

## **Transaction Information Memorandum**

### **Ada Seawave Technology Power Generation Project**

Promoted by TC's Energy Limited

Project SPV

TC's Energy SPV Limited

Project location : Ada, (Adaah), GHANA.

February, 2022.

## Introduction.

This Confidential Information Memorandum (the “Memorandum”) has been prepared by Graham Wilberforce Advisors Limited. (“Graham Wilberforce”) solely for informational purposes from materials supplied to Graham Wilberforce by TC’s Energy Limited (“TCE” or “the Company”). This Memorandum relates to the possible raising of capital debt or equity to finance the Ada Seawave Technology Power Generation Project (“the project” or “TCES) in Ada West, Ghana, West Africa. This Memorandum is being furnished through Graham Wilberforce Limited as the Company’s exclusive Corporate Finance advisor, solely for use by prospective investors in considering a partial acquisition of TCES and or debt financing for the project.

This Memorandum has been prepared to assist interested parties in making their own evaluation of the project and does not purport to contain all of the information that a prospective purchaser may desire. In all cases, interested parties should conduct their own investigation and analysis of the Ada Seawave Technology Power Project, promoted by TC’s Energy Ltd., and the data set forth in this Memorandum.

Graham Wilberforce has not independently verified the accuracy and completeness of any of the information, contained in this Memorandum. Neither Graham Wilberforce, the Company or its subsidiaries, nor their respective affiliates, directors, officers, employees, representatives or agents makes any representation or warranty as to the accuracy or completeness of this Memorandum, or any supplemental information furnished in connection herewith, and none of the foregoing shall have any liability for any representations (express or implied) contained in, or for any omissions from, this Memorandum, any supplemental information furnished in connection herewith or any other written or oral communication transmitted to the recipient in the course of the recipient’s evaluation of the project.

Neither Graham Wilberforce, the Company or its subsidiaries, nor their respective affiliates, directors, officers, employees, representatives or agents, undertakes any obligation to provide additional information or to correct or update any of the information set forth in this Memorandum.

By accepting this Memorandum, the recipient acknowledges and agrees that all information contained herein and all other information provided by Graham Wilberforce, or the Company related thereto is subject to the terms of the confidentiality agreement previously executed by the recipient regarding this Memorandum. Without limiting the generality of the foregoing, (i) the recipient will not reproduce this Memorandum, or such other information, in whole or in part, and will use this Memorandum and such other information solely for purposes of evaluating the recipient’s interest in acquiring TCES and (ii) if the recipient does not wish to pursue this matter, the recipient will promptly

return this Memorandum and such other information, if any, to Graham Wilberforce, together with any other materials relating to TCE which the recipient may have received from either Graham Wilberforce, TCE, the Company or its subsidiaries, or their respective affiliates, directors, officers, employees, representatives or agents, as well as any notes or written materials prepared by the recipient.

TCE, reserves the right to negotiate with one or more prospective buyers at any time and to enter into a definitive agreement for the sale of TCES or any components thereof without prior notice to the recipient of this Memorandum or other prospective purchasers.

TCE., also reserves the right to terminate, at any time, solicitation of indications of interest for the acquisition of TCES or the further participation in the investigation and proposal process by any party. Finally, TCE reserves the right to modify, at any time, any procedures relating to such process without assigning any reason thereto. The Company intends to conduct business in the ordinary manner during the evaluation period; however, TCE reserves the right to take any action, whether or not in the ordinary course of business, including but not limited to the sale of any assets of the Company, which it deems necessary or prudent in the conduct of such business.

## Executive Summary

The Ada Seawave Technology Power Generation Project is \$2.0Bn build own and operate (BOO) project to be developed 17 miles off the coast of the Gulf of Guinea, in Ghana West Africa. The project is promoted by TCs Energy Limited (TCE) and developed through TC's Energy SPV Limited ("TCES" or the "SPV"). TC's Energy Limited is a licensed independent power producer (IPP) in Ghana. TCE has been awarded an offtake contract or power purchasing agreement (PPA) from the Electricity Corporation of Ghana (ECG) for 1000MW supply at a rate of 200MW/ month. The PPA is has a period of 20 years and was issued in 2014 but will be renewed to cover the full 20year period upon confirmation of financing. The PPA is embed with a US\$5.0M auto revolving payment guarantee for 12 months to be rolled over on an annual basis.

