted to DRC. Among other things, this is expected to:

1. Increase demand of refined products from DRC as higher quantities will be available and therefore become one stop shop for big buyers.
2. Contribute towards averting the expected refined products deficit of about 150MN MT in Africa by 2030.
3. Increase feedstock availability for the petrochemical sub-industry which will in turn create more jobs and boost national GDP.
4. Increase the presence of major international oil trading and storage companies in DRC and create more avenues for partnerships, joint ventures and other business arrangements which will engender wealth and knowledge transfer.

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JOCKEYING FOR POSITION

Africa

The major commodity trading companies involved in the African refined petroleum products market in which CSR&DAM would have to wrestle for position are considered below with brief information on each:

Founded in 1993, Trafigura is owned by its management and employees. It has achieved substantial growth in recent years, growing turnover from US$18 billion in 2004 to US$181 billion in 2018. Trafigura's primary trading businesses are involved in the supply and transport of crude oil, petroleum products, renewable energies, coal, refined metals, ferrous and non-ferrous ores and concentrates. It is the world's second largest independent non-ferrous trading company and the third largest independent oil trader.

Source: https://www.pumaenergy.com/en/about-us/ownership-and-shareholders/

Puma

Energy is partly owned by Trafigura, and it operates in 47 countries. It serves both the wholesale and retail markets worldwide. It current has over 3000 retail outlets. It has over 8000 employees and in 2017 it distributed 23m cubic meters of petroleum products.

(Source: www.pumaenergy.com)

Vitol is a Dutch petroleum trading company which has been operating since 1966. It trades more than 7M barrels of oil and other petroleum products every day. The company's total revenue in 2018 was $231B. It has several subsidiary companies which are also large participants in the international petroleum industry. These include Vivo Energy and Viva Energy.

(Source: www.vitol.com)

Mercuria Energy Group Ltd is a privately held Swiss international commodity trading company active in a wide spectrum of global energy markets including crude oil and refined petroleum products, natural gas (including LNG), power, coal, biodiesel, carbon emissions, base metals and agricultural products.

It is one of the world's five largest independent energy traders and asset operators with over 34 offices worldwide. Its total revenue in 2017 was $104B.

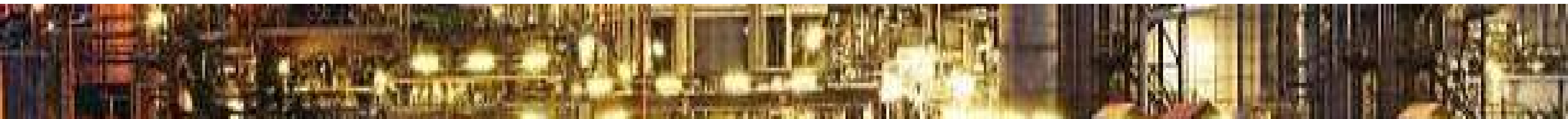
Source: Wikipedia

Monjasa Holding A/S operates as a holding company. The Company, through its subsidiaries, provides oil products, chemicals, bunkering, lubricants, and oil cargo trading. Monjasa Holding markets its products worldwide.

(Source: Bloomberg)

The Monjasa Group is a leading global partner in the oil and shipping industry. Its main business platform continues to include worldwide reselling activities and physical supply in West Africa, Europe, and the Middle East.

(Source: 2016 Annual Report)



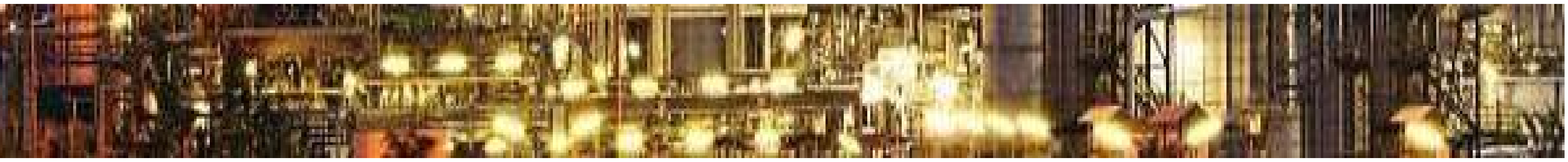
Oando PLC is an African indigenous energy company operating in the upstream, midstream and downstream. With a primary listing on the Nigerian Stock Exchange, Oando is the first African company to have a cross-border inward listing on the JSE (Johannesburg Stock Exchange).

In July 2016, Oando entered into a tri-partite agreement with the Vitol Group, an independent trader of energy commodities and Helios Investment Partner to form a new company called OVH. This new company is one of Nigeria's biggest suppliers and distributors of refined petroleum products.

(Source: Wikipedia)

Beside the oil trading companies identified above, all oil refineries that serve or intend to serve the African Market are seen as prospective competitors that CSR & DAM refinery would have to contest for market position. However, considering the intended scale of operation of CSR&DAM the major competitor will be the Dangote Oil Refinery.

This is a $15B oil refinery project currently under construction. The refinery is situated on a 6,180 acres (2,500 hectares) site at the Lekki Free Zone, Lekki, Lagos State in Nigeria. It is expected to process about 650,000 barrels of crude oil per day. It will be the largest single-train refinery in the world. At full production, it will be able to produce 50,000,000 litres (13,000,000 US gal) of gasoline and 17,000,000 litres (4,500,000 US gal) of diesel daily, as well as aviation fuel and plastic products. With a greater capacity than the total output of Nigeria's existing refining infrastructure, it will be able to meet the country's entire domestic fuel demand and export refined products. (Source: Wikipedia)



& COUNTRY RISK ASSESSMENT
CHALLENGES IN REFINERY BUSINESS

Oil Price Volatility

The unstable price of crude oil, the major element of cost of production of oil refineries, badly affects availability of crude oil and operational profitability. The same situation applies to refined products.

Price volatility has become more pronounced since 2008 financial crises due to several factors including:

- International energy geopolitics among some known nations have the tendency of increasing price of crude. For example, the threat by Iran in 2012 to close the Strait of Hormuz (a place through which about 20% percent of the world's oil passes), oil prices rose to their peak of $128.14/barrel on March 13.
- The shale oil exploitation and decisions of Organization of Petroleum Exporting Countries (OPEC) could have impact on the price of oil. In 2014, Prices fell to $62/barrel by the end of the year. This was largely attributed to plenty production of shale oil by the United States; side by side, the decision of OPEC not to lower supply quotas. Besides, in 2016, the price of oil fell in January to $26/barrel by the end of the month. When OPEC announced a production cutback in November, oil prices rose above $54/barrel in December. (Source: https://www.thebalance.com/how-crude-oil-prices-affect-gas-prices-3306230)

Government Subsidies

As part of efforts to fulfil its promises of lessoning the economic burden of citizenry, Government of DRC sometimes reduces the cost of petroleum products by way of subsidies. The citizen are required to pay the subsidized prices for consuming the commodity and the government is required to pay the difference between the subsidised price and actual price the BDCs are selling the petroleum products.

However, the real situation has been that the government is unable to pay the difference promptly to the BDCs, leading to debt and interest pile up over extended period (legacy debt). This situation, when sustained, creates a lot of problems including inability of the BDCs to service their loans with their bankers, bankers unwillingness to provide further support to the BDCs, profits of BDCs going into interest servicing etc.

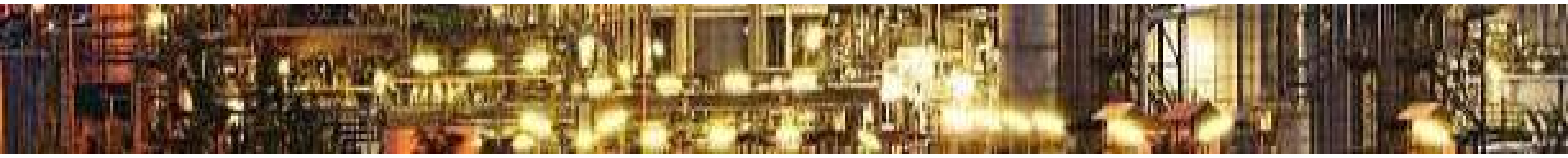
As per Press Release by Chamber of Bulk Oil Distributors, the legacy debt in excess of $1B covering a period of 2012 to 2020 was settled by government in full in the 1st half of January 2020. This means the government was owing for about 7 years.

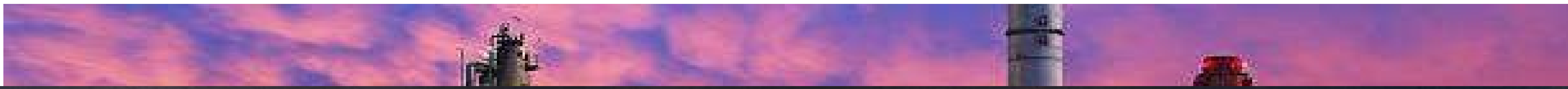
Check Appendix C (page 114) for the full Press Release by the Chamber.

OTHERS

There are several other challenges facing the sub-sector, some of which are highlighted below:

1. The constant tightening of sulphur content regulations and other product specification requirements are impinging on the downstream operations. For example, International Maritime Organisation's sulphur content regulations taking effect in 2020.
2. The strengthening of employee unions has posed a big challenge for the downstream operations. Employee unions are constantly seeking improved conditions of service, based in part on the general perception that the employers are making more profit.
3. Operators are being compelled to follow stringent legislations. For example, the legislation on implementation of ISO15926 and stricter regulatory thresholds on liquid waste and sewage discharge (zero liquid discharge requirement).
4. Downstream sector is facing serious challenge due to lack of Information knowledge management (IKM). In order to overcome this, there is a need for joint ventures and strategic alliances between various industries to be able to arrest this problem. Some industries such as oil companies, service companies, academia, government and so forth should bring their knowledge together so as to achieve a better result and solve problems plaguing the industry at reduced cost and at faster rate.





Chapter 4

INVESTMENT CLIMATE & COUNTRY RISK

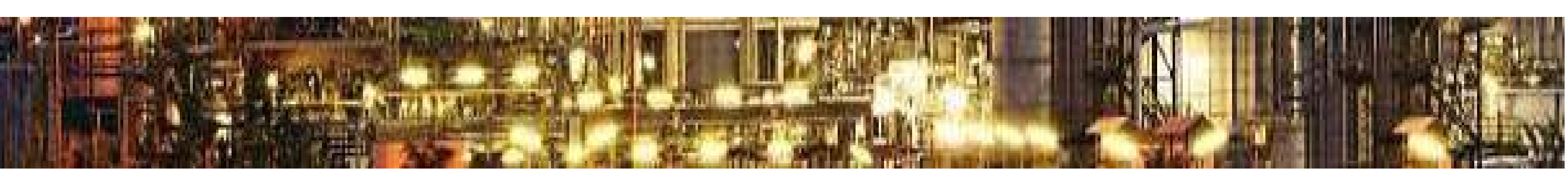
OVERVIEW

Considering the stable economic and uninterrupted democracy since 1990, DRC has become one of the most attractive destinations of foreign direct investments in Africa. Besides, several multilateral and large international non-profit oriented organisations are much attracted to establish their main offices in DRC within the Central African sub-region.

For many years, DRC has been accommodating several multinational companies and international oil .

Other multilateral agencies such as International Monetary Fund, World Bank Group, USAID Regional Office, French Development Agency, Global Affairs Canada (GAC), FMO etc. have their Central African regional headquarters in DRC.

According to International Finance Corporation (IFC) Country Strategy and Operations, DRC is its 9rd largest exposure in Africa in terms of committed investment volume. DRC consistently ranks in the top nine countries in Africa for freedom of speech and press freedom, with strong broadcast media. Factors such as these provide DRC with solid social capital.



INVESTMENT GUARANTEES

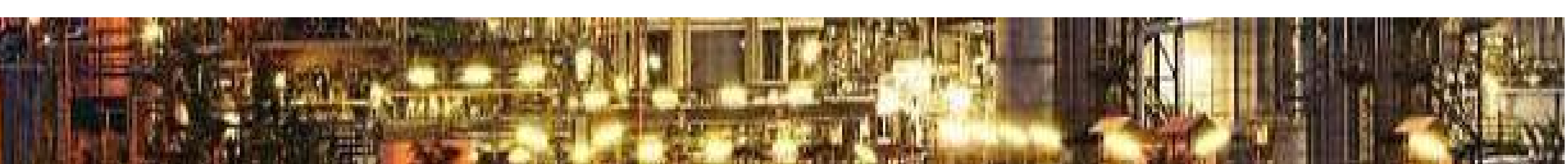
To ensure safety of investments of all investors in the DRC, the following Guarantees are available. Besides, the Government of DRC is signatory to other international conventions to protect investors. These include the following:

DRC Government Guarantees against confiscation, expropriation and nationalization are enshrined in the Constitution of DRC .

DRC has also signed Bilateral Investment Treaties (BIT) with a number of countries including Burkina, China, Denmark, Germany, Malaysia, Netherlands, Serbia, Switzerland and UK.

The Multilateral Investment Guarantee Agency is an international financial institution which offers political risk insurance and credit enhancement guarantees. These guarantees help investors protect foreign direct investments against political and non-commercial risks in developing countries.

Thus, any investor who loses her/his investment as a result of political gymnastics in DRC would be compensated by MIGA.



OTHER COUNTRY RISK CONSIDERATIONS

DRC has a reasonably reliable legal system to handle dispute in a manner devoid of discrimination against foreigners or investors. The legal system of Ghana is largely based on British common law and customary law and therefore easy for foreigners to understand the laws of the country. Both the court and arbitration procedures of resolving conflicts or problems arising from commercial undertakings are available for an investor to choose from.

In March 2005, the government established a commercial court with exclusive jurisdiction over all commercial matters. This Court also handles disputes involving commercial arbitration and the enforcement of awards, intellectual property rights, including patents, copyrights and trademarks, commercial fraud, applications under the Companies Code, tax matters, and insurance and re-insurance cases.

Moreover, Ghana is a signatory to several international legal treaties in the bid to attract international investors. These treaties include United Nations Commission on International Trade Law, International Centre for the Settlement of Investment Disputes (ICSID Convention), the convention on the Recognition and Enforcement of Foreign Arbitral Awards (1958 New York Convention) etc.

Global Press Freedom Index is a key measure of risk of doing business in a country. In 2018, Reporters Without Borders (RSF) ranked Ghana 23rd out of 180 countries in its global press freedom ranking.

The indicators for ranking of countries of the world by RSF are based on their media independence, the presence or absence of self-censorship, the rule of law in a country, and transparency. The indicators also take into account, the number of violations and attacks on journalists.

Although ranking of Ghana fell in 2019, it is still within the top 30.

Chapter 5

SUSTAINABILITY CONSIDERATIONS

OVERVIEW

Considering the current heightened need for every organisation to remain a good corporate citizen, the project promoters' utmost priority is to ensure full integration of sustainable development principles into all activities of this oil refinery.

Sustainable development is about conscious use of existing resources in a manner that will guarantee their availability to the posterity. Thus, the quest to meet the needs of today's generation shall not compromise the expected needs of tomorrow's generation.

In this regard, CSR & DAM intends to use its resources and inherent corporate powers in a manner that will enhance social and economic well-being of all persons, as well as the environment.

Environmental Pollution

Undeniably, oil refineries cause smog and air pollution. They emit over 100 chemicals and gases every day. These include sulphur dioxide (SO_2), nitrogen oxide (NO_2), carbon dioxide, carbon monoxide, methane, dioxins, hydrogen fluoride, chlorine, benzene and others.

Besides, oil refineries cause land to be polluted by the large amount of harmful waste which needs to be dumped. Furthermore, oil refineries pollute waters through the fallouts from air pollution and refineries discharging chemical pollutants into waterways. In addition, accidental oil spills pollute the groundwater and open waterways.

These chemicals and gases have negative health implications and have been identified to be a major contributor to the current global warming outcry.

The promoters of this refinery intend to ensure utmost commitment to conducting oil refinery business responsibly. Hence, it will follow internationally acclaimed best practices and follow the various recommendations by EPA, IPIECA, UNDP etc.

Endorsement of SDGs

The Sustainable Development Goals of United Nations are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including those related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice. The Goals interconnect and in order to leave no one behind, it is expected that all the Goals are achieved by 2030.

O&G shares in the need to achieve all the 17 SDGs, and as a result plans to conduct all its activities in a manner that facilitates their realization. In this regard, O&G will conduct periodic reviews of its operations with the aim of:

1. Assessing its compliance.
2. Determining which SDGs should be the focus over a given period.
3. Increasing awareness of employees and all business partners so that they integrate SDGs in their daily activities.

UNGC 10 Principles

In consonance with commitment to act responsibly and in line with Sustainable Development Goals, CSR&DAM would take the necessary steps to adopt The Ten Principles of the UN Global Compact. These Principles are in areas of Human Rights, Labour, Environmental Protection and Anti-Corruption.

By incorporating the Ten Principles of the UN Global Compact into strategies, policies and procedures, and establishing a culture of integrity; CSR&DAM would uphold basic responsibilities to people and planet, and also contribute towards setting the stage for long-term success.

Corporate Social Responsibility

Corporate Social Responsibility (CSR) is about recognising that companies have a responsibility for their effect on society and the natural environment, often beyond that of legal compliance.

CSR &DAM plans to put in place a comprehensive CSR program that would ensure development of its immediate catchment area (Ada area), Ghana at large and all other places where O&G will extend its business. One of the notable schemes to be put in place is scholarships to increase literacy among the needy.