The project will generate power from sea waves using Wave Energy Converters (WEC's) acquired from Seabased a Swedish manufacturer. This technology has been tested in Ghana and accepted by the off taker (ECG) and formed the basis for the award of the 1000MW PPA.

The phase of the project which installed 6 WEC's to generate 0.6MW of electricity was successfully executed and the test connected the National grid of the Ghana in 2015. The project plan is to install about 1000 WEC units per year to reach an output of 1000MW.

The total cost of implementing the project is US\$2.0Bn. The pilot phase was constructed at the cost of US\$10.5M and was financed by the present shareholders.

The contract structure transfers the project risk to counter parties with expert mitigation experience and show the network of relationships surrounding the project SPV.

The financing for the project will be supported by a general security arrangement and a financial guarantee from Mutual Federal from South Africa, reinsured by Federal Risk (AA) based in the United States.

The project's capital structure has a debt to equity ratio of 70:30, with a tenor of 15 years on the pure debt portion of the capital structure. The project has the following lending Basis :

1. Long term Offtake agreement/ PPA in place for up to 1000MW in Ghana and agreements for up to 400MW to be developed in Togo and Benin.
2. The project has a revenue generation capacity of US\$1.0Bn/year

3. Due to technology's scalability, and modular design, power can be generated from a few WEC Units as construction of extra units are undertaken, thus beginning cost recovery almost immediately.
4. Low of of generating power using *Seabase's* wave energy technology is a net of US\$0.7/ KW.
5. Revenue lines are secured with a US\$5.0M guarantee from the offtaker : this revolves on a monthly basis and rolled over on a yearly basis.
6. Proven technology; accepted by Offtaker.
7. Project location : The minimums wave high required to generate power is 1.5M, the project location (offshore) has an average seawave of 2.5Meters.
8. Project contract structure transfers risk to mitigating counter parties
9. World class Engineering and Procurement Contractor Sino Hydro
10. Financial guarantees for the total project value from Mutual Federal of South Africa (BB-) re-insured by the Federal Risk USA (AA)
11. Credible off taker : Electricity Corporation of Ghana
12. The opportunity for growth into the neighboring countries du tot the lean cost structure of the technology.



## Project Description

The project seeks to establish a seawave energy park in the Gulf of Guinea 17Km of the coast of Ada in the Greater Accra region of Ghana. The power generating capacity of the project is 1000 MWh. The project will employ environmentally friendly technology using the Seabased Wave Energy Converters (WEC).

The project involves the installation of generator unit (WECs) and marine substations off shore and installation of on shore substations to connect to the national grid, the reality of cables to link offshore generating units to the onshore substation located 100M from the shore .The project is based by a PPA between TCS' Energy Limited and the ECG to off take up to 1000MW of power from the project. The project is an iconic a a renewable energy project and the first of its kind in West Africa.

Project location.

The project will be located within the following perimeters[insert got locations] a xxxxxxxx secured in the Ada West District of the Greater Accra Region of Ghana This site is x kilometers from the sea. Ada West District is located within Latitudes 5°45 and 6°00 (North) and Longitudes 0°20 to 0°35 (East). The Ada West District is one of the sixteen districts in the Greater Accra Region of Ghana.

### The Global Wave Energy Market

An independent market assessment by the World Energy Council estimated the worldwide potential of wave energy economic contribution in the electricity market to be in the region of 2,000TWh/year, which is about 12% of world electricity consumption (based on 2009 data) and is comparable to the amount of electricity currently produced world-wide by large scale hydroelectric projects. In terms of market value, the potential market for harvesting energy from ocean waves is worth about \$1trillion worldwide, according to theWorld Energy Council.

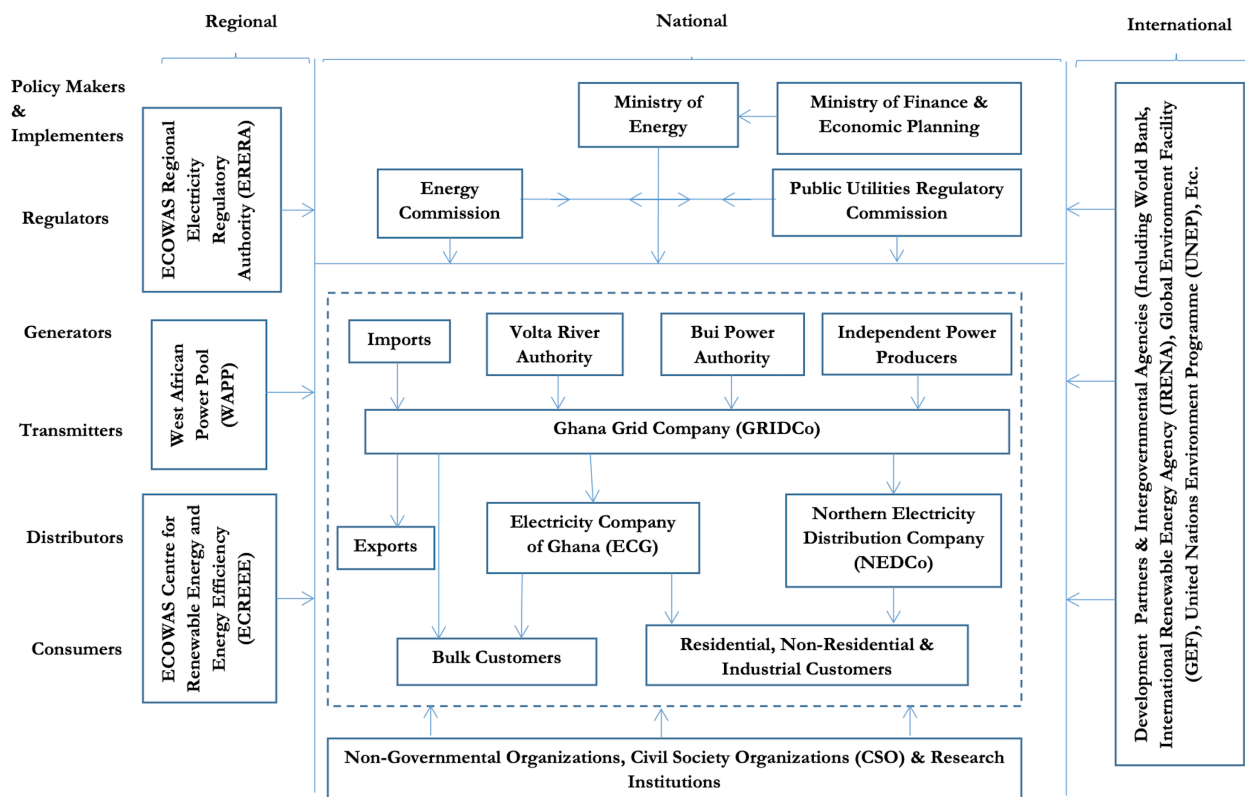
An independent market assessment by the World Energy Council Estimates the worldwide potential of wave energy economic contribution in the electricity market to be in the or of 2,000TWh, this is about

Transparency Market Research in 2014, released a report titled "Wave andTidal EnergyMarket-Global Industry Analysis, Size, Share, Growth, Trends and Forecast 2014–2020."The report stated that the global wave and tidal energy market was worth an estimated US\$25million in 2013 and is anticipated to be worth US\$10.1billion in 2020, registering an impressive CAGR of 64.1% during the fore cast period. The wave and. tidal energy market is also expected to reach a global installed capacity of 3,712MW by 2020, growing at a 34.5% CAGR from 2014-2020.