There will be a dedicated department that will handle all CSR programs of CSR &DAM .

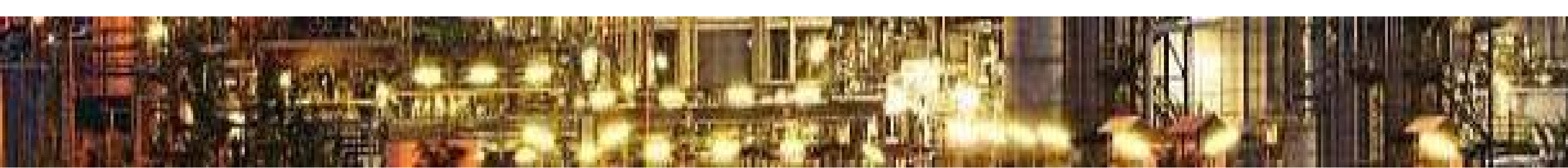
Social & Environmental Audit

To ensure systematic monitoring of its performance and the views of its stakeholders/beneficiaries, CSR &DAM will institute social and environmental audit framework as part of its routine activities.

The main objective of social audit is to track and investigate stakeholders' perceptions about processes, benefits, challenges and prospects of activities of CSR &DAM in its bid to remain responsible corporate citizen.

To ensure effectiveness, primary data collection method will be used, employing full multistage sampling procedures to reduce personal biases. There will be subsequent tracking studies to corroborate earlier findings.

Although CSR &DAM will have its own well-resourced research teams, an external internationally acclaimed research consulting firm will be engaged to conduct social audit investigations. This will improve corroboration. Outcomes from social audits will not be merely shelved but will be acted upon by Board sub-committee on compliance.



Workplace Sustainability

Workers as the most important resources of every organisation, CSR &DAM recognizes that investing in workplace safety and health can bring tremendous benefits that will facilitate achievement of corporate objectives and triple bottom line (protection of people, planet and profit). Thus, worker safety and health will be integrated in sustainability strategies.

Following the submissions of OSHA, sustainable organizations strive to balance the triple bottom line of people, planet, and profit to achieve long-term success and viability. This means that organizations cannot be sustainable without protecting the safety, health, and welfare of their most vital resources, the workers. More to the point, as per CSHS (2013), an organization cannot be sustainable if it does not ensure safe and healthful conditions for its workers and contractors.

In order to adopt best practices in this regard, CSR &DAM will adopt recommendations of renowned organisations, including OSHA and CSHS. The following activities have been planned to achieve workplace sustainability:

a. Establishing a full time position dedicated to health and safety
b. Benchmarking progress and tracking costs
c. Hosting weekly health and safety meetings
d. Conducting monthly facility inspections
e. Creating mechanisms for worker feedback and observations for hazards
f. Catching people doing safety right and recognizing performance and
g. Increasing training and certification opportunities.

Chapter 6
GOVERNANCE

OVERVIEW

To eliminate all inefficiencies and corporate compromises that trigger corporate failure, the project promoters are poised to ensure strict application of corporate governance principles and other internationally recognised best practices. It is when these are done that CSR & DAM believes that sense of respect, integrity, responsibility, transparency and accountability would permeate all organisational activities; regardless of who is performing the activity and whether it is in the presence of others or not.

Board Composition

Any prospective board member would prove that he/she has sufficient time to dedicate not only to the work of the board, but also to board sub-committee (s).

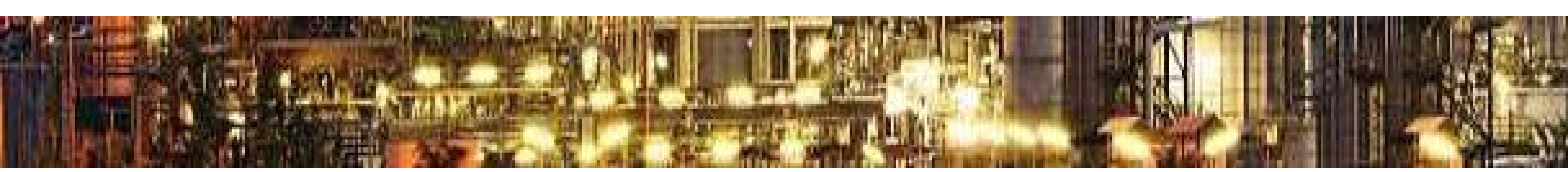
At all times, the admission of anybody to the board would be strictly based on competence rather than 'whom you know' basis. The composition will strategically be varied to ensure that people with diverse knowledge and background are present.

The phenomenon called 'CEO Duality' would not be entertained as it leads to the CEO becoming overly powerful and eventually give room to corporate governance breaches. That is, no one person would serve as a Board Chairman and also CEO.

Corporate Policy Documents

The project sponsors have already engaged a consulting firm to develop comprehensive corporate policies and procedures documents for all key functions of the oil refinery to serve as a guide in the performance of all organisational activities. This would enhance uniformity and serve as reference to all employees, management, directors, external auditors, tax office etc.

Some of the policies being developed include: Accounting Policy & Procedure; Corporate Governance Policy; Internal Audit Policy; Operations Policy; Human Resources Policy; Health, Safety & Risk Policy; Strategic Plan; Succession Plan Policy etc.



Board Sub-Committee

The board would delegate responsibilities which require more attention to its own formed sub-committees. There would be 2 types of committees, Circumstantial (Ad-hoc) and Standing committees.

Circumstantial committees will be constituted when it becomes necessary. Standing Committees will always be in place to attend to recurring important responsibilities of the board. There will be 3 types:

- Audit Committee (to oversee the relationship with external auditors to ensure the quality of the financial statements of O&G. The committee's roles include making recommendations on the appointment and reappointment of the external auditors, their remuneration, and their terms of engagement.)
- Social & Ethics Committee (to ensure O&G remains compliant with sustainable development goals, statutory responsibilities, corporate social responsibilities etc.) and
- Transformation Committee (to ensure that O&G management implements any transformation agenda of the board).

Internal Audit Function

To ensure successful realisation of the objectives of this oil refinery project, the project sponsors believe that effective internal audit function will be indispensable. Thus, the board will fortify the internal audit function in order to enhance corporate internal controls and compliance.

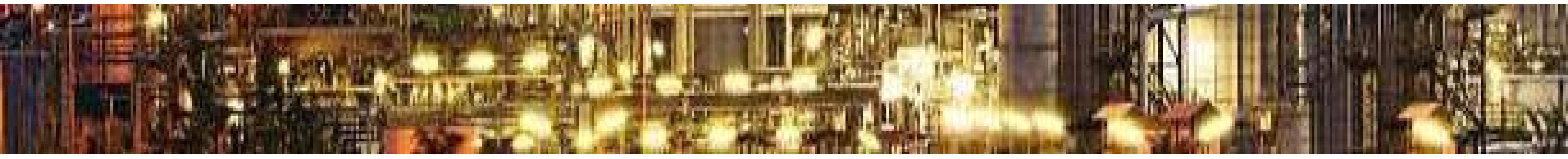
To ensure independence of internal auditor from management, the internal auditor will report directly to the board.

Management Team

The current management team of CSR & DAM consist of accomplished professionals who have successfully implemented several high ticket projects in Ghana and abroad. In combination, the management team has closely 95 years practical experience in industry.

As the project implementation starts, several other professionals would be recruited to join the team. The overriding basis of selection will be demonstrable competences and relevant industry experience.

With the development of new corporate policy documents, it is expected that the performance of the management team would be enhanced in carrying out the day to day running of the affairs of the refinery and carrying out the directives of the board of directors.



Succession Plan

A strategy is currently being fashioned to ensure constant availability of employees, management and board members to ensure that retirement, temporary and/or permanent absence of anybody does not affect the effective administration or governance of the oil refinery. This will ensure achievement of corporate objectives and effectively serve the interest of the various stakeholders of CSR & DAM.

It is expected that the corporate policies and procedures document on this subject will be very helpful in achieving robust succession of human capital.

Chapter 7

RISK MITIGATION AND CONCLUSION

RISK MITIGATION

Overview

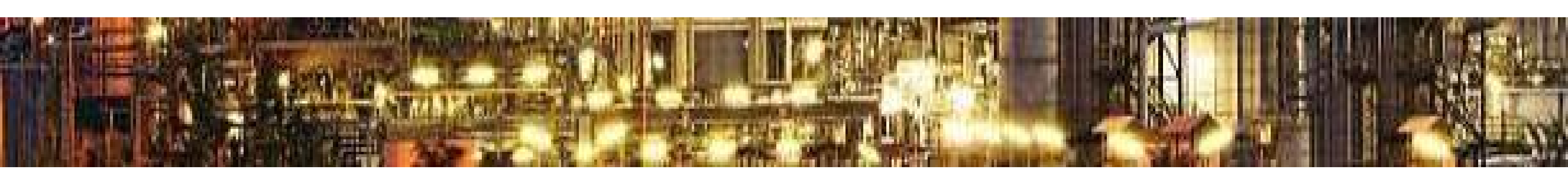
O&G plans to embark on comprehensive and strict risk mitigation strategies in order to ensure that the objectives of this project are achieved. Also, effort will be made to ensure that the interest of all stakeholders are well addressed and protected. This section outlines some of the strategies:

Receivables Defaulting Risk

The success of this project hinges on the ability of CSR & DAM to achieve certainty of cash inflows. Considering the proposed policy of allowing prospective clients 90 days credit after paying 5% deposit, risk abounds if the client does not honour the terms of the credit sales.

To mitigate probable default risk, the prospective client will be required to arrange for deferred LC or SBLC from their bankers to cover the 95% of the sales value which will be on credit beforehand. This will ensure that in case the client fails to pay as per timelines, CSR & DAM can receive payment from the client's bankers upon crystallization.

When this is actualised, working capital needs and loan repayment commitments will be met on timely bases.



Repayment Risk

Considering that loan repayment will be on monthly basis, CSR & DAM plans to put in place effective cash management strategies to avoid defaulting on any of the 78 monthly instalments.

The initial 6 months operating period meant for stabilisation is to accumulate some cash which could be used to facilitate repayment and other contingencies in case there is short fall of cash in subsequent months.

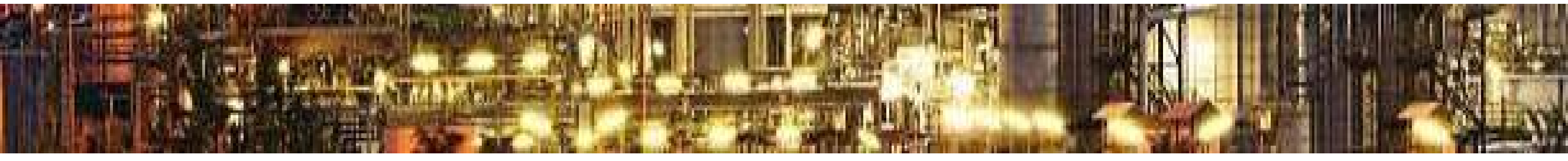
Besides, there will be standby arrangements with bankers so that in case all efforts to repay any instalment crumble, the bankers will step in.

Capital Tie-In Risk

As part of strategies to improve strict adherence to corporate governance principles and offer flexibility to shareholders, CSR & DAM plans to be listed on the London Stock Exchange and New York Stock Exchange within 4 years after commencement of operations.

This will particularly enable shareholders who at any point in time want to trade their shareholding for cash to do so without much difficulty.

It is believed that free entry and exit of shareholders will help CSR & DAM to become a better organisation as fresh ideas will always be introduced into the business.



Crude Oil Price Risk

Considering that most of the factors that trigger unfavourable movements in the crude oil price will be out of control of CSR &DAM, effective risk mitigation strategy is necessary to keep this project buoyant.

CSR&DAM will undertake price hedging with renowned international price risk underwriters to ensure that adverse effect of crude oil price capriciousness is negligible on the operations of the refinery.

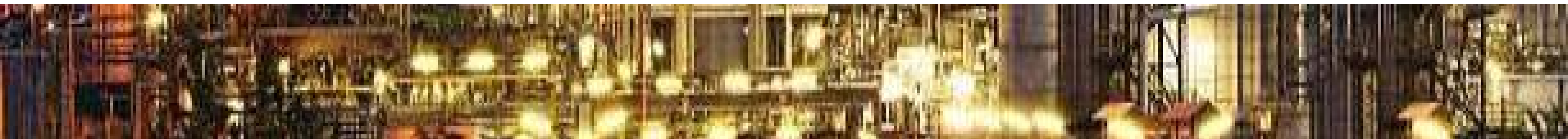
Societal Neglect Risk

Many mining and oil & gas companies have had a lot of problems with the communities they operate because of perceived neglect of the impact of their operations on the immediate communities within which they operate.

Considering the endorsement which the chiefs and people of Ada area have given to this oil refinery project, CSR &DAM will ensure it acts responsibly to constantly support the people within the catchment and beyond. For example:

1. Priority will be given to local people who qualify for some job positions
2. Scholarship schemes will be established to support needy but brilliant students.
3. Support will be given to the infrastructural development of the local communities etc.

Research and tracking studies will be conducted on regular basis to identify how well the community perceives CSR &DAM and their expectations from this project overtime.



Power Interruption

Availability of adequate power is a precursor to the success of this project. All the activities of the refinery will in part or other depend on availability of power. However, DRC as a host country has witnessed a lot of national power generation and distribution problems since independence.

Luckily, in recent times, major improvements have been witnessed with introduction of power barges and other thermal energy sources. Although this is a positive development in supply of power, this does not guarantee uninterrupted power supply in future. Accordingly, CSR &DAM plans to have adequate alternative power supply in place so that in case the national supply sources become inadequate, reliance can be placed on this alternative.

However, it is important to indicate that in case reliance on this alternative sources is prolonged, it could increase cash outflows and trigger operational unsustainability.

Breakdown Risk

The general presumption underlying the various bankability assessments is that the refinery will be operating optimally. However, there are several occurrences which could prevent the refinery from operating optimally. For example:

1. Malfunctioning of major component of the refinery
2. Insurgency
3. Breakdown of major equipment etc.

To guard against these risks, CSR &DAM will undertake insurance policies and also have a standby arrangements for routine maintenance by the manufacturers.

Market Risk

Although refined products are highly sought after by all and sundry, CSR &DAM cannot determine with certainty actions being taking by other organisations or uncertain future events which can affect demand for its refined products.

Thus, it has identified several organisations and governments which it is currently finalising buying contracts (off-take agreements) with them. This means that there will be ready market awaiting for the refined products of CSR &DAM. It will not produce before it looks for the market.

To consolidate this, CSR &DAM will constantly search for new off-takers so that in case the financial muscle of the current off-taker (s) goes down or declared bankrupt, there will be a standby off-taker to replace the outgoing one.

Conclusion

Although some risk and mitigation strategies have been highlighted above, it is important to stress that these are not exhaustive list of all risk which would confront the oil refinery.

In order to identify and address any potential risk source, CSR &DAM will have a full department that will be in charge of risk identification and alleviation. This department will be resources with internationally acclaimed experts in oil refinery risk management. It will also be well equipped in all regard to make the department very effective.

CONCLUSION

This document has raised and discussed several issues relating to the proposed CSR & DAM Oil Refinery to be situated at FIZI in the South Kivu Region of DRC. This project promises to be a game changer in Central Africa and beyond.

This project is expected to create over 100,000 jobs in the Central African sub region, improve lives, increase national strategic stocks, improve foreign exchange earnings etc.

This project is financially viable using worldwide acceptable investment appraisal techniques such as Net Present Value ($2.08B), Internal Rate of Return (13.66%) and Discounted Payback Period (6 years + 3 months). The free cash flows expected from the project are far in excess of what is needed to repay the loan to be contracted for this project.

Besides, avenues will be created to enable equity shareholders to exit and enter anytime they choose through listing of CSR & DAM Oil Refinery on the London and New York Stock Markets.

All significant imminent risks have been already identified and strategies such as securing off-take agreements, insurance, hedging, prudent cash management, securing alternative power source etc. are being crafted to contain them.

DRC, the host country, is a signatory to Multilateral Investment Guarantee Agency Convention. Consequently, any non-commercial risk leading to forfeiture of investment will be remedied (refunded). There are several incentives available to foreign investors under the DRC Investment Promotion Act.

Tax economies are expected to be enjoyed under the Income Tax Law (2015, as amended) as the chosen project location is outside regional and district capitals.

CSR&DAM recognises that its operations have the tendency of causing land and water pollution, releasing harmful chemicals and gases into the environment and contributing to the current global warming outcry. To lessen these tendencies, CSR&DAM plans to strictly follow internationally recognised best practices and recommendations by organisations such as Environmental Protection Agency (EPA), United Nations Development Programme (UNDP) etc.

In all, considering the commitment of the project promoters to this project, alongside their past experience of successfully implementing new projects; any investor interested in this project will enjoy their company. Success is just a step away. All investors are cordially invited.