## The Power Sector in Ghana

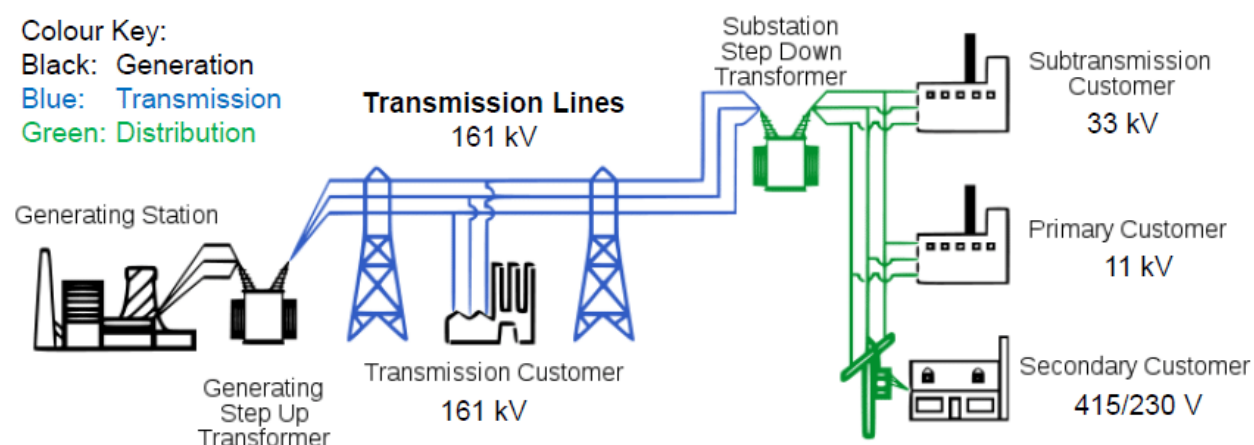
The power sector in Ghana has approximately 2,443MW of installed capacity, of which a significant proportion is already being provided by Independent Power Producers (IPPs). Demand is predicted to exceed 5,000MW by 2020, primarily as a result of the Ministry of Energy's objective of becoming a major exporter of electricity into the West Africa Power Pool, coupled with an increase in domestic demand, as the government sort to increase the electrification rate to 80percent in 2016. The Government recognizes the importance of IPPs to the achievement of these international and domestic expansion objectives. In terms of renewable energy projects, Ghana. has wind and so large energy resources, as well as biomas sand hydropower. Around 55percent of Ghana's installed capacity is currently provided by the three large-scale hydro power projects(Akosombo, Bui and Kpong hydro dams). Bio mass also makes a significant contribution to the energy mix.The government is targeting to increase the contribution of wind, wave and solar power to10 percent of the country's capacity by 2020 and has recently enacted the Renewable Energy Law to support this objective. The voltage levels range from 69kV to 330kV for power transmission. The transmission infrastructure is composed of about 5,100km lines and 54 transformer sub stations and is interconnected with neighboring countries:Togo and Benin in the East; Burkina Faso to the North; and Coted'Ivoire in the West. Inadequate investment coupled with power generation constraints has resulted in overall low power factor and increase in transmission losses that have lately been above 4%.The integration of renewable energy solutions into the national grid could assist in reducing long line transmission losses.

### Structure of Power Sector in Ghana





## Electrical Power Generation and Transmission Network Ghana



### Transaction Summary

TC's Energy Limited ( "TCE" or "the Company") is registered under the Laws of Ghana to be engaged in the business of renewable energy projects in Ghana.

The company is registered under the Companies Act 2019 ( Act 992), this act has been replaced by with registration number CSXXXXXX. The company's certificate to commence business is dated dd/MM/YYYY; certificate of incorporation is dated DD/MM/YYYY.

TCE is licensed by the *Ministry of Energy and Power* (MoE) of The Public of Ghana to develop Energy and Power generating projects in Ghana. The Ministry of Energy and Powers is the regulator for the the Oil and Gas industry in the Republic of Ghana.