Appendix A

FINANCIAL PLAN

FINANCIAL PLAN

ASSUMPTIONS UNDERLYING THE FINANCIAL PLAN

ASSUMPTIONS

1	CURRENCY IN USE FOR THE ENTIRE PROJECTIONS IS UNITED STATES DOLLAR
2	NO INTEREST RESERVE ACCOUNT IS MAINTAINED. INTERESTS DURING THE CONSTRUCTION PERIOD ARE CAPITALISED
3	THE MAXIMUM CAPACITY OF THE REFINERY IS 300,000 BARRELS PER DAY
4	CONSTRUCTION IS EXPECTED TO BE COMPLETED IN 3 YEARS
5	FUNDING NEEDED: EQUITY 1,690,500,000 DEBT 9,579,500,000 11,270,000,000
6	INITIAL EQUITY CONTRIBUTION OF CSR& DAM (OWNERS) IS $7,081,000
7	LOAN REPAYMENT WILL BE MADE ON MONTHLY BASIS OVER 6 YEARS AND 6 MONTHS
8	LOAN REPAYMENT MORATORIUM IS 3 YEARS FOR CONSTRUCTION PLUS 6 MONTHS FOR PROJECT STABILISATION.
9	APPLICABLE INTEREST RATE PER ANNUM IS 8%
10	DISCOUNT RATE IS 10%
11	COST OF INSURANCE: PROCESSING PLANT 0.5% OTHER CAPEX 1%
12	PROVISION FOR CONTINGENCY: PHYSICAL CONTINGENCY 12% PRICE CONTINGENCY 10%
13	ACCOUNTS RECEIVABLE IS 95% OF SALES

14	CUSTOMERS ARE GIVEN 90 DAYS CREDIT
15	REVENUES AND EXPENSES ARE DEEMED TO ACCRUE EVENLY
16	MONTH END CLOSING STOCK IS 10%
17	CRUDE OIL PURCHASES PER MONTH IN THE FIRST YEAR OF OPERATIONS IS 4,620,123 BARRELS
18	COST OF 1 BARREL OF CRUDE OIL AT THE BEGINNING OF OPERATIONS IS $62.99
19	COST OF SHIPPING 1 BARREL OF CRUDE OIL IS $2
20	COST OF CRUDE OIL & FREIGHT ARE INCREASED BY 2% P.A.
21	PRODUCTION CAPACITY STARTS AT 55% AND INCREASES ANNUALLY BY 5% UNTIL IT REACHES 95%
22	SELLING PRICES OF REFINED PRODUCTS ARE INCREASED BY 5% P.A.
23	COST OF ADDITIVES, WATER, POWER & HYDROGEN FOR PLANT USE ARE INCREASED BY 10% P.A.
24	DIRECTORS REMUNERATION, SALARIES & WAGES (BOTH DIRECT & INDIRECT) ARE INCREASED ANNUALLY BY 3%, INCLUDING MAINTENANCE
25	CONVERSIONS: 42 GALLONS OF CRUDE = 159 LITERS 1 MT OF CRUDE = 7.33 BBLS 1 GALLONS OF CRUDE = 3.785714 LITERS

26 DERIVABLE PRODUCTS PER BARREL OF CRUDE OIL:

PRODUCT	NO. OF US GALLONS *	LITRES	DIVIDING FACTOR (NPA)	MT	PRICE/MT (NPA-OCT 2019)
NAPHTHA	4	15.14300	1342.28000	0.01128	731.45000
GASOLINE	19.5	73.82100	1342.28000	0.05500	731.45000
DIESEL OIL	9.6	36.34300	1183.43000	0.03071	711.04000
REFINERY GASES/LPG	1.9	7.19300	1000.00000	0.00719	637.13000
KEROSENE	0.2	0.75700	1240.60000	0.00061	767.92000
JET A-1 KEROSENE	4.1	15.52100	1250.00000	0.01242	767.92000
MARINE GAS OIL (MGO	2.3	8.70700	1183.43000	0.00736	720.90000
PETROLEUM COKE	1.9	7.19300	925.92200	0.00777	500.00000
BITUMEN	1.3	4.92100	878.85164	0.00560	410.00000
	44.8	169.599		0.13793	

*SOURCE: WWW.STATISTA.COM

27 CORPORATE TAX RATE IS 12.5%

28 DEPRECIATION METHOD IN USE IS STRAIGHT LINE

29 DEPRECIATION POLICY:

PLANT, MAJOR EQUIPMENT & BUILDINGS	5.0%
OTHER EQUIPMENT	10.0%
VEHICLES	15.0%
OFFICE EQUIPMENT	10.0%
FURNITURE & FITTINGS	10.0%
WATER STORAGE SYSTEM	10.0%

30 HISTORIC COST CONVENTION IS IN USE

31 APPLICABLE INVENTORY VALUATION METHOD IS FIFO

32 THE ANALYSES COVER 10 YEARS

33 SCRAP VALUE AT THE TERMINAL YEAR IS 50% OF COST OF PROJECT DEVELOPMENT

34 DISBURSEMENT OF PROJECT FUNDS WILL BE IN LINE WITH THE BELOW SCHEDULE:

Disbursement Schedule

YEAR	MONTH NEEDED	FUNDING TYPE - DEBT	FUNDING TYPE - EQUITY	TOTAL	CUMULATIVE INVESTMENT
1	1	994,101,820	7,081,000	1,001,182,820	1,001,182,820
	5	984,353,698	-	984,353,698	1,985,536,518
	8	656,235,798	-	656,235,798	2,641,772,316
	11	656,235,798	-	656,235,798	3,298,008,114
2	2	656,235,798	-	656,235,798	3,954,243,913
	5	656,235,798	-	656,235,798	4,610,479,711
	8	656,235,798	-	656,235,798	5,266,715,510
	11	656,235,798	-	656,235,798	5,922,951,308
3	2	656,235,798	-	656,235,798	6,579,187,106
	5	656,235,798	-	656,235,798	7,235,422,905
	6	131,126,007	-	131,126,007	7,366,548,912
	8	656,235,798	-	656,235,798	8,022,784,710
	11	656,235,798	-	656,235,798	8,679,020,509
	12	287,377,557	-	287,377,557	8,966,398,066
4	1	620,182,934	1,683,419,000	2,303,601,934	11,270,000,000
		9,579,500,000	1,690,500,000	11,270,000,000	

BASELINE INFORMATION & ASSESSMENTS BASED ON CASH FLOWS

PRODUCTION & SALES PLAN IN METRIC TONS

ANNUAL PRODUCTION PLAN (IN MT)

YEAR	4	5	6	7	8	9	10	TOTAL
NAPHTHA	625,466	682,326	739,187	796,047	852,908	909,769	966,629	5,572,332
GASOLINE	3,049,100	3,326,290	3,603,481	3,880,672	4,157,863	4,435,054	4,712,245	27,164,705
DIESEL OIL	1,702,601	1,857,383	2,012,165	2,166,947	2,321,729	2,476,511	2,631,293	15,168,631
REFINERY GASES/LPG	398,791	435,044	471,298	507,552	543,805	580,059	616,313	3,552,861
KEROSENE	33,830	36,905	39,981	43,056	46,131	49,207	52,282	301,392
JET A-1 KEROSENE	688,406	750,988	813,570	876,153	938,735	1,001,317	1,063,900	6,133,069
MARINE GAS OIL (MGO)	407,907	444,989	482,071	519,154	556,236	593,319	630,401	3,634,077
PETROLEUM COKE	430,696	469,850	509,004	548,158	587,312	626,466	665,621	3,837,106
BITUMEN	310,436	338,658	366,879	395,101	423,322	451,544	479,765	2,765,706
OTHERS	-	-	-	-	-	-	-	-
	7,647,232	8,342,434	9,037,637	9,732,840	10,428,043	11,123,246	11,818,449	68,129,881

CLOSING STOCK (IN MT)

YEAR	4	5	6	7	8	9	10
NAPHTHA	5,212	5,686	6,160	6,634	7,108	7,581	8,055
GASOLINE	25,409	27,719	30,029	32,339	34,649	36,959	39,269
DIESEL OIL	14,188	15,478	16,768	18,058	19,348	20,638	21,927
REFINERY GASES/LPG	3,323	3,625	3,927	4,230	4,532	4,834	5,136
KEROSENE	282	308	333	359	384	410	436
JET A-1 KEROSENE	5,737	6,258	6,780	7,301	7,823	8,344	8,866
MARINE GAS OIL (MGO)	3,399	3,708	4,017	4,326	4,635	4,944	5,253
PETROLEUM COKE	3,589	3,915	4,242	4,568	4,894	5,221	5,547
BITUMEN	2,587	2,822	3,057	3,293	3,528	3,763	3,998
OTHERS	-	-	-	-	-	-	-
	63,727	69,520	75,314	81,107	86,900	92,694	98,487

QUANTITY TO BE SOLD OUT OF CURRENT YEAR'S PRODUCTION

YEAR	4	5	6	7	8	9	10	TOTAL
NAPHTHA	620,254	676,640	733,027	789,414	845,800	902,187	958,574	5,525,896
GASOLINE	3,023,690	3,298,571	3,573,452	3,848,333	4,123,214	4,398,095	4,672,976	26,938,333
DIESEL OIL	1,688,413	1,841,905	1,995,397	2,148,889	2,302,382	2,455,874	2,609,366	15,042,226
REFINERY GASES/LPG	395,467	431,419	467,370	503,322	539,274	575,225	611,177	3,523,254
KEROSENE	33,548	36,598	39,647	42,697	45,747	48,797	51,847	298,881
JET A-1 KEROSENE	682,669	744,730	806,791	868,851	930,912	992,973	1,055,034	6,081,960
MARINE GAS OIL (MGO)	404,507	441,281	478,054	514,828	551,601	588,374	625,148	3,603,793
PETROLEUM COKE	427,106	465,934	504,762	543,590	582,418	621,246	660,074	3,805,131
BITUMEN	307,849	335,836	363,822	391,808	419,795	447,781	475,767	2,742,658
OTHERS	-	-	-	-	-	-	-	-

QUANTITY TO BE SOLD, INCLUDING CLOSING STOCK FOR THE PREVIOUS PERIOD

YEAR	4	5	6	7	8	9	10	TOTAL
NAPHTHA	620,254	681,853	738,713	795,574	852,434	909,295	966,155	5,564,277
GASOLINE	3,023,690	3,323,980	3,601,171	3,878,362	4,155,553	4,432,744	4,709,935	27,125,436
DIESEL OIL	1,688,413	1,856,094	2,010,876	2,165,657	2,320,439	2,475,221	2,630,003	15,146,704
REFINERY GASES/LPG	395,467	434,742	470,996	507,249	543,503	579,757	616,011	3,547,725
KEROSENE	33,548	36,880	39,955	43,030	46,106	49,181	52,257	300,957
JET A-1 KEROSENE	682,669	750,467	813,049	875,631	938,214	1,000,796	1,063,378	6,124,204
MARINE GAS OIL (MGO)	404,507	444,680	481,762	518,845	555,927	593,010	630,092	3,628,824
PETROLEUM COKE	427,106	469,523	508,678	547,832	586,986	626,140	665,294	3,831,560
BITUMEN	307,849	338,423	366,644	394,866	423,087	451,309	479,530	2,761,708
OTHERS	-	-	-	-	-	-	-	-

The above 4 tables give information on quantities of each refined product that will be produced and sold. The following are brief description of each table:

1. The first table shows, on annual basis, the quantities of each refined product that will be produced by the refinery based on the available capacity utilisation.
2. The 2nd table depicts the closing inventory for each refined product on annual basis. It is estimated that 10% of each refined product will remain unsold at the end of respective years. So these will be in storage facilities at the end of the year.
3. Following from point 1 and 2 above, the difference between the 2 represents the refined products of each type that will be produced and sold in a particular year under consideration. This is what the 3rd table above displays. Thus, quantities as per point 1 above minus point 2 above will give quantities as per this point 3 (that is quantities that would be produced and sold in the year under review).
4. Apart from year 4, there will be opening inventory for the ensuing years as closing inventory (as per point 2 above) in the previous year will become opening inventory in the current year. Hence, the opening inventory will be sold alongside 90% of the production for the current year. This is what is displayed in the 4th table above.

SALES PLAN

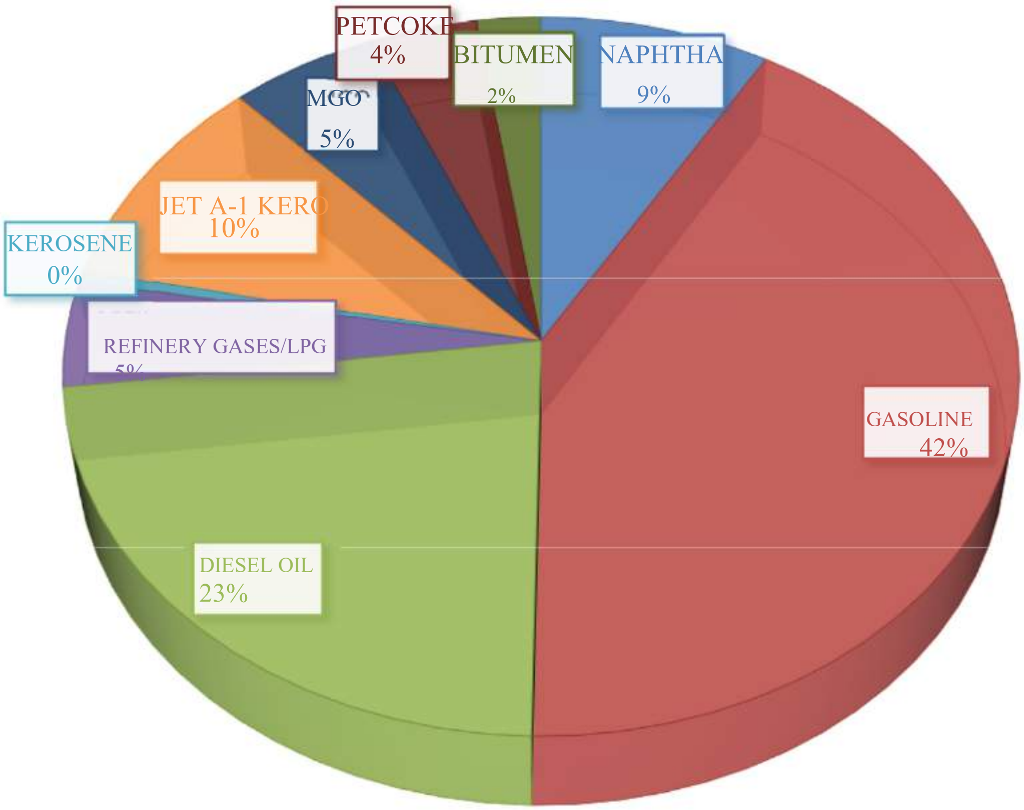
YEAR	4	5	6	7	8	9	10	TOTAL
REVENUE SOURCES								-
NAPHTHA	453,684,521	523,678,096	595,715,677	673,647,820	757,883,890	848,859,446	947,037,848	4,800,507,297
GASOLINE	2,211,678,336	2,552,891,811	2,904,069,667	3,283,983,078	3,694,627,657	4,138,126,735	4,616,739,153	23,402,116,437
DIESEL OIL	1,200,529,254	1,385,744,597	1,576,368,740	1,782,590,937	2,005,494,432	2,246,231,798	2,506,029,165	12,702,988,924
REFINERY GASES/LPG	251,964,079	290,836,612	330,844,330	374,125,730	420,908,158	471,433,514	525,959,136	2,666,071,559
KEROSENE	25,762,061	29,736,582	33,827,170	38,252,475	43,035,743	48,201,707	53,776,678	272,592,416
JET A-1 KEROSENE	524,235,201	605,113,199	688,353,058	778,404,121	875,739,406	980,862,211	1,094,307,947	5,547,015,142
MARINE GAS OIL (MGO)	291,609,394	336,598,330	382,901,068	432,992,583	487,135,997	545,611,272	608,716,234	3,085,564,878
PETROLEUM COKE	213,553,246	246,499,829	280,408,545	317,091,882	356,742,531	399,565,516	445,778,943	2,259,640,491
BITUMEN	126,218,254	145,690,964	165,732,330	187,413,606	210,848,678	236,158,723	263,472,652	1,335,535,207
	5,299,234,345	6,116,790,018	6,958,220,584	7,868,502,232	8,852,416,492	9,915,050,923	11,061,817,756	56,072,032,351

The above table shows the expected sales on yearly basis from all the 9 revenue sources for the project from year 4 to 10. Total sales expected from all the 9 sources for the 7 years under analyses is $56,072,032,351.

It can be observed that total revenue will increase from year to year. This is largely explained by the expected 5% annual increment in prices of all the refined products.

The Pie Chart below gives more exposition on the components of this total revenue:

COMPONENTS OF TOTAL SALES



From the above Pie Chart, the relative contribution of each revenue source to the total sales is depicted. From highest to lowest, Gasoline represents 42% of total sales, followed by Diesel Oil (23%), Jet A-1 Kerosene (10%), Naphtha (9%), MGO (5%), LPG (5%), Pet Coke (4%), Bitumen (2%) and Kerosene (0.49%, approximately 0%).