The company is authorized by registrar general Ministry of Energy and Power to :

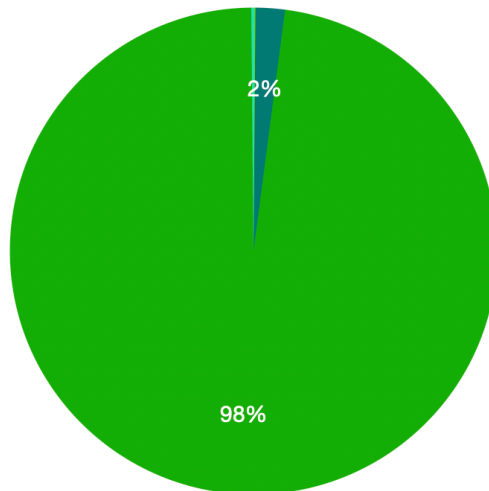
- I. Develop a 1000 MWh renewable energy power generating the Ada West District in the Greater Accra Region of Ghana
- II. Arrange 100% foreign investments financing for the proposed renewable energy power project
- III. Supply the power generated to the national Grid of the Republic of Ghana via Electric Corporation of Ghana (ECG) and GRiDCo.

To be able to do the above,, the company (TCE) has an Independent Power Producers License (IPP) and a Power Purchasing Agreement (PPA)

PROJECT COST AND USE OF FUNDS

Project Cost break Down	
Land Acquisition	\$2,200,000
On shore construction & Civil Works	\$32,600,000
Offshore Equipment Installations	\$1,640,379,333
Vehicles	\$2,435,000
<b>Total expenses</b>	<b>\$1,677,614,333</b>

- Land Acquisition
- On shore construction & Civil Works
- Offshore Equipment Installations
- Vehicles



## Proposed Financing Terms

### Proposed Indicative Terms and Conditions Loan A-1,2

<b>Borrower:</b>	TCES, Ltd. (the "Borrower") (the "Borrower")	
	<b>Amount</b>	\$200MM Pre-operating expenses Term Loan A-1
		\$300MM Post- Operating Expenditure Term Loan A-2
	<b>Maturity</b>	15 Years
<b>Facility Type</b>	Debt ( Convertible Debt allowed)	
<b>Facility:</b>	<b>Pricing</b>	Opening at L+225 bps
		RCF Undrawn: 37.5 bps with step-down
		Total Leverage-based Pricing Grid: <ul style="list-style-type: none"> <li>▪ 4.50x+: L+225 bps</li> <li>▪ 4.50x – 3.75x: L+200 bps</li> <li>▪ 3.25x – 3.75x: L+175 bps</li> <li>▪ 2.25x – 3.25x: L+150 bps</li> <li>▪ Below 2.25x: L+125 bps</li> </ul>
<b>Amortization</b>	Revolver: None	
		Term Loan A: 5%/5%/5%/7.5%/10%
<b>Use of Proceeds:</b>	Revolver: NA	
	Term Loan A-1: To finance the pre-feed expenditure in relations to TCES's operations	
	Term Loan A-2: To finance the expenses relating to Post operating expenditure of TCES	
<b>Incremental Facility:</b>	Fixed Dollar Incremental Amount are not applicable .	
<b>Security:</b>	First lien on substantially all tangible and intangible assets, including stock of the Borrower and all domestic restricted subsidiaries (Same asexisting) and cashflows of the project, all incremental basis to covert facility amount	
<b>Guarantors:</b>	TCES Limited and the material domestic wholly-owned restricted subsidiaries of the Borrower Financial guarantee from Mutual Federal (BB-; Republic of South Africa Sovereign Rating) and reins insured by Federal Risk (AA; Fitch Rating)	

<b>Optional Prepayments:</b>	None
<b>Mandatory Prepayments:</b>	<p>Mandatory prepayments required from proceeds of:</p> <ul style="list-style-type: none"> <li>▪ 100% net cash proceeds of non-ordinary course asset sale proceeds, with 12 month reinvestment rights</li> <li>▪ 100% of debt issuance proceeds (other than permitted debt)</li> <li>▪ 50% of excess cash flow with leverage based stepdowns to 25% and 0% based on senior secured leverage of 4.25x and 3.75x, respectively</li> </ul>
<b>Financial Maintenance Covenants:</b>	None
<b>Negative Covenants:</b>	To match Amended Existing Credit Facilities If any.