ANNUAL SELLING PRICE ESCALATIONS

YEAR	4	5	6	7	8	9	10
NAPHTHA	731.45	768.02	806.42	846.74	889.08	933.54	980.21
GASOLINE	731.45	768.02	806.42	846.74	889.08	933.54	980.21
DIESEL OIL	711.04	746.59	783.92	823.12	864.27	907.49	952.86
REFINERY GASES/LPG	637.13	668.99	702.44	737.56	774.44	813.16	853.82
KEROSENE	767.92	806.32	846.63	888.96	933.41	980.08	1029.09
JET A-1 KEROSENE	767.92	806.32	846.63	888.96	933.41	980.08	1029.09
MARINE GAS OIL (MGO)	720.90	756.95	794.79	834.53	876.26	920.07	966.07
PETROLEUM COKE	500.00	525.00	551.25	578.81	607.75	638.14	670.05
BITUMEN	410.00	430.50	452.03	474.63	498.36	523.28	549.44

The above table shows the expected selling price of each refined product from year 4 to year 10 (7 year period after construction)

7 YEARS OPERATING CASH INFLOWS PLAN

YEAR	4	5	6	7	8	9	10	TOTAL
CASH INFLOWS								
CASH SALES	264,961,717	305,839,501	347,911,029	393,425,112	442,620,825	495,752,546	553,090,888	2,803,601,618
ACCOUNTS RECEIVABLE	3,775,704,471	5,616,781,045	6,410,469,796	7,258,885,229	8,176,116,031	9,166,922,700	10,236,369,746	50,641,249,017
TOTAL CASH INFLOWS	4,040,666,188	5,922,620,546	6,758,380,825	7,652,310,340	8,618,736,855	9,662,675,246	10,789,460,633	53,444,850,634
								-
								ARITH. MEAN
COLLECTIONS RATE	76.25%	96.83%	97.13%	97.25%	97.36%	97.45%	97.54%	94.26%

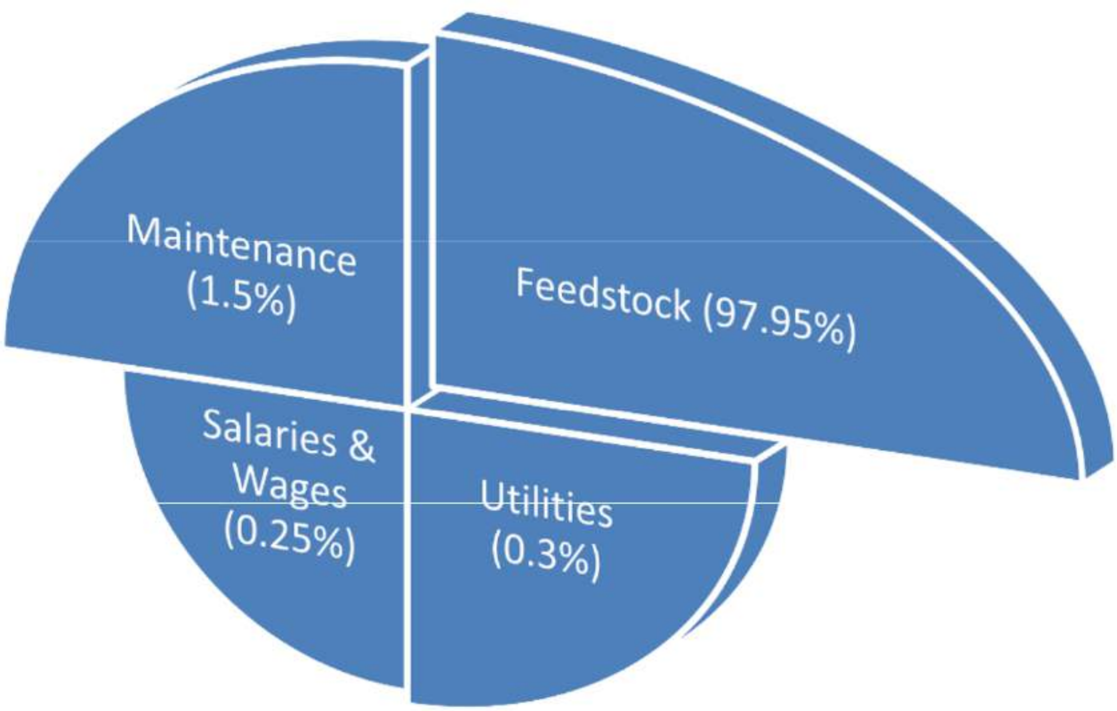
When cash will actually flow into the tills of CSR &DAM is paramount in assessing the viability and sustainability of the project. Since CSR &DAM plans to offer 90 days credit to customers after paying 5% down payment, its impact needs to be assessed in order to inform management decision making.

Based on this proposed credit policy, it is clear that sales receipts for a particular period will spill over to subsequent periods. The above table shows the total cash that will be received from operations for each year within the 7 year period under consideration. Cash Sales represents the 5% down payments which CSR &DAM will be receiving from clients. On the other hand, Receivables refer to the payments that would be received from the 95% credit sales that CSR &DAM will accord its clients for 90 days.

The Collections Rate as per the last row of the above table represents the total cash received (Cash Sales + Receivables) in a particular year as a percentage of total sales made in that year (as displayed in the Sales Plan considered earlier). In year 4, cash expected to be received is 76.25% of Total Sales to be made in the year. The same analysis apply to the subsequent years.
In all, it can be said that average Collections Rate for the period under review is 94.26%.

DIRECT COST PLAN

COST ELEMENTS / YEAR	4	5	6	7	8	9	10	TOTAL
FEEDSTOCK	3,603,141,655	4,009,313,987	4,430,291,956	4,866,505,318	5,318,395,097	5,786,413,866	6,271,026,027	34,285,087,906
PROCESSING UTILITIES	11,160,000	12,276,000	13,503,600	14,853,960	16,339,356	17,973,292	19,770,621	105,876,828
SALARIES & WAGES	11,322,000	11,661,660	12,011,509.80	12,371,855	12,743,010.75	13,125,301	13,519,060.10	86,754,397
MAINTENANCE	68,654,826	70,714,471	72,835,905	75,020,982	77,271,612	79,589,760	81,977,453	526,065,008
								-
	3,694,278,481	4,103,966,118	4,528,642,971	4,968,752,115	5,424,749,076	5,897,102,218	6,386,293,161	35,003,784,139



The above table shows the direct cost that will be incurred in operating the refinery on yearly basis. It is observable that each of the cost elements will increase from year to year. This is mainly due to:

1. Projected increase in cost elements on annual basis. Feedstock is expected to increase by 2%, utilities (10%), Maintenance (3%) and Salaries & Wages (3%)
2. Expected increase in capacity utilisation by 5% every year. It is expected that the refinery will operate at 55% during the first year of operation, and subsequently be increased by 5% each year.

Over the 7 years of operations after the construction, the cumulative direct cost expected is $35,003,784,139. Out of this figure, 97.95% will be attributed to cost of Feedstock (crude oil cost and associated freight). Other components will be Maintenance (1.50%), Utilities (0.30%) and Salaries & Wages (0.25%). This is illustrated by the above Pie Chart.

[redacted]

YEAR	4	5	6	7	8	9	10	TOTAL
SALARIES & WAGES	2,268,000	2,336,040	2,406,121	2,478,305	2,552,654	2,629,234	2,708,111	17,378,464
DIRECTORS REMUNERATION	60,000	61,800	63,654	65,564	67,531	69,556	71,643	459,748
SELLING & GENERAL ADM.	3,123,420	3,217,123	3,313,636	3,413,045	3,515,437	3,620,900	3,729,527	23,933,088
GENERAL MAINTENANCE	69,435,621	71,518,690	73,664,250	75,874,178	78,150,403	80,494,915	82,909,763	532,047,820
TOTAL	74,887,041	77,133,652	79,447,662	81,831,092	84,286,024	86,814,605	89,419,043	573,819,119

The above table displays the expected operating expenses to be incurred in the normal running of the refinery on annual bases for the 7 year period under review.

The annual increment is in line with expected annual upward adjustments to cover inflation and ancillary trade hikes.

INTEREST CAPITALISATION SCHEDULE

				INTEREST RATE:	0.67% PER MONTH		
MONTH	TRANCHE	ANNUAL TRANCHE	DEBIT = TRANCHE + INTEREST	CREDIT	BALANCE	MONTHLY INTEREST ONLY	CUMULATIVE MONTHLY INTEREST
1	994,101,820		1,000,729,165	-	1,000,729,165	6,627,345	6,627,345
2	-		6,671,528	-	1,007,400,693	6,671,528	13,298,873
3	-		6,716,005	-	1,014,116,698	6,716,005	20,014,878
4	-		6,760,778	-	1,020,877,476	6,760,778	26,775,656
5	984,353,698		997,721,905	-	2,018,599,381	13,368,208	40,143,864
6	-		13,457,329	-	2,032,056,710	13,457,329	53,601,193
7	-		13,547,045	-	2,045,603,755	13,547,045	67,148,238
8	656,235,798		674,248,062	-	2,719,851,817	18,012,264	85,160,501
9	-		18,132,345	-	2,737,984,163	18,132,345	103,292,847
10	-		18,253,228	-	2,756,237,390	18,253,228	121,546,075
11	656,235,798		678,985,620	-	3,435,223,010	22,749,821	144,295,896
12	-	3,290,927,114	22,901,487	-	3,458,124,497	22,901,487	167,197,382
13	-		23,054,163	-	3,481,178,660	23,054,163	190,251,546
14	656,235,798		683,818,561	-	4,164,997,222	27,582,763	217,834,309
15	-		27,766,648	-	4,192,763,870	27,766,648	245,600,957
16	-		27,951,759	-	4,220,715,629	27,951,759	273,552,716
17	656,235,798		688,748,808	-	4,909,464,437	32,513,010	306,065,726
18	-		32,729,763	-	4,942,194,200	32,729,763	338,795,489
19	-		32,947,961	-	4,975,142,161	32,947,961	371,743,450
20	656,235,798		693,778,318	-	5,668,920,479	37,542,520	409,285,970
21	-		37,792,803	-	5,706,713,282	37,792,803	447,078,773
22	-		38,044,755	-	5,744,758,038	38,044,755	485,123,528
23	656,235,798		698,909,091	-	6,443,667,128	42,673,292	527,796,820
24	-	2,624,943,194	42,957,781	-	6,486,624,909	42,957,781	570,754,601
25	-		43,244,166	-	6,529,869,075	43,244,166	613,998,767
26	656,235,798		704,143,164	-	7,234,012,239	47,907,366	661,906,133
27	-		48,226,748	-	7,282,238,988	48,226,748	710,132,881
28	-		48,548,260	-	7,330,787,248	48,548,260	758,681,141
29	656,235,798		709,482,619	-	8,040,269,866	53,246,820	811,927,962
30	131,126,007		185,601,980	-	8,225,871,846	54,475,972	866,403,934
31	-		54,839,146	-	8,280,710,992	54,839,146	921,243,080
32	656,235,798		715,815,444	-	8,996,526,435	59,579,645	980,822,725
33	-		59,976,843	-	9,056,503,278	59,976,843	1,040,799,568
34	-		60,376,689	-	9,116,879,967	60,376,689	1,101,176,256
35	656,235,798		721,389,903	-	9,838,269,870	65,154,105	1,166,330,361
36	287,377,557	3,043,446,758	354,881,873	-	10,193,151,744	67,504,316	1,233,834,678

37	620,182,934		692,271,832	-	10,885,423,576	72,088,898	1,305,923,575
38	-		72,569,491	-	10,957,993,066	72,569,491	1,378,493,066
39	-		73,053,287	-	11,031,046,353	73,053,287	1,451,546,353
40	-		73,540,309	-	11,104,586,662	73,540,309	1,525,086,662
41	-		74,030,578	-	11,178,617,240	74,030,578	1,599,117,240
42	-	620,182,934	74,524,115	-	11,253,141,355	74,524,115	1,673,641,355
		9,579,500,000					1,673,641,355
	PRINCIPAL TO BE AMORTISED AT THE END OF CONSTRUCTION PERIOD WILL BE						**11,253,141,355**

The above shows movements in the loan balance from month to month during the construction period (36 months) and stabilisation period (6 month); as disbursements are being made by the debt financier in line with the loan disbursement schedule.

1. The first and second column show the specific months in which disbursements are expected and the amount per that tranche respectively.
2. The third column shows, on annual basis, how much loan will be disbursed. That is, it is the summation of various loan tranches in a specific year. Thus, total loan disbursement for year 1, 2, 3 and 4 will be $3,290,927,114, $2,624,943,194, $3,043,446,758 and $620,182,934 respectively. Total loan to be disbursed towards the project will be $9,579,500,000 (for both development and initial working capital).
3. The column 4 consists of the actual loan tranche, the interest accruing thereon and expected principal increase.
4. The column 5 relates to repayment instalments to be made during the construction and stabilisation period. However, since these periods fall within the moratorium period (3.5 years), no repayment is expected to be made. That is why all figures in this column are zero (dash).
5. The column 6 concerns with the Loan Balance, which is total loan principal disbursed to date with associated interest, less repayments to date.
6. The column 7 indicates interest that will be accruing on monthly basis over the moratorium period.
7. The column 8 is the continuous summation of monthly interest accruing.
8. The total loan balance to be amortised at the expiration of the moratorium period is $11,253,141,355. This is made up of total principal disbursed plus total interest accruing during the moratorium period.

LOAN AMORTISATION SCHEDULE

Month	Repayment Instalment	Interest (8%)	Cumulative Interest	Principal	Principal Paid	Balance
0						11,253,141,355
1	185,487,591	75,020,942	75,020,942	110,466,649	110,466,649	11,142,674,706
2	185,487,591	74,284,498	149,305,440	111,203,093	221,669,741	11,031,471,613
3	185,487,591	73,543,144	222,848,584	111,944,447	333,614,188	10,919,527,167
4	185,487,591	72,796,848	295,645,432	112,690,743	446,304,932	10,806,836,423
5	185,487,591	72,045,576	367,691,008	113,442,015	559,746,946	10,693,394,409
6	185,487,591	71,289,296	438,980,304	114,198,295	673,945,241	10,579,196,114
7	185,487,591	70,527,974	509,508,279	114,959,617	788,904,858	10,464,236,497
8	185,487,591	69,761,577	579,269,855	115,726,014	904,630,872	10,348,510,483
9	185,487,591	68,990,070	648,259,925	116,497,521	1,021,128,393	10,232,012,962
10	185,487,591	68,213,420	716,473,345	117,274,171	1,138,402,565	10,114,738,790
11	185,487,591	67,431,592	783,904,937	118,055,999	1,256,458,564	9,996,682,791
12	185,487,591	66,644,552	850,549,489	118,843,039	1,375,301,603	9,877,839,752
13	185,487,591	65,852,265	916,401,754	119,635,326	1,494,936,929	9,758,204,426
14	185,487,591	65,054,696	981,456,450	120,432,895	1,615,369,823	9,637,771,532
15	185,487,591	64,251,810	1,045,708,260	121,235,781	1,736,605,604	9,516,535,751
16	185,487,591	63,443,572	1,109,151,832	122,044,019	1,858,649,623	9,394,491,732
17	185,487,591	62,629,945	1,171,781,777	122,857,646	1,981,507,269	9,271,634,086
18	185,487,591	61,810,894	1,233,592,671	123,676,697	2,105,183,966	9,147,957,389
19	185,487,591	60,986,383	1,294,579,053	124,501,208	2,229,685,175	9,023,456,180
20	185,487,591	60,156,375	1,354,735,428	125,331,216	2,355,016,391	8,898,124,964
21	185,487,591	59,320,833	1,414,056,261	126,166,758	2,481,183,149	8,771,958,206
22	185,487,591	58,479,721	1,472,535,982	127,007,870	2,608,191,019	8,644,950,336
23	185,487,591	57,633,002	1,530,168,984	127,854,589	2,736,045,607	8,517,095,748
24	185,487,591	56,780,638	1,586,949,623	128,706,953	2,864,752,560	8,388,388,795
25	185,487,591	55,922,592	1,642,872,215	129,564,999	2,994,317,559	8,258,823,796
26	185,487,591	55,058,825	1,697,931,040	130,428,766	3,124,746,325	8,128,395,030
27	185,487,591	54,189,300	1,752,120,340	131,298,291	3,256,044,615	7,997,096,740
28	185,487,591	53,313,978	1,805,434,318	132,173,613	3,388,218,228	7,864,923,127
29	185,487,591	52,432,821	1,857,867,139	133,054,770	3,521,272,998	7,731,868,357
30	185,487,591	51,545,789	1,909,412,928	133,941,802	3,655,214,800	7,597,926,555
31	185,487,591	50,652,844	1,960,065,772	134,834,747	3,790,049,547	7,463,091,808
32	185,487,591	49,753,945	2,009,819,717	135,733,646	3,925,783,193	7,327,358,162
33	185,487,591	48,849,054	2,058,668,772	136,638,537	4,062,421,729	7,190,719,626
34	185,487,591	47,938,131	2,106,606,903	137,549,460	4,199,971,189	7,053,170,166
35	185,487,591	47,021,134	2,153,628,037	138,466,457	4,338,437,646	6,914,703,709
36	185,487,591	46,098,025	2,199,726,062	139,389,566	4,477,827,212	6,775,314,143
37	185,487,591	45,168,761	2,244,894,823	140,318,830	4,618,146,042	6,634,995,313
38	185,487,591	44,233,302	2,289,128,125	141,254,289	4,759,400,331	6,493,741,024
39	185,487,591	43,291,607	2,332,419,732	142,195,984	4,901,596,315	6,351,545,040
40	185,487,591	42,343,634	2,374,763,365	143,143,957	5,044,740,272	6,208,401,083

41	185,487,591	41,389,341	2,416,152,706	144,098,250	5,188,838,523	6,064,302,832
42	185,487,591	40,428,686	2,456,581,391	145,058,905	5,333,897,428	5,919,243,927
43	185,487,591	39,461,626	2,496,043,018	146,025,965	5,479,923,393	5,773,217,962
44	185,487,591	38,488,120	2,534,531,137	146,999,471	5,626,922,864	5,626,218,491
45	185,487,591	37,508,123	2,572,039,261	147,979,468	5,774,902,332	5,478,239,023
46	185,487,591	36,521,593	2,608,560,854	148,965,997	5,923,868,329	5,329,273,026
47	185,487,591	35,528,487	2,644,089,341	149,959,104	6,073,827,433	5,179,313,922
48	185,487,591	34,528,759	2,678,618,100	150,958,831	6,224,786,265	5,028,355,090
49	185,487,591	33,522,367	2,712,140,468	151,965,224	6,376,751,489	4,876,389,866
50	185,487,591	32,509,266	2,744,649,733	152,978,325	6,529,729,814	4,723,411,541
51	185,487,591	31,489,410	2,776,139,144	153,998,181	6,683,727,994	4,569,413,361
52	185,487,591	30,462,756	2,806,601,899	155,024,835	6,838,752,830	4,414,388,525
53	185,487,591	29,429,257	2,836,031,156	156,058,334	6,994,811,164	4,258,330,191
54	185,487,591	28,388,868	2,864,420,024	157,098,723	7,151,909,887	4,101,231,468
55	185,487,591	27,341,543	2,891,761,567	158,146,048	7,310,055,935	3,943,085,420
56	185,487,591	26,287,236	2,918,048,804	159,200,355	7,469,256,289	3,783,885,066
57	185,487,591	25,225,900	2,943,274,704	160,261,691	7,629,517,980	3,623,623,375
58	185,487,591	24,157,489	2,967,432,193	161,330,102	7,790,848,082	3,462,293,273
59	185,487,591	23,081,955	2,990,514,148	162,405,636	7,953,253,717	3,299,887,638
60	185,487,591	21,999,251	3,012,513,399	163,488,340	8,116,742,057	3,136,399,298
61	185,487,591	20,909,329	3,033,422,728	164,578,262	8,281,320,320	2,971,821,035
62	185,487,591	19,812,140	3,053,234,868	165,675,451	8,446,995,770	2,806,145,585
63	185,487,591	18,707,637	3,071,942,505	166,779,954	8,613,775,724	2,639,365,631
64	185,487,591	17,595,771	3,089,538,276	167,891,820	8,781,667,544	2,471,473,811
65	185,487,591	16,476,492	3,106,014,768	169,011,099	8,950,678,643	2,302,462,712
66	185,487,591	15,349,751	3,121,364,520	170,137,840	9,120,816,483	2,132,324,872
67	185,487,591	14,215,499	3,135,580,019	171,272,092	9,292,088,574	1,961,052,781
68	185,487,591	13,073,685	3,148,653,704	172,413,906	9,464,502,480	1,788,638,875
69	185,487,591	11,924,259	3,160,577,963	173,563,332	9,638,065,812	1,615,075,543
70	185,487,591	10,767,170	3,171,345,133	174,720,421	9,812,786,233	1,440,355,122
71	185,487,591	9,602,367	3,180,947,501	175,885,223	9,988,671,456	1,264,469,899
72	185,487,591	8,429,799	3,189,377,300	177,057,792	10,165,729,248	1,087,412,107
73	185,487,591	7,249,414	3,196,626,714	178,238,177	10,343,967,425	909,173,930
74	185,487,591	6,061,160	3,202,687,874	179,426,431	10,523,393,856	729,747,499
75	185,487,591	4,864,983	3,207,552,857	180,622,608	10,704,016,464	549,124,891
76	185,487,591	3,660,833	3,211,213,690	181,826,758	10,885,843,222	367,298,133
77	185,487,591	2,448,654	3,213,662,344	183,038,937	11,068,882,159	184,259,196
78	185,487,591	1,228,395	3,214,890,739	184,259,196	11,253,141,355	(0)

The loan component ($9,579,500,000) of the total funding required ($11,270,000,000) for the project is expected to be repaid over 78 months after the 42 months moratorium. From the above schedule, the column 2 indicates that monthly loan repayment instalment will be $185,487,591. Since the moratorium will end on the 6th month of year 4, month 1 in the above schedule refers to the 7th month of year 4, the first year of operations.

CAPEX PLAN

COST

YEAR	4	5	6	7	8	9	10
LAND	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000	42,000,000
PLANT, MAJOR							
EQUIPMENT & BUILDINGS	8,238,579,146	8,238,579,146	8,238,579,146	8,238,579,146	8,238,579,146	8,238,579,146	8,238,579,146
OTHER EQUIPMENT	648,822,139	648,822,139	648,822,139	648,822,139	648,822,139	648,822,139	648,822,139
VEHICLES	12,932,080	12,932,080	12,932,080	12,932,080	12,932,080	12,932,080	12,932,080
OFFICE EQUIPMENT	6,502,701	6,502,701	6,502,701	6,502,701	6,502,701	6,502,701	6,502,701
FURNITURE & FITTINGS	17,061,000	17,061,000	17,061,000	17,061,000	17,061,000	17,061,000	17,061,000
WATER STORAGE SYSTEM	501,000	501,000	501,000	501,000	501,000	501,000	501,000
	8,966,398,066	8,966,398,066	8,966,398,066	8,966,398,066	8,966,398,066	8,966,398,066	8,966,398,066

ADDITIONS

YEAR	4	5	6	7	8	9	10
LAND	-	-	-	-	-	-	-
PLANT, MAJOR							
EQUIPMENT & BUILDINGS	-	-	-	-	-	-	-
OTHER EQUIPMENT	-	-	-	-	-	-	-
VEHICLES	-	-	-	-	-	-	-
OFFICE EQUIPMENT	-	-	-	-	-	-	-
FURNITURE & FITTINGS	-	-	-	-	-	-	-
WATER STORAGE SYSTEM	-	-	-	-	-	-	-
	-	-	-	-	-	-	-
TOTAL COST	8,966,398,066	8,966,398,066	8,966,398,066	8,966,398,066	8,966,398,066	8,966,398,066	8,966,398,066

ANNUAL DEPRECIATION SCHEDULE

YEAR	4	5	6	7	8	9	10	TOTAL
LAND	-	-	-	-	-	-	-	-
PLANT, MAJOR								
EQUIPMENT & BUILDINGS	411,928,957	411,928,957	411,928,957	411,928,957	411,928,957	411,928,957	411,928,957	2,883,502,701
OTHER EQUIPMENT	64,882,214	64,882,214	64,882,214	64,882,214	64,882,214	64,882,214	64,882,214	454,175,497
VEHICLES	1,939,812	1,939,812	1,939,812	1,939,812	1,939,812	1,939,812	1,939,812	13,578,684
OFFICE EQUIPMENT	650,270	650,270	650,270	650,270	650,270	650,270	650,270	4,551,891
FURNITURE & FITTINGS	1,706,100	1,706,100	1,706,100	1,706,100	1,706,100	1,706,100	1,706,100	11,942,700
WATER STORAGE SYSTEM	50,100	50,100	50,100	50,100	50,100	50,100	50,100	350,700
ANNUAL DEPN.	481,157,453	481,157,453	481,157,453	481,157,453	481,157,453	481,157,453	481,157,453	3,368,102,173
CUMULATIVE	481,157,453	962,314,907	1,443,472,360	1,924,629,813	2,405,787,267	2,886,944,720	3,368,102,173	

NET BOOK VALUE

NET BOOK VALUE	8,485,240,613	8,004,083,159	7,522,925,706	7,041,768,253	6,560,610,800	6,079,453,346	5,598,295,893

The above Capex Plan consists of 4 components:

1. Cost refers to actual cost incurred in making the non-current assets ready for their intended use. Thus, they include ancillary cost such as cost of installation, legal conveyance etc.
2. Additions refer to instances where during the course of the year, the management decides to increase all or some of the non-current assets by acquiring new ones. From the above, it could be inferred that additions are not expected during the 7 years under review.
3. As the non-current assets are used in the course of operational activities of the refinery, normal tear and wear of the non-current assets are expected. This is what is represented by Annual Depreciation Schedule above. It shows the extent to which management believes that each non-current assets will be reducing in value on yearly basis.
4. The Net Book Value shows the value of each non-current asset after deducting the value worn out through usage by the refinery from the original cost of the assets.

10 YEARS CASH FLOWS PLAN

YEAR	1	2	3	4	5	6	7	8	9	10	TOTAL
CASH INFLOWS											
SALES				264,961,717	305,839,501	347,911,029	393,425,112	442,620,825	495,752,546	553,090,888	2,803,601,618
ACCOUNTS RECEIVABLE				3,775,704,471	5,616,781,045	6,410,469,796	7,258,885,229	8,176,116,031	9,166,922,700	10,236,369,746	50,641,249,017
EQUITY	7,081,000	-	-	1,683,419,000							1,690,500,000
FOREIGN LOAN	3,290,927,114	2,624,943,194	3,043,446,758	620,182,934							9,579,500,000
TOTAL CASH INFLOWS	3,298,008,114	2,624,943,194	3,043,446,758	6,344,268,123	5,922,620,546	6,758,380,825	7,652,310,340	8,618,736,855	9,662,675,246	10,789,460,633	64,714,850,634
											-
CASH OUTFLOWS											-
CAPITAL EXPENDITURE	3,298,008,114	2,624,943,194	3,043,446,758	-	-	-	-	-	-	-	8,966,398,066
TAX	-	-	-	80,089,590	86,765,018	153,861,367	228,874,922	312,448,944	405,271,834	508,080,124	1,775,391,798
DIRECT COST	-	-	-	3,694,278,481	4,103,966,118	4,528,642,971	4,968,752,115	5,424,749,076	5,897,102,218	6,386,293,161	35,003,784,139
OPERATING EXPENDITURE	-	-		74,887,041	77,133,652	79,447,662	81,831,092	84,286,024	86,814,605	89,419,043	573,819,119
TOTAL CASH OUTFLOWS	3,298,008,114	2,624,943,194	3,043,446,758	3,849,255,112	4,267,864,789	4,761,951,999	5,279,458,129	5,821,484,043	6,389,188,657	6,983,792,328	46,319,393,122
NET CASH FLOW	-	-	-	2,495,013,010	1,654,755,758	1,996,428,826	2,372,852,212	2,797,252,812	3,273,486,589	3,805,668,306	18,395,457,512
CASH BALANCE											
OPENING BALANCE	-	-	-	-	1,382,087,465	810,992,131	581,569,866	728,570,986	1,299,972,706	2,347,608,204	-
LOAN REPAYMENT	-	-	-	1,112,925,546	2,225,851,091	2,225,851,091	2,225,851,091	2,225,851,091	2,225,851,091	2,225,851,091	14,468,032,094
CLOSING BALANCE	-	-	-	1,382,087,465	810,992,131	581,569,866	728,570,986	1,299,972,706	2,347,608,204	3,927,425,418	3,927,425,418

The above table has 4 main parts: Cash Inflows, Cash Outflows, Net Cash Flows and Cash Balance. These are discussed below:

CASH INFLOWS

This is the 1st part and it shows all cash coming into the business. Sales represents 5% cash sales that CSR&DAM will receive from selling the various refined products; Receivables refer to cash to be received from 95% credit sales that will be made by CSR&DAM; Equity is the investment by CSR&DAM in the project and expected investments to be made by outsiders in order to participate in residual incomes and obtain voting rights; and Foreign Loan refers to the expected loan from Lender(s) to be identified.

CASH OUTFLOWS

This is the 2nd part of the table. It refers to all payments going out of cash or bank balance of CSR&DAM. Direct Cost includes expenditure on feedstock, power etc.; Capital Expenditure refers to the building of the refinery and various accompanying equipment, tank farms etc.; Operating Expenses are general expenses that will be incurred in day to day running of the refinery such as salaries of general staff, general maintenance etc.; Corporate Tax is payment that would be made to government anytime CSR&DAM makes profit or in line with requirements of self-assessment to tax.

NET CASH FLOW

This is the 3rd part of the 10 years cash flows plan. It represents the difference between cash inflows and cash outflows. If it is positive, it means that cash coming to CSR&DAM is higher than cash going out. This is usually the preferred situation. When it is negative, it means that cash going out is higher than cash coming into the business. Unless it occurs temporarily, investigation or remedial action is mostly required.

CASH BALANCE

This is the final part of the table above. It shows the cash available to be spent now by CSP&DAM. The net cash flow is added to cash balance to determine updated cash balance available for immediate expenditure. A positive Net Cash Flow increases cash balance and vice versa. Loan repayment instalment is deducted in order to determine closing cash balance for the year.

From the above 10 years cash inflows plan (table), it could be observed that the cash inflows are very huge, and in all years they exceeded the cash outflows, and ultimately leading to positive cash balances. These balances are very huge and therefore the idle funds could be assessed and invested to earn interest income or embark on project expansion.

CASH FLOWS PLAN – THE DEEP DIVE

This section assesses the monthly cash flow plans after the construction period, the constituents that make up the 10 years cash flows plan considered earlier.

YEAR 4

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
CASH INFLOWS													
SALES	22,080,143	22,080,143	22,080,143	22,080,143	22,080,143	22,080,143	22,080,143	22,080,143	22,080,143	22,080,143	22,080,143	22,080,143	264,961,717
ACCOUNTS RECEIVABLE				419,522,719	419,522,719	419,522,719	419,522,719	419,522,719	419,522,719	419,522,719	419,522,719	419,522,719	3,775,704,471
EQUITY	1,683,419,000	-	-	-									1,683,419,000
FOREIGN LOAN	620,182,934	-	-	-									620,182,934
TOTAL CASH INFLOWS	2,325,682,077	22,080,143	22,080,143	441,602,862	441,602,862	441,602,862	441,602,862	441,602,862	441,602,862	441,602,862	441,602,862	441,602,862	6,344,268,123
													-
CASH OUTFOWS													-
CAPITAL EXPENDITURE	-	-	-	-	-	-	-	-	-	-	-	-	-
TAX			20,022,397			20,022,397			20,022,397			20,022,397	80,089,590
DIRECT COST	307,856,540	307,856,540	307,856,540	307,856,540	307,856,540	307,856,540	307,856,540	307,856,540	307,856,540	307,856,540	307,856,540	307,856,540	3,694,278,481
OPERATING EXPENDITURE	6,240,587	6,240,587	6,240,587	6,240,587	6,240,587	6,240,587	6,240,587	6,240,587	6,240,587	6,240,587	6,240,587	6,240,587	74,887,041
TOTAL CASH OUTFLOWS	314,097,127	314,097,127	334,119,524	314,097,127	314,097,127	334,119,524	314,097,127	314,097,127	334,119,524	314,097,127	314,097,127	334,119,524	3,849,255,112
NET CASH FLOW	2,011,584,950	(292,016,984)	(312,039,381)	127,505,735	127,505,735	107,483,338	127,505,735	127,505,735	107,483,338	127,505,735	127,505,735	107,483,338	2,495,013,010
CASH BALANCE													
OPENING BALANCE	-	2,011,584,950	1,719,567,967	1,407,528,585	1,535,034,321	1,662,540,056	1,770,023,394	1,712,041,538	1,654,059,682	1,576,055,429	1,518,073,574	1,460,091,718	-
LOAN REPAYMENT	-	-	-	-	-	-	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	1,112,925,546
CLOSING BALANCE	2,011,584,950	1,719,567,967	1,407,528,585	1,535,034,321	1,662,540,056	1,770,023,394	1,712,041,538	1,654,059,682	1,576,055,429	1,518,073,574	1,460,091,718	1,382,087,465	1,382,087,465

The above table shows the monthly cash flows for each of the 12 months in year 4. It can be observed that apart from month 2 and 3, net cash flows are positive. However, since adequate cash has been provided for working capital purposes, cash balance at the end of each month is positive; including months for loan repayment.

YEAR 5

MONTH	1	2	3	4	5	6
CASH INFLOWS						
SALES	25,486,625	25,486,625	25,486,625	25,486,625	25,486,625	25,486,625
ACCOUNTS RECEIVABLE	419,522,719	419,522,719	419,522,719	484,245,876	484,245,876	484,245,876
EQUITY	-	-	-	-		
FOREIGN LOAN	-	-	-	-		
TOTAL CASH INFLOWS	445,009,344	445,009,344	445,009,344	509,732,502	509,732,502	509,732,502
CASH OUTFOWS						
CAPITAL EXPENDITURE	-	-	-	-	-	-
TAX			21,691,255			21,691,255
DIRECT COST	341,997,177	341,997,177	341,997,177	341,997,177	341,997,177	341,997,177
OPERATING EXPENDITURE	6,427,804	6,427,804	6,427,804	6,427,804	6,427,804	6,427,804
TOTAL CASH OUTFLOWS	348,424,981	348,424,981	370,116,235	348,424,981	348,424,981	370,116,235
NET CASH FLOW	96,584,363	96,584,363	74,893,109	161,307,521	161,307,521	139,616,266
CASH BALANCE						
OPENING BALANCE	1,382,087,465	1,293,184,237	1,204,281,009	1,093,686,527	1,069,506,457	1,045,326,387
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591
CLOSING BALANCE	1,293,184,237	1,204,281,009	1,093,686,527	1,069,506,457	1,045,326,387	999,455,062

MONTH	7	8	9	10	11	12	TOTAL
CASH INFLOWS							
SALES	25,486,625	25,486,625	25,486,625	25,486,625	25,486,625	25,486,625	305,839,501
ACCOUNTS RECEIVABLE	484,245,876	484,245,876	484,245,876	484,245,876	484,245,876	484,245,876	5,616,781,045
EQUITY							-
FOREIGN LOAN							-
TOTAL CASH INFLOWS	509,732,502	509,732,502	509,732,502	509,732,502	509,732,502	509,732,502	5,922,620,546
							-
CASH OUTFOWS							-
CAPITAL EXPENDITURE	-	-	-	-	-	-	-
TAX			21,691,255			21,691,255	86,765,018
DIRECT COST	341,997,177	341,997,177	341,997,177	341,997,177	341,997,177	341,997,177	4,103,966,118
OPERATING EXPENDITURE	6,427,804	6,427,804	6,427,804	6,427,804	6,427,804	6,427,804	77,133,652
TOTAL CASH OUTFLOWS	348,424,981	348,424,981	370,116,235	348,424,981	348,424,981	370,116,235	4,267,864,789
NET CASH FLOW	161,307,521	161,307,521	139,616,266	161,307,521	161,307,521	139,616,266	1,654,755,758
CASH BALANCE							
OPENING BALANCE	999,455,062	975,274,991	951,094,921	905,223,596	881,043,526	856,863,456	1,382,087,465
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	2,225,851,091
CLOSING BALANCE	975,274,991	951,094,921	905,223,596	881,043,526	856,863,456	810,992,131	810,992,131

The above table shows the monthly cash flows for each of the 12 months in year 5. It can be observed that net cash flows are positive for all months. After each monthly loan repayment, there is high positive closing cash balance. This gives indication of good liquidity position.