## II. Summary of Indicative Term Loan B Terms

<b>Borrower:</b>	TCs Energy SPV, Ltd. (the "Borrower")	
<b>Facility:</b>	<b>Amount</b>	\$1.5Bn Term Loan B
	<b>Maturity</b>	15 years
	<b>Amortization</b>	LIBOR + 5.5% per annum
	<b>Facility Type</b>	Convertible Debt
<b>Use of Proceeds:</b>	Finance commitment to the Engineering and Procurement Contractors( EPC) and or begin EPC construction	
<b>Incremental Facility:</b>	Fixed Dollar Incremental Amount shall be \$ amounts prescribed in the debt acquisition schedule for the Engineering and Procurement Construction. This facility amount covers operation and maintenance agreements. We assume the EPC will transit to the OMC	

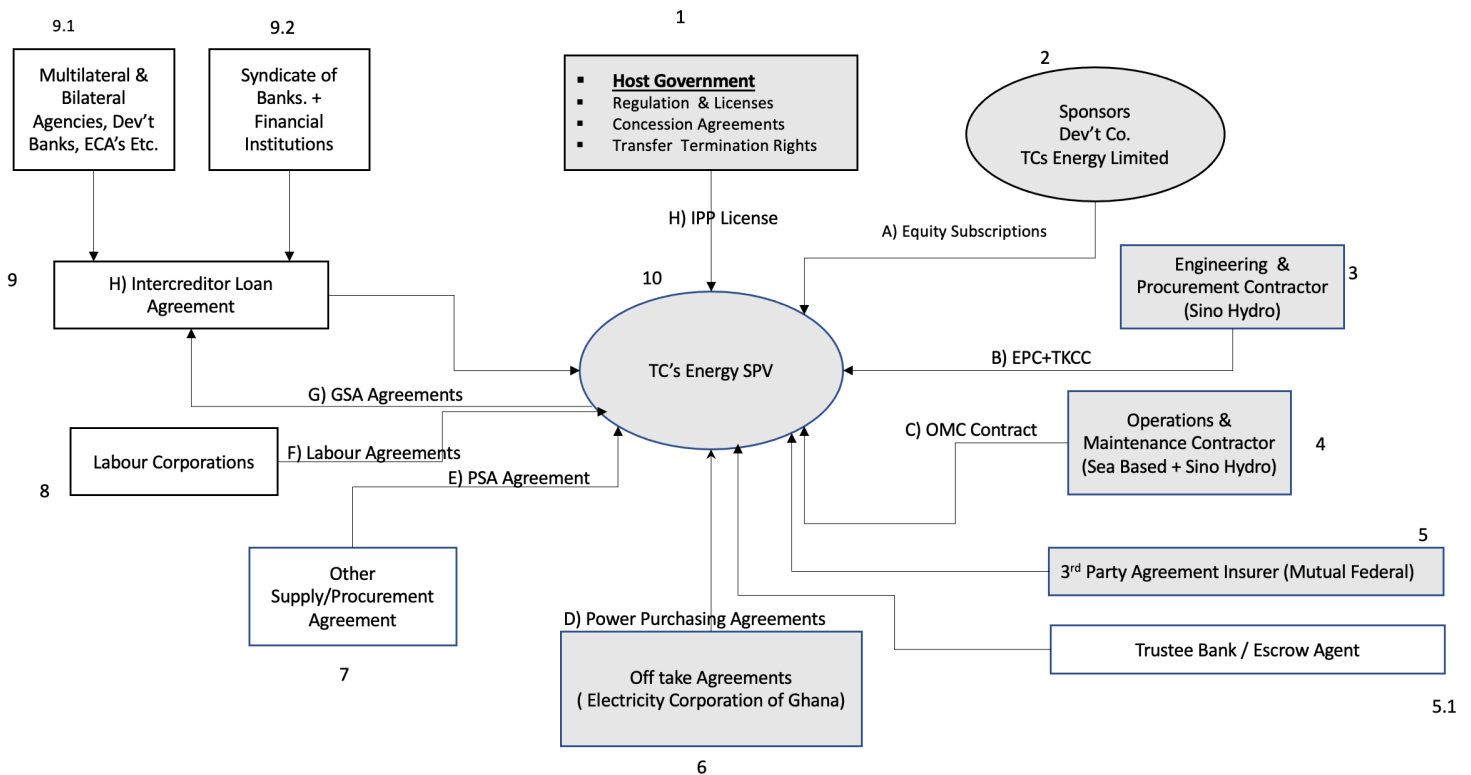
<b>Security:</b>	First lien on substantially all tangible and intangible assets, including stock of the Borrower and all domestic restricted subsidiaries	
<b>Guarantors:</b>	TC's Energy SPV Limited. and the material domestic wholly-owned restricted subsidiaries of the Borrower	
<b>Optional Prepayments:</b>	None	
<b>Mandatory Prepayments:</b>	Mandatory prepayments required from proceeds of: <ul style="list-style-type: none"> <li>▪ 100% net cash proceeds of non-ordinary course asset sale proceeds, with 12 month reinvestment rights</li> <li>▪ 100% of debt issuance proceeds (other than permitted debt)</li> <li>▪ 50% of excess cash flow with leverage based stepdowns to 25% and 0% based on senior secured leverage of 4.25x and 3.75x, respectively</li> </ul>	
<b>Financial Maintenance Covenants:</b>	None	
<b>Negative Covenants:</b>	To match Amended Existing Credit Facilities	
<b>Borrower:</b>	TCs Energy SPV, Ltd. (the "Borrower")	
<b>Facility:</b>	<b>Amount</b>	\$1.5Bn Term Loan B
	<b>Maturity</b>	20 years
	<b>Amortization</b>	LIBOR + 5.5% per annum
	<b>Facility Type</b>	
<b>Use of Proceeds:</b>	Finance commitment to the Engineering and Procurement Contractors( EPC) and or begin EPC construction	