YEAR 6

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
CASH INFLOWS													
SALES	28,992,586	28,992,586	28,992,586	28,992,586	28,992,586	28,992,586	28,992,586	28,992,586	28,992,586	28,992,586	28,992,586	28,992,586	347,911,029
ACCOUNTS RECEIVABLE	484,245,876	484,245,876	484,245,876	550,859,130	550,859,130	550,859,130	550,859,130	550,859,130	550,859,130	550,859,130	550,859,130	550,859,130	6,410,469,796
EQUITY	-	-	-	-									-
FOREIGN LOAN	-	-	-	-									-
TOTAL CASH INFLOWS	513,238,462	513,238,462	513,238,462	579,851,715	579,851,715	579,851,715	579,851,715	579,851,715	579,851,715	579,851,715	579,851,715	579,851,715	6,758,380,825
													-
CASH OUTFOWS													-
CAPITAL EXPENDITURE	-	-	-	-	-	-	-	-	-	-	-	-	-
TAX			38,465,342			38,465,342			38,465,342			38,465,342	153,861,367
DIRECT COST	377,386,914	377,386,914	377,386,914	377,386,914	377,386,914	377,386,914	377,386,914	377,386,914	377,386,914	377,386,914	377,386,914	377,386,914	4,528,642,971
OPERATING EXPENDITURE	6,620,638	6,620,638	6,620,638	6,620,638	6,620,638	6,620,638	6,620,638	6,620,638	6,620,638	6,620,638	6,620,638	6,620,638	79,447,662
TOTAL CASH OUTFLOWS	384,007,553	384,007,553	422,472,894	384,007,553	384,007,553	422,472,894	384,007,553	384,007,553	422,472,894	384,007,553	384,007,553	422,472,894	4,761,951,999
NET CASH FLOW	129,230,910	129,230,910	90,765,568	195,844,163	195,844,163	157,378,821	195,844,163	195,844,163	157,378,821	195,844,163	195,844,163	157,378,821	1,996,428,826
CASH BALANCE													
OPENING BALANCE	810,992,131	754,735,450	698,478,768	603,756,745	614,113,317	624,469,888	596,361,119	606,717,690	617,074,262	588,965,492	599,322,064	609,678,635	810,992,131
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	2,225,851,091
CLOSING BALANCE	754,735,450	698,478,768	603,756,745	614,113,317	624,469,888	596,361,119	606,717,690	617,074,262	588,965,492	599,322,064	609,678,635	581,569,866	581,569,866

The above table shows the monthly cash flows for each of the 12 months in year 6. Net cash flows are positive for all months just as year 5. After each monthly loan repayment, there will be high positive closing cash balance. This will further grow liquidity position.

YEAR 7

MONTH	1	2	3	4	5	6
CASH INFLOWS						
SALES	32,785,426	32,785,426	32,785,426	32,785,426	32,785,426	32,785,426
ACCOUNTS RECEIVABLE	550,859,130	550,859,130	550,859,130	622,923,093	622,923,093	622,923,093
EQUITY	-	-	-	-		
FOREIGN LOAN	-	-	-	-		
TOTAL CASH INFLOWS	583,644,556	583,644,556	583,644,556	655,708,519	655,708,519	655,708,519
CASH OUTFOWS						
CAPITAL EXPENDITURE	-	-	-	-	-	-
TAX			57,218,731			57,218,731
DIRECT COST	414,062,676	414,062,676	414,062,676	414,062,676	414,062,676	414,062,676
OPERATING EXPENDITURE	6,819,258	6,819,258	6,819,258	6,819,258	6,819,258	6,819,258
TOTAL CASH OUTFLOWS	420,881,934	420,881,934	478,100,664	420,881,934	420,881,934	478,100,664
NET CASH FLOW	162,762,622	162,762,622	105,543,891	234,826,585	234,826,585	177,607,855
CASH BALANCE						
OPENING BALANCE	581,569,866	558,844,896	536,119,927	456,176,227	505,515,222	554,854,216
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591
CLOSING BALANCE	558,844,896	536,119,927	456,176,227	505,515,222	554,854,216	546,974,480

MONTH	7	8	9	10	11	12	TOTAL
CASH INFLOWS							
SALES	32,785,426	32,785,426	32,785,426	32,785,426	32,785,426	32,785,426	393,425,112
ACCOUNTS RECEIVABLE	622,923,093	622,923,093	622,923,093	622,923,093	622,923,093	622,923,093	7,258,885,229
EQUITY							-
FOREIGN LOAN							-
TOTAL CASH INFLOWS	655,708,519	655,708,519	655,708,519	655,708,519	655,708,519	655,708,519	7,652,310,340
CASH OUTFOWS							-
							-
CAPITAL EXPENDITURE	-	-	-	-	-	-	-
TAX			57,218,731			57,218,731	228,874,922
DIRECT COST	414,062,676	414,062,676	414,062,676	414,062,676	414,062,676	414,062,676	4,968,752,115
OPERATING EXPENDITURE	6,819,258	6,819,258	6,819,258	6,819,258	6,819,258	6,819,258	81,831,092
TOTAL CASH OUTFLOWS	420,881,934	420,881,934	478,100,664	420,881,934	420,881,934	478,100,664	5,279,458,129
NET CASH FLOW	234,826,585	234,826,585	177,607,855	234,826,585	234,826,585	177,607,855	2,372,852,212
CASH BALANCE							
OPENING BALANCE	546,974,480	596,313,475	645,652,469	637,772,733	687,111,728	736,450,722	581,569,866
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	2,225,851,091
CLOSING BALANCE	596,313,475	645,652,469	637,772,733	687,111,728	736,450,722	728,570,986	728,570,986

The above table shows the monthly cash flows for each of the 12 months in year 7. Net cash flows are positive for all months just as year 5 and 6. After each monthly loan repayment, there will be high positive closing cash balance. This will further grow liquidity position.

YEAR 8

MONTH	1	2	3	4	5	6
CASH INFLOWS						
SALES	36,885,069	36,885,069	36,885,069	36,885,069	36,885,069	36,885,069
ACCOUNTS RECEIVABLE	622,923,093	622,923,093	622,923,093	700,816,306	700,816,306	700,816,306
EQUITY	-	-	-	-		
FOREIGN LOAN	-	-	-	-		
TOTAL CASH INFLOWS	659,808,162	659,808,162	659,808,162	737,701,374	737,701,374	737,701,374
CASH OUTFOWS						
CAPITAL EXPENDITURE	-	-	-	-	-	-
TAX			78,112,236			78,112,236
DIRECT COST	452,062,423	452,062,423	452,062,423	452,062,423	452,062,423	452,062,423
OPERATING EXPENDITURE	7,023,835	7,023,835	7,023,835	7,023,835	7,023,835	7,023,835
TOTAL CASH OUTFLOWS	459,086,258	459,086,258	537,198,494	459,086,258	459,086,258	537,198,494
NET CASH FLOW	200,721,904	200,721,904	122,609,668	278,615,116	278,615,116	200,502,880
CASH BALANCE						
OPENING BALANCE	728,570,986	743,805,299	759,039,612	696,161,688	789,289,214	882,416,739
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591
CLOSING BALANCE	743,805,299	759,039,612	696,161,688	789,289,214	882,416,739	897,432,028

MONTH	7	8	9	10	11	12	TOTAL
CASH INFLOWS							
SALES	36,885,069	36,885,069	36,885,069	36,885,069	36,885,069	36,885,069	442,620,825
ACCOUNTS RECEIVABLE	700,816,306	700,816,306	700,816,306	700,816,306	700,816,306	700,816,306	8,176,116,031
EQUITY							-
FOREIGN LOAN							-
TOTAL CASH INFLOWS	737,701,374	737,701,374	737,701,374	737,701,374	737,701,374	737,701,374	8,618,736,855
							-
CASH OUTFOWS							-
CAPITAL EXPENDITURE	-	-	-	-	-	-	-
TAX			78,112,236			78,112,236	312,448,944
DIRECT COST	452,062,423	452,062,423	452,062,423	452,062,423	452,062,423	452,062,423	5,424,749,076
OPERATING EXPENDITURE	7,023,835	7,023,835	7,023,835	7,023,835	7,023,835	7,023,835	84,286,024
TOTAL CASH OUTFLOWS	459,086,258	459,086,258	537,198,494	459,086,258	459,086,258	537,198,494	5,821,484,043
NET CASH FLOW	278,615,116	278,615,116	200,502,880	278,615,116	278,615,116	200,502,880	2,797,252,812
CASH BALANCE							
OPENING BALANCE	897,432,028	990,559,553	1,083,687,078	1,098,702,367	1,191,829,892	1,284,957,417	728,570,986
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	2,225,851,091
CLOSING BALANCE	990,559,553	1,083,687,078	1,098,702,367	1,191,829,892	1,284,957,417	1,299,972,706	1,299,972,706

The above table shows the monthly cash flows for each of the 12 months in year 8. Net cash flows are positive for all months just as year 5, 6 and 7. After each monthly loan repayment, there will be high positive closing cash balance. This will further grow liquidity position.

YEAR 9

MONTH	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
CASH INFLOWS													
SALES	41,312,712	41,312,712	41,312,712	41,312,712	41,312,712	41,312,712	41,312,712	41,312,712	41,312,712	41,312,712	41,312,712	41,312,712	495,752,546
ACCOUNTS RECEIVABLE	700,816,306	700,816,306	700,816,306	784,941,531	784,941,531	784,941,531	784,941,531	784,941,531	784,941,531	784,941,531	784,941,531	784,941,531	9,166,922,700
EQUITY	-	-	-	-									-
FOREIGN LOAN	-	-	-	-									-
TOTAL CASH INFLOWS	742,129,018	742,129,018	742,129,018	826,254,244	826,254,244	826,254,244	826,254,244	826,254,244	826,254,244	826,254,244	826,254,244	826,254,244	9,662,675,246
													-
CASH OUTFOWS													-
CAPITAL EXPENDITURE	-	-	-	-	-	-	-	-	-	-	-	-	-
TAX			101,317,958			101,317,958			101,317,958			101,317,958	405,271,834
DIRECT COST	491,425,185	491,425,185	491,425,185	491,425,185	491,425,185	491,425,185	491,425,185	491,425,185	491,425,185	491,425,185	491,425,185	491,425,185	5,897,102,218
OPERATING EXPENDITURE	7,234,550	7,234,550	7,234,550	7,234,550	7,234,550	7,234,550	7,234,550	7,234,550	7,234,550	7,234,550	7,234,550	7,234,550	86,814,605
TOTAL CASH OUTFLOWS	498,659,735	498,659,735	599,977,694	498,659,735	498,659,735	599,977,694	498,659,735	498,659,735	599,977,694	498,659,735	498,659,735	599,977,694	6,389,188,657
NET CASH FLOW	243,469,283	243,469,283	142,151,324	327,594,508	327,594,508	226,276,550	327,594,508	327,594,508	226,276,550	327,594,508	327,594,508	226,276,550	3,273,486,589
CASH BALANCE													
OPENING BALANCE	1,299,972,706	1,357,954,398	1,415,936,090	1,372,599,823	1,514,706,740	1,656,813,657	1,697,602,616	1,839,709,534	1,981,816,451	2,022,605,410	2,164,712,327	2,306,819,245	1,299,972,706
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	2,225,851,091
CLOSING BALANCE	1,357,954,398	1,415,936,090	1,372,599,823	1,514,706,740	1,656,813,657	1,697,602,616	1,839,709,534	1,981,816,451	2,022,605,410	2,164,712,327	2,306,819,245	2,347,608,204	2,347,608,204

The above table shows the monthly cash flows for each of the 12 months in year 9. Net cash flows are positive for all months just as year 5, 6, 7 and 8. After each monthly loan repayment, there will be high positive closing cash balance. This will further grow liquidity position.

YEAR 10

MONTH	1	2	3	4	5	6
CASH INFLOWS						
SALES	46,090,907	46,090,907	46,090,907	46,090,907	46,090,907	46,090,907
ACCOUNTS RECEIVABLE	784,941,531	784,941,531	784,941,531	875,727,239	875,727,239	875,727,239
EQUITY	-	-	-	-		
FOREIGN LOAN	-	-	-	-		
TOTAL CASH INFLOWS	831,032,439	831,032,439	831,032,439	921,818,146	921,818,146	921,818,146
CASH OUTFOWS						
CAPITAL EXPENDITURE	-	-	-	-	-	-
TAX			127,020,031			127,020,031
DIRECT COST	532,191,097	532,191,097	532,191,097	532,191,097	532,191,097	532,191,097
OPERATING EXPENDITURE	7,451,587	7,451,587	7,451,587	7,451,587	7,451,587	7,451,587
TOTAL CASH OUTFLOWS	539,642,684	539,642,684	666,662,715	539,642,684	539,642,684	666,662,715
NET CASH FLOW	291,389,755	291,389,755	164,369,724	382,175,463	382,175,463	255,155,432
CASH BALANCE						
OPENING BALANCE	2,347,608,204	2,453,510,368	2,559,412,532	2,538,294,665	2,734,982,537	2,931,670,409
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591
CLOSING BALANCE	2,453,510,368	2,559,412,532	2,538,294,665	2,734,982,537	2,931,670,409	3,001,338,250

MONTH	7	8	9	10	11	12	TOTAL
CASH INFLOWS							
SALES	46,090,907	46,090,907	46,090,907	46,090,907	46,090,907	46,090,907	553,090,888
ACCOUNTS RECEIVABLE	875,727,239	875,727,239	875,727,239	875,727,239	875,727,239	875,727,239	10,236,369,746
EQUITY							-
FOREIGN LOAN							-
TOTAL CASH INFLOWS	921,818,146	921,818,146	921,818,146	921,818,146	921,818,146	921,818,146	10,789,460,633
							-
CASH OUTFOWS							-
CAPITAL EXPENDITURE	-	-	-	-	-	-	-
TAX			127,020,031			127,020,031	508,080,124
DIRECT COST	532,191,097	532,191,097	532,191,097	532,191,097	532,191,097	532,191,097	6,386,293,161
OPERATING EXPENDITURE	7,451,587	7,451,587	7,451,587	7,451,587	7,451,587	7,451,587	89,419,043
TOTAL CASH OUTFLOWS	539,642,684	539,642,684	666,662,715	539,642,684	539,642,684	666,662,715	6,983,792,328
NET CASH FLOW	382,175,463	382,175,463	255,155,432	382,175,463	382,175,463	255,155,432	3,805,668,306
CASH BALANCE							
OPENING BALANCE	3,001,338,250	3,198,026,121	3,394,713,993	3,464,381,834	3,661,069,706	3,857,757,577	2,347,608,204
LOAN REPAYMENT	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	185,487,591	2,225,851,091
CLOSING BALANCE	3,198,026,121	3,394,713,993	3,464,381,834	3,661,069,706	3,857,757,577	3,927,425,418	3,927,425,418

The above table shows the monthly cash flows for each of the 12 months in year 10. Net cash flows are positive for all months just as year 5, 6, 7, 8 and 9. After each monthly loan repayment, there will be high positive closing cash balance. This will further grow liquidity position.

CAPACITY TO REPAY ASSESSMENT

The analyses below focus on the ability of the project or CSR&DAM to repay the investment required for the project. Since loan repayment is expected to be made on monthly basis, ability to repay is also being assessed on monthly basis.

Emphasis is on comparing free cash flows and commitments overtime.

YEAR 4

MONTH	7	8	9	10	11	12
CASH AVAILABLE	1,897,529,129	1,839,547,273	1,761,543,020	1,703,561,165	1,645,579,309	1,567,575,056
LESS: WC	(314,097,127)	(334,119,524)	(314,097,127)	(314,097,127)	(334,119,524)	(348,424,981)
FREE CASH FLOW	1,583,432,002	1,505,427,749	1,447,445,893	1,389,464,038	1,311,459,785	1,219,150,075
LESS: REPAYMENT	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
EXCESS CASH	1,397,944,411	1,319,940,158	1,261,958,302	1,203,976,447	1,125,972,194	1,033,662,484
COVERAGE ANALYSIS	8.5	8.1	7.8	7.5	7.1	6.6

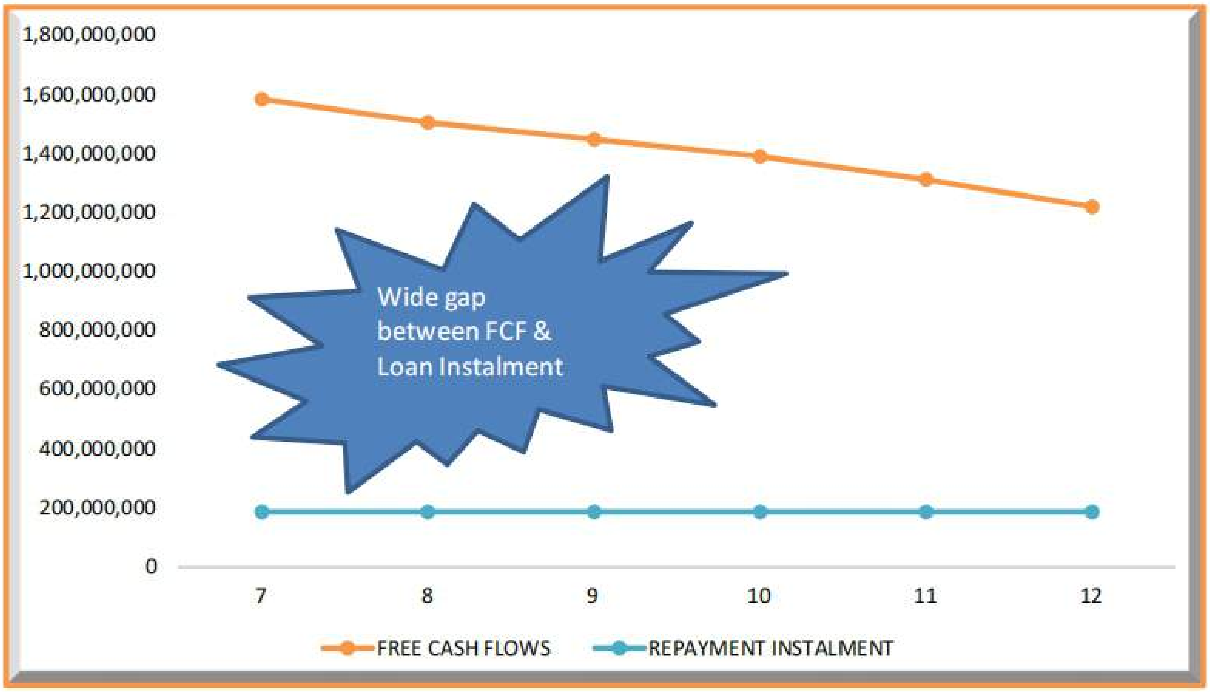
The above table shows the monthly free cash flows for year 4, starting from the 7th month since that is when the repayment of the loan will start. The first 6 months of year 4 are meant for project stabilisation and therefore form part of the loan repayment moratorium of 3years (for construction) and 6 months.

Since loan repayment in a particular month shall not affect the ability of the refinery to operate in the ensuing month, monthly free cash flows have been determined as per the red fonts in the above table. These have been determined after deducting unavoidable expenditure (working capital needs) for the following period from the current month's cash available.

It is from these free cash flows that respective monthly repayment instalment will be paid from. From the above table it could be observed that free cash flows are higher than loan repayment instalments on monthly basis. This gives indication of strong financial footing of the project to repay each of the 6 monthly instalments in year 4.

The last row of the above table measures the number of times the free cash flows can pay the repayment instalment for the respective months. In month 7, free cash flows can pay the loan repayment instalment 8.5 times (or 850%). This shows robust cash inflows for month 7. Similar situation applies to the subsequent months.

The below line graph gives more exposition on the above analysis.



From the above Line Graph, it can be observed that the line for FCF lies above the repayment instalment line for all the applicable months in year 4. Since there is wide gap between the 2 lines, it confirms the high coverage of FCF over the repayment instalment for respective months.

YEAR 5

MONTH	1	2	3	4	5
CASH AVAILABLE	1,478,671,828	1,389,768,600	1,279,174,118	1,254,994,048	1,230,813,977
LESS: WC	(348,424,981)	(370,116,235)	(348,424,981)	(348,424,981)	(370,116,235)
FREE CASH FLOW	1,130,246,847	1,019,652,365	930,749,137	906,569,067	860,697,742
LESS: REPAYMENT	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
EXCESS CASH	944,759,256	834,164,774	745,261,546	721,081,476	675,210,151
COVERAGE ANALYSIS	6.1	5.5	5.0	4.9	4.6

MONTH	6	7	8	9	10	11	12
CASH AVAILABLE	1,184,942,653	1,160,762,582	1,136,582,512	1,090,711,187	1,066,531,117	1,042,351,047	996,479,722
LESS: WC	(348,424,981)	(348,424,981)	(370,116,235)	(348,424,981)	(348,424,981)	(370,116,235)	(384,007,553)
FREE CASH FLOW	836,517,672	812,337,602	766,466,277	742,286,206	718,106,136	672,234,811	612,472,169
LESS: REPAYMENT	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
EXCESS CASH	651,030,081	626,850,011	580,978,686	556,798,615	532,618,545	486,747,220	426,984,578
COVERAGE ANALYSIS	4.5	4.4	4.1	4.0	3.9	3.6	3.3

The table above depicts the expected FCF and loan repayment commitments for the year 5. In this year, 12 monthly repayments will be made.

From the above table, FCF will be higher than loan repayment instalments for all the 12 months. This is very positive as this signals that repayments could be made on timely basis as adequate cash will be available.

YEAR 6

MONTH	1	2	3	4	5	6	7	8	9	10	11	12
CASH AVAILABLE	940,223,040	883,966,359	789,244,336	799,600,908	809,957,479	781,848,710	792,205,281	802,561,853	774,453,083	784,809,655	795,166,226	767,057,457
LESS: WC	(384,007,553)	(422,472,894)	(384,007,553)	(384,007,553)	(422,472,894)	(384,007,553)	(384,007,553)	(422,472,894)	(384,007,553)	(384,007,553)	(422,472,894)	(420,881,934)
FREE CASH FLOW	556,215,488	461,493,465	405,236,783	415,593,355	387,484,585	397,841,157	408,197,729	380,088,959	390,445,530	400,802,102	372,693,332	346,175,523
LESS: REPAYMENT	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
EXCESS CASH	370,727,897	276,005,874	219,749,192	230,105,764	201,996,994	212,353,566	222,710,138	194,601,368	204,957,939	215,314,511	187,205,741	160,687,932
COVERAGE ANALYSIS	3.0	2.5	2.2	2.2	2.1	2.1	2.2	2.0	2.1	2.2	2.0	1.9

The table above represents the expected free cash flows (FCF) and loan repayment commitments for the year 6. In this year, 12 monthly repayments will be made.

From the above table, FCF will be higher than loan repayment instalments for all the 12 months, just as it is in the previous years. This also confirms ability to repay all the required instalments in year 6.

Besides, the coverage looks good for all the months as the minimum will be 1.9 (190%). This means that there will be excess cash available for all the months after the repayment.

YEAR 7

MONTH	1	2	3	4	5
CASH AVAILABLE	744,332,487	721,607,518	641,663,818	691,002,813	740,341,807
LESS: WC	(420,881,934)	(478,100,664)	(420,881,934)	(420,881,934)	(478,100,664)
FREE CASH FLOW	323,450,553	243,506,854	220,781,884	270,120,879	262,241,143
LESS: REPAYMENT	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
EXCESS CASH	137,962,962	58,019,263	35,294,293	84,633,288	76,753,552
COVERAGE ANALYSIS	1.7	1.3	1.2	1.5	1.4

MONTH	6	7	8	9	10	11	12
CASH AVAILABLE	732,462,071	781,801,066	831,140,060	823,260,324	872,599,318	921,938,313	914,058,577
LESS: WC	(420,881,934)	(420,881,934)	(478,100,664)	(420,881,934)	(420,881,934)	(478,100,664)	(459,086,258)
FREE CASH FLOW	311,580,137	360,919,132	353,039,396	402,378,390	451,717,385	443,837,649	454,972,319
LESS: REPAYMENT	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
EXCESS CASH	126,092,546	175,431,541	167,551,805	216,890,799	266,229,794	258,350,058	269,484,728
COVERAGE ANALYSIS	1.7	1.9	1.9	2.2	2.4	2.4	2.5

The table above represents the expected FCF and loan repayment commitments for the year 7. In this year also, 12 monthly repayments will be made.

It can be realised that FCF will be higher than loan repayment instalments for all the 12 months, just as it is in the previous years. This also confirms ability to repay all the required monthly instalments in year 7.

Moreover, excess cash is expected to be available in all the months after the repayment as minimum coverage of FCF to loan repayment instalment will be 1.2 (120%) times.

YEAR 8

MONTH	1	2	3	4	5
CASH AVAILABLE	929,292,890	944,527,202	881,649,279	974,776,804	1,067,904,330
LESS: WC	(459,086,258)	(537,198,494)	(459,086,258)	(459,086,258)	(537,198,494)
FREE CASH FLOW	470,206,631	407,328,708	422,563,021	515,690,546	530,705,835
LESS: REPAYMENT	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
EXCESS CASH	284,719,040	221,841,117	237,075,430	330,202,955	345,218,244
COVERAGE ANALYSIS	2.5	2.2	2.3	2.8	2.9

6	7	8	9	10	11	12
1,082,919,619	1,176,047,144	1,269,174,669	1,284,189,958	1,377,317,483	1,470,445,008	1,485,460,297
(459,086,258)	(459,086,258)	(537,198,494)	(459,086,258)	(459,086,258)	(537,198,494)	(498,659,735)
623,833,360	716,960,885	731,976,175	825,103,700	918,231,225	933,246,514	986,800,562
(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
438,345,769	531,473,295	546,488,584	639,616,109	732,743,634	747,758,923	801,312,971
3.4	3.9	3.9	4.4	5.0	5.0	5.3

The table above represents the expected FCF and loan repayment commitments for the year 8. In this year also, 12 monthly repayments will be made.

It can be realised that FCF will be higher than loan repayment instalments for all the 12 months, just as it is in the previous years. This also confirms ability to repay all the required monthly instalments in year 8.

Likewise, excess cash is expected to be available in all the months after the repayment as minimum coverage of FCF to loan repayment instalment will be 2.2 (220%) times.

YEAR 9

MONTH	1	2	3	4	5	6	7	8	9	10	11	12
CASH AVAILABLE	1,543,441,989	1,601,423,681	1,558,087,414	1,700,194,331	1,842,301,248	1,883,090,207	2,025,197,125	2,167,304,042	2,208,093,001	2,350,199,918	2,492,306,836	2,533,095,795
LESS: WC	(498,659,735)	(599,977,694)	(498,659,735)	(498,659,735)	(599,977,694)	(498,659,735)	(498,659,735)	(599,977,694)	(498,659,735)	(498,659,735)	(599,977,694)	(539,642,684)
FREE CASH FLOW	1,044,782,254	1,001,445,987	1,059,427,678	1,201,534,596	1,242,323,555	1,384,430,472	1,526,537,389	1,567,326,348	1,709,433,266	1,851,540,183	1,892,329,142	1,993,453,111
LESS: REPAYMENT	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
EXCESS CASH	859,294,663	815,958,396	873,940,087	1,016,047,005	1,056,835,964	1,198,942,881	1,341,049,799	1,381,838,757	1,523,945,675	1,666,052,592	1,706,841,551	1,807,965,520
COVERAGE ANALYSIS	5.6	5.4	5.7	6.5	6.7	7.5	8.2	8.4	9.2	10.0	10.2	10.7

The table above represents the expected FCF and loan repayment commitments for the year 9. In this year also, 12 monthly repayments will be made.

It can be realised that FCF will be higher than loan repayment instalments for all the 12 months, just as it is in the previous years. This also confirms ability to repay all the required monthly instalments in year 9.

Similarly, excess cash is expected to be available in all the months after the repayment as minimum coverage of FCF to loan repayment instalment will be 5.4 (540%) times.

YEAR 10

MONTH	1	2	3	4	5	6	7	8	9	10	11	12
CASH AVAILABLE	1,615,973,970	1,615,973,970	1,615,973,970	1,797,545,385	1,797,545,385	1,797,545,385	1,797,545,385	1,797,545,385	1,797,545,385	1,797,545,385	1,797,545,385	1,797,545,385
LESS: WC	(539,642,684)	(666,662,715)	(539,642,684)	(539,642,684)	(666,662,715)	(539,642,684)	(539,642,684)	(666,662,715)	(539,642,684)	(539,642,684)	(666,662,715)	-
FREE CASH FLOW	1,076,331,287	949,311,256	1,076,331,287	1,257,902,702	1,130,882,671	1,257,902,702	1,257,902,702	1,130,882,671	1,257,902,702	1,257,902,702	1,130,882,671	1,797,545,385
LESS: REPAYMENT	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)	(185,487,591)
EXCESS CASH	890,843,696	763,823,665	890,843,696	1,072,415,111	945,395,080	1,072,415,111	1,072,415,111	945,395,080	1,072,415,111	1,072,415,111	945,395,080	1,612,057,794
COVERAGE ANALYSIS	5.8	5.1	5.8	6.8	6.1	6.8	6.8	6.1	6.8	6.8	6.1	9.7

The table above represents the expected FCF and loan repayment commitments for the year 10. In this year also, 12 monthly repayments will be made.

It can be realised that FCF will be higher than loan repayment instalments for all the 12 months, just as it is in the previous years. This also confirms ability to repay all the required monthly instalments in year 10.

Similarly, excess cash is expected to be available in all the months after the repayment as minimum coverage of FCF to loan repayment instalment will be 5.1 (510%) times.

SUMMARY

Considering the discussions above, CSR & DAM is expected to have financial capacity to repay all 78 monthly instalments to fully liquidate the debt component of funds needed for this oil refinery project.

INVESTMENT APPRAISAL

YEAR	0	1	2	3	4	5	6	7	8	9	10	11
NET CASH FLOWS	(1,001,182,820)	(2,296,825,294)	(2,624,943,194)	(3,043,446,758)	191,411,076	1,654,755,758	1,996,428,826	2,372,852,212	2,797,252,812	3,273,486,589	8,288,867,339	2,627,181,717
WORKING CAPITAL	-	-	-	-	(2,303,601,934)	-	-	-	-	-	2,303,601,934	
TOTAL NET CASH FLOWS	(1,001,182,820)	(2,296,825,294)	(2,624,943,194)	(3,043,446,758)	(2,112,190,858)	1,654,755,758	1,996,428,826	2,372,852,212	2,797,252,812	3,273,486,589	10,592,469,273	2,627,181,717
PRESENT VALUE (PV)	(1,001,182,820)	(2,088,022,995)	(2,169,374,540)	(2,286,586,595)	(1,442,654,776)	1,027,473,134	1,126,932,025	1,217,648,376	1,304,939,081	1,388,277,866	4,083,855,447	920,811,165
CUMMULATIVE PV	(1,001,182,820)	(3,089,205,815)	(5,258,580,355)	(7,545,166,950)	(8,987,821,727)	(7,960,348,592)	(6,833,416,567)	(5,615,768,191)	(4,310,829,110)	(2,922,551,244)	1,161,304,203	2,082,115,367

Following from the above table, the project has Net Present Value (NPV) of $2.08B, Internal Rate of Return of 13.66% and Discounted Payback Period (DPP) of 6 years and 3 month.

SENSITIVITY ASSESSMENT

Considering that the cost of capital (WACC) and Internal Rate of Return for the project are respectively 10% and 13.66%, the difference/spread is less than 4%. This means that unfavourable variability of any of the key variables (e.g. upward surge in crude oil prices and falling of prices of refined outputs) shall be insignificant or negligible for the project to remain bankable.

Scenario A: Sales Remaining unchanged, but Crude Oil prices going up annually.

The project will remain viable under this scenario if upsurge in crude oil prices does not exceed 6.35%. However, CSR &DAM would require a reliable standby overdraft facility or credit line from its bankers in order to avoid insufficient working capital and defaulting on some monthly loan repayment commitments. This is because monthly free cash flows will be intermittently insufficient or negative during the period under assessment. For the project to be self-sustaining, the upsurge in crude oil price shall not exceed 2.6%.

Scenario B: Crude Oil prices remaining unchanged, but Sales going down annually.

The Net Present Value will be positive and Internal Rate of Return greater than the WACC if Sales does not fall beyond 8%. However, standby arrangements with bankers for credit line or overdraft will be necessary to sufficiently attend to working capital needs and monthly loan repayments.

For project self-sustainability, the expected revenues as per the baseline assumptions should not fall beyond 3%.

Based on the foregoing, the project is more sensitive to variability of crude oil prices than sales.