<b>Incremental Facility:</b>	Fixed Dollar Incremental Amount shall be \$ amounts prescribed in the debt acquisition schedule for the Engineering and Procurement Construction. This facility amount covers operation and maintenance agreements. We assume the EPC will transit to the OMC
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<b>Financial Maintenance Covenants:</b>	None
<b>Negative Covenants:</b>	To match Amended Existing Credit Facilities

# Contract Structure.

The contract structure follows the standard and typical structure for project financing and project developing. Pursuant to point 5) under the general terms and conditions of the licence the company has registered a special purpose vehicle (SPV) to execute the project. The purpose of the SPV in to do the following 1) Design, 2) Build, 3) Operate and 4) Maintain the Ada Sea wave Technology Power Project

The special purpose vehicle is named the TCs Energy SPV Limited (TCES). The SPV is a limited liability and declared a subsidiary of TC Energy Limited. TC is 100% owned by TCs Energy Limited.



## CONTRACT STRUCTURE(FIGURE 1-1)

All The counter-parties shown in Figure 1-1 are directly involved in the transaction as a risk allocation and management strategy. The contract structure distributes and allocates risks to firms specialized to contain and manage such risk.

### Contract Structure Overview

The Host Government (1), the Government of Ghana through the Ministry of Energy and Power issued the Independent Power Producer License (H) to the the Developer - TCs Energy Limited (2). The license authorizes TCs Energy Limited to develop renewable energy projects in Ghana.

TC's Energy Limited acquired units of WEC ( wave energy converter) technology from the Swedish company *Sea Based*. The technology has been tested and proved effective and efficient. The outcome of the test run were acceptable to the offtaker : Electricity Corporation of Ghana (6) and formed the basis fo the offtake agreement / power purchasing agreement.

The shade units of the contract structure have been achieved while the unshaded units are outstanding. Units 5.1, 7.0 and 8 are subject to achieving the capital stack (9). The capital stack is made up of multilateral agencies etc (9.1) in addition to banks and financial institutions (9.2)

While we know that financing may be acquired from Bond issues, leasing structures and industrial financiers, we have assumed in Figure 1-1 that **credit is granted directly in favor of the SPV as pure debt or convertible debt or equity.**

We also indicate via figure 1-1,that the success of the project depend on the networks of contracts set up by special purpose vehicle.