ASSESSMENTS BASED ON PROFITABILITY AND OPERATIONAL EFFICIENCY

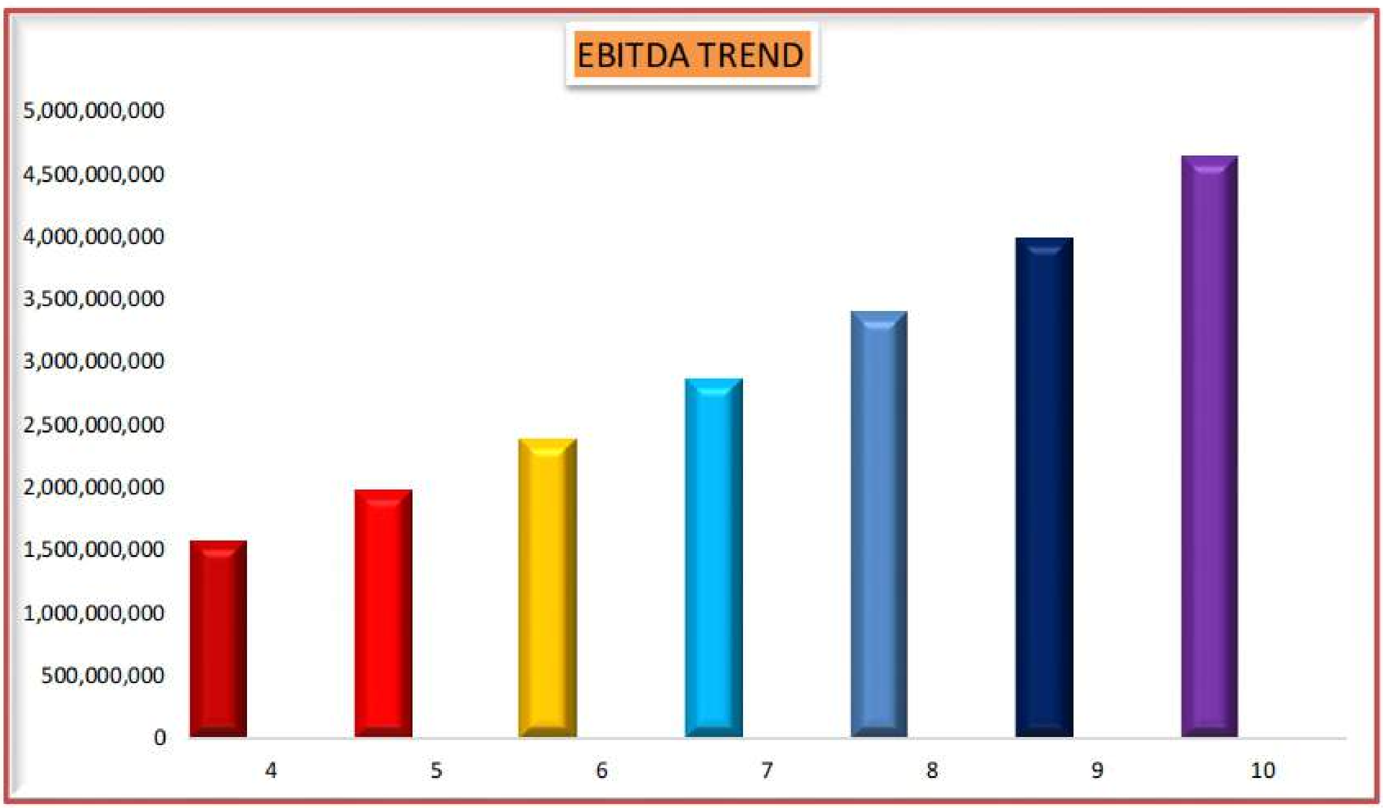
PROFORMA INCOME STATEMENT

YEAR / NARRATION	4	5	6	7	8	9	10	TOTAL
REVENUE	5,299,234,345	6,116,790,018	6,958,220,584	7,868,502,232	8,852,416,492	9,915,050,923	11,061,817,756	56,072,032,351
LESS: COST OF SALES	3,663,492,827	4,069,766,400	4,490,904,279	4,927,345,847	5,379,542,833	5,847,959,700	6,333,074,051	34,712,085,938
GROSS PROFIT	1,635,741,518	2,047,023,618	2,467,316,305	2,941,156,384	3,472,873,659	4,067,091,223	4,728,743,705	21,359,946,413
ADD: OTHER INCOME	-	-	-	-	-	-	-	-
	1,635,741,518	2,047,023,618	2,467,316,305	2,941,156,384	3,472,873,659	4,067,091,223	4,728,743,705	21,359,946,413
LESS: OPEX	74,887,041	77,133,652	79,447,662	81,831,092	84,286,024	86,814,605	89,419,043	573,819,119
EBITDA	1,560,854,477	1,969,889,966	2,387,868,643	2,859,325,293	3,388,587,635	3,980,276,618	4,639,324,662	20,786,127,294
LESS: DEPRECIATION	481,157,453	481,157,453	481,157,453	481,157,453	481,157,453	481,157,453	481,157,453	3,368,102,173
LESS: INTEREST EXPENSE	438,980,304	794,612,366	675,820,258	547,168,463	407,838,633	256,944,495	93,526,219	3,214,890,739
	640,716,719	694,120,146	1,230,890,932	1,830,999,376	2,499,591,548	3,242,174,670	4,064,640,990	14,203,134,382
PROFIT BEFORE TAX	**640,716,719**	**694,120,146**	**1,230,890,932**	**1,830,999,376**	**2,499,591,548**	**3,242,174,670**	**4,064,640,990**	**14,203,134,382**
LESS: CORPORATE TAX	(80,089,590)	(86,765,018)	(153,861,367)	(228,874,922)	(312,448,944)	(405,271,834)	(508,080,124)	(1,775,391,798)
PROFIT AFTER TAX	560,627,129	607,355,128	1,077,029,566	1,602,124,454	2,187,142,605	2,836,902,836	3,556,560,866	12,427,742,584

The above income statement shows that the project has a very strong profitability footing, strong financial stability and good health based on well-known profitability measurements such as:

1. Gross Profit of $21.4B
2. Gross Profit Margin of 38.1%
3. Net Profit of $12.4B
4. Net Profit Margin of 22.16%
5. Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA) of $20.8B
6. EBITDA to Revenue of 37.1%
7. Earnings Before Interest and Tax (EBIT) of $17.4B
8. Interest Coverage Ratio of 542%
9. Debt Service Coverage Ratio of 1.21 or 121%
10. Return on Capital Employed of 194%

EBITDA TREND



EBITDA is a key measure of real operational performance as it eliminates impact of non-cash elements (e.g. depreciation and amortisation) and other factors that will be out of control of the management of the refinery (e.g. interest expense).

From the Bar Chart, it can be observed that operational performance of the refinery will improve throughout the span of years under analyses (year 4 to 10).

From the above pro-forma income statement, it could be observed that on average, EBITDA is expected to be 37.1% of operational revenues each year. This is indication of inspiring performance.

OTHER EFFICIENCY METRICS

YEAR	4	5	6	7	8	9	10	ARITH. MEAN
COS/SALES	69.1%	66.5%	64.5%	62.6%	60.8%	59.0%	57.3%	63.9%
OPEX/SALES	1.4%	1.3%	1.1%	1.0%	1.0%	0.9%	0.8%	1.1%

The above table gives summary of other operational efficiency measurements.

1. The light blue part shows Cost of Sales to Sales Ratio, which is a metric for assessing how much sales goes back to cover direct cost and expenses incurred in generating the revenue. From the above it can be realised that on average cost of sales is 63.9% of sales. This is indication of operational efficiency.

2. The orange part of the above table shows operating expenses (indirect) incurred in generating the sales. From the above, it can be observed that on average operating expenses (indirect) is below 1.1% of sales. This is expression of operational efficiency.

NATIONAL DOMESTIC SUPPLY IN METRIC TONS (2016 - 2019)

2016

2016	Fuel oil	Gas oil	Gasoil (Mines)	Gasoil (Rigs)	Gasoil (Combine)	MGO Local	MGO Foreign	MGO (Combine)
Jan-16	1,270	111,798	15,012	4,502	131,312	2,088	122	2,209
Feb-16	2,019	134,764	16,703	4,297	155,764	2,858	-	2,858
Mar-16	575	133,548	25,454	25	159,027	3,517	11	3,529
Apr-16	1,377	131,089	13,653	107.74	144,849	3,891	198	4,089
May-16	1,458	127,261	17,722	9,276	154,259	3,654	27	3,681
Jun-16	515	121,501	8,834	112	130,446	3,358	-	3,358
Jul-16	564	113,493	19,512	8,967	141,972	2,472	-	2,472
Aug-16	2,093	120,122	21,539	7,323.64	148,985	2,282	-	2,282
Sep-16	892.51	124,566	18,971	6,230	149,766	2,331	-	2,331
Oct-16	714.61	110,534	18,910	7,770	137,213	2,780	27	2,806
Nov-16	651.92	115,808	21,107	5,878	142,793	2,259	226	2,485
Dec-16	813	105,360	21,137	8,188	134,685	2,407	1,804	4,211
Total	12,943	1,449,844	218,553	62,675	1,731,072	33,896	2,413	36,310

Kerosene	L.P G	Premium	Premix	ATK (Lts)	Kerosene Industrial	DPK	Total Gasoil	Unified	TOTAL
783	19,767	78,847	3,852	10,288	-	11,072	133,521	-	248,329
1,161	22,559	91,959	5,230	11,727	-	12,888	158,622	60	293,337
588	21,031	98,692	4,355	9,058	-	9,646	162,556	211	297,065
729	23,187	95,027	3,812	11,682	-	12,411	148,939	463	285,216
729	26,148	90,461	3,812	10,191	-	10,920	157,940	178	290,916
624	22,271	86,859	5,391	8,657	-	9,281	133,804	194	258,315
839	19,009	82,319	5,089	11,806	-	12,645	144,444	134	264,203
787	25,978	86,280	5,843	12,624	-	13,411	151,266	188	285,060
646	28,703	92,574	4,506	12,631	-	13,277	152,097	182	292,230
453	24,024	86,072	5,009	6,270	-	6,723	140,020	286	262,848
700	23,297	88,079	4,938	7,040	-	7,740	145,277	323	270,307
22	25,501	92,006	4,144	20,236	-	20,258	138,896	221	281,839
8,061	281,474	1,069,175	55,980	132,211	-	140,271	1,767,382	2,440	3,329,666

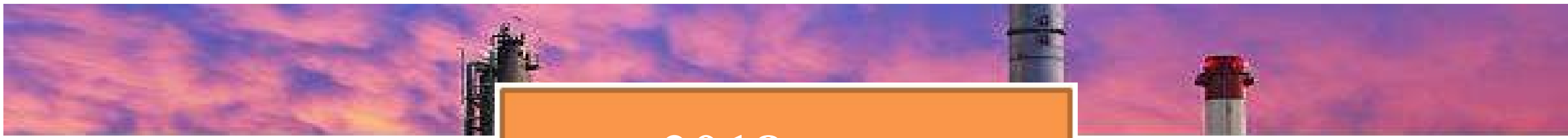
NB:

1. Gasoil combined = Gasoil Local + Gasoil Mines + Gasoil Rig
2. MGO combined = MGO Local + MGO Mines
3. Total Gasoil = Gasoil Combine + MGO Combine
4. DPK (Dual Purpose Kerosene) = ATK + Kerosene + Kerosene Industrial
5. Volumes are based on supplies made by Bulk Distributing Companies (BDCs) to Oil Marke

2017

2017	Fuel oil (Industrial)	Fuel oil (Power Plant)	Gas oil	Marine Gasoil (Local)	Unified	Kerosene	LPG (Domestic)
Jan-17	898	-	107,379	4,892	40	736	20,703
Feb-17	1,290	-	100,595	2,746	201	363	20,334
Mar-17	379	-	109,743	1,385	84	638	20,623
Apr-17	112	-	92,604	1,221	91	337	20,735
May-17	690	-	105,587	2,088	80	116	23,014
Jun-17	544	15,972	93,275	2,373	171	326	23,873
Jul-17	224	16,792	91,132	1,863	60	566	23,742
Aug-17	1,033	15,410	98,727	2,300	163	290	28,975
Sep-17	161	17,760	84,055	2,076	82	765	23,032
Oct-17	1,494	16,810	95,817	4,028	-	794	22,175
Nov-17	2,100	20,616	118,397	4,678	153	229	24,660
Dec-17	1,862	14,824	105,276	2,513	-	424	24,834
TOTAL	10,786	118,184	1,202,589	32,161	1,125	5,586	276,703

LPG- Propane (Power Plant)	Premium	Premix	Marine Gasoil (Foreign)	Gasoil (Mines)	ATK	Gasoil (Rig)	Total
6,040	83,530	5,089	486	17,407	12,132	6,638	265,970
5,519	79,652	4,073	863	19,569	11,965	5,433	252,603
5,957	86,831	5,250	2,982	23,693	13,908	3,643	275,116
4,849	80,945	5,582	2,246	19,877	10,208	3,365	242,172
6,828	89,915	5,894	6,104	24,489	16,439	9,487	290,730
5,397	84,922	5,049	7,071	23,823	14,341	10,888	288,026
7,436	82,673	5,803	4,443	20,205	14,070	6,521	275,530
8,036	90,046	8,470	8,693	24,208	7,955	11,323	305,627
8,375	81,861	6,686	16,181	20,858	15,012	3,619	280,524
7,786	101,963	5,810	16,123	21,469	22,025	3,238	319,531
7,808	107,495	5,779	9,898	24,675	14,821	5,708	347,017
8,197	102,734	5,270	14,686	21,770	13,768	5,911	322,072
82,228	1,072,567	68,755	89,775	262,043	166,645	75,773	3,464,920



2018

2018	Fuel oil (Industrial)	Fuel oil (Power Plant)	Gas oil (Diesel)	Marine Gasoil (Local)	Naphtha (Unified)	Kerosene	*LPG
Jan-18	1,312	28,389	113,680	1,802	75	667	24,101
Feb-18	3,495	24,698	101,068	2,624	-	628	21,916
Mar-18	2,226	30,370	129,150	3,703	398	268	22,814
Apr-18	2,357	-	113,393	1,608	82	424	23,962
May-18	-	-	135,249	1,401	41	446	24,949
Jun-18	6,147	-	126,365	1,688	61	348	23,946
Jul-18	3,167	-	109,062	1,669	-	243	23,412
Aug-18	2,079	-	124,376	1,669	14	359	25,261
Sep-18	5,149	-	105,024	1,980	245	280	24,027
Oct-18	4,140	222	121,462	1,473	122	678	24,374
Nov-18	3,106	10,516	123,160	2,879	122	486	23,592
Dec-18	2,576	9,151	128,268	1,563	204	138	25,974
TOTAL	35,754	103,345	1,430,256	24,060	1,362	4,966	288,329

LPG- Propane (Power Plant)	Gasoline (Premium)	Premix	Marine Gasoil (Foreign)	Gasoil (Mines)	ATK	Gasoil (Rig)	Total
8,486	111,359	5,402	2,336	22,096	19,098	5,874	344,678
6,481	91,726	4,658	642	22,051	8,993	7,391	296,370
8,225	116,963	5,789	352	25,247	17,229	8,272	371,006
9,630	102,682	5,055	319	23,073	16,223	7,188	305,996
9,245	111,078	5,545	240	21,845	13,982	5,946	329,968
9,821	100,101	5,861	733	20,532	17,430	6,845	319,878
9,534	94,344	4,658	2,679	21,002	18,378	7,986	296,135
8,289	104,703	4,719	377	26,660	19,675	6,917	325,099
10,200	95,310	2,854	-	21,779	14,603	4,420	285,870
9,684	102,727	4,138	228	27,751	19,466	9,570	326,036
9,128	109,514	4,159	1,302	26,511	17,799	6,416	338,690
7,300	114,635	2,497	1,049	25,397	17,462	11,345	347,558
106,024	1,255,143	55,335	10,259	283,945	200,337	88,171	3,887,286

*LPG refers to LPG (mainly Butane) used by Domestic, Commercial, Industrial and Autogas Users.

2019

2019	Residual Fuel oil (Industrial)	Heavy Fuel oil (Power Plant)	Gas oil (Diesel)	Marine Gasoil (Local)	Naphtha (Unified)	Kerosene	*LPG	LPG - Propane (Power Plant)	Gasoline (Premium)	Premix	Marine Gasoil (Foreign)	Gasoil (Mines)	ATK	Gasoil (Rig)	Total
Jan-19	2,177	9,194	128,309	1,529	326	174	26,172	9,855	117,992	4,536	684	20,112	18,777	9,736	349,571
Feb-19	1,553	7,875	115,086	1,517	41	776	19,241	9,019	104,271	4,811	147	26,056	18,866	8,120	317,379
Mar-19	1,378	24,702	122,881	1,939	571	-	25,204	10,544	102,476	5,942	167	23,617	15,998	10,633	346,052
Apr-19	3,847	25,260	134,962	2,418	367	555	23,213	9,845	114,273	5,810	479	26,493	17,963	6,294	371,778
May-19	2,936	9,876	133,497	2,529	408	87	23,414	1,313	113,254	4,373	210	22,040	20,222	8,575	342,732
Jun-19	2,472	12,703	118,902	1,833	234	399	22,773	-	100,218	3,995	1,497	21,954	14,199	8,419	309,598
Jul-19	1,343	3,152	133,588	1,487	41	-	26,331	-	112,977	5,239	2,858	26,622	22,050	5,412	341,100
Aug-19	2,541	6,828	122,094	1,034	347	399	28,394	-	110,864	4,301	171	24,689	24,056	2,316	328,035
Sep-19	5,027	5,455	117,429	3,342	734	377	25,920	-	108,013	3,812	164	23,980	20,210	3,856	318,320
Oct-19	8,629	12,744	126,788	2,822	836	613	27,939	-	114,197	3,781	202	23,540	19,451	6,391	347,935
Nov-19	5,080	4,653	126,123	3,099	523	131	24,444	-	118,802	5,290	304	20,472	19,554	3,043	331,517
Dec-19	4,450	10,539	133,596	2,122	571	272	26,531	-	128,298	2,518	332	23,990	20,385	3,143	356,746
TOTAL	41,433	132,983	1,513,257	25,671	4,998	3,783	299,575	40,575	1,345,633	54,408	7,215	283,564	231,729	75,939	4,060,764

*LPG refers to LPG (mainly Butane) used by Domestic, Commercial, Industrial and Autogas User

End of
Presentation

All investors are cordially invited

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