### The Engineering and Procurement Contractor and Turn Key construction Contracts ( EPC & TKCC)

The engineering and procurement contractor is the company (or consortium of companies) that is contracted for the design and construction of the refinery and its infrastructure, on the basis of a fixed-price turnkey contract, often known as EPC—Engineering, Procurement, and Construction. Contract obligations are taken on by the main contractor (who commits directly to the SPV) and are later passed on to consortium members. Among these players, there may be an operator or operation and maintenance contractor who steps in after construction is complete.

The main contractor will be responsible for damages resulting from delays in completing the facilities but may also receive an early completion bonus if the project is finished ahead of schedule.

In addition, the contractor is required to pay penalty fees (liquidated damages) if the plant (herein referring as the WEC and its anciliaries) does not pass performance tests on certain key variables at guaranteed levels. On the other hand, the contractor again can earn a bonus if the certified performance of the Refinery is better than that established in the contract with the SPV.

### OPERATIONS AND MAINTENANCE CONTRACTOR

The operations and maintenance contractor is the counter-party that takes over the management of the technical operations (operations) after the construction phase is complete. This company is



responsible maintenance for a set number of years, guaranteeing the SPV that the equipment is run efficiently in keeping with the pre- agreed output parameters. Therefore, the operator plays a key role during the post-completion phase of the project finance initiative.

The case of the TCES, the operations and maintenance contractor could be a joint venture / special purpose vehicle created by the equipment designer and supplier *Seabased and Sino Hydro the engineering and procurement contractor.*

## **RISK ANALYSIS & RISK MANAGEMENT**

Risk evolution is an important factor in financing the project. The project risk management is responsible for unexpected changes in the ability of the project to repay costs, debt service, and dividends to shareholders. Risk evaluation and management is principally to anticipate contain and manage the risk inherent in the project to ensure there is no default to creditors.

The projects risks strategy is focused on :

- I. Retaining the risk
- II. Transfer and allocating of risk to the project counter party in the contract structure most suitable to manage this risk.
- III. Implementing a residual policy: Transfer the risk to professional agents whose core business is risk management (insurers).

There are three basic strategies the SPV can put in place to mitigate the impact of a risk:

1. Retain the risk.
2. Transfer the risk by allocating it to one of the key counter-parties.
3. Transfer the risk to professional agents who have risk management as a primary business.

## **RISK RETENTION.**

Key risk retention for the power project is the risk of revoking of the operators license in the in the event that the SPV is unable to meet the power output requirements of the PPA. The risk mitigation strategy is to acquire financing and complete the feed design prior to to June 2020. The secondary mitigation plan is request for an extension

## **TRANSFER OF RISK TO COUNTER PARTIES IN THE CONTRACT STRUCTURE**

The key contracts revolving around the SPV (construction, supply, purchase, O&M) allocate rights and obligations to the SPV and its respective counter-parties, such agreements can be will be used to control the transaction risk in the counter party relationships.

Every counter-party in the contract structure will bear the cost of the risk it is best able to control and manage. This ensures that the counter party has the incentive to ensure compliance with the contractual agreements. Risk that have been transferred to the counter party will be borne by the counterpart and thus the SPV and its lenders are insulated from such risk.

## Transfer of Risk to Professional Agents who have Risk Management as a Primary Business.

Transfer of risk to insurance firms is implemented as a residual mitigation policy. This is applied to risk that are difficult to mitigate operationally. Insurers are in the best position to buy these remote and 'difficult' risk from the SPV against the payment of an insurance premium.

### PROJECT RISK IDENTIFICATION (1-2).

#### Project life cycle:

##### 1. Precompletion phase risks

- Activity planning
- Technological
- Construction



#### Allocation through contracts

Turnkey (EPC) contract

##### 2. Postcompletion phase risks

- Supply risk
- Operational risk
- Market risk



Put or pay agreements  
O&M agreements  
Offtake agreements (when possible)

##### 3. Risks common to precompletion and postcompletion phases

- Interest rate risk
- Exchange risk
- Inflation risk
- Environmental risk
- Regulatory risk
- Legal risk
- Credit/counterparty risk



Use of derivative contracts  
Use of insurance policies

### PRE-COMPLETION PHASE RISKS .

The phase leading up to the start of operations involves building the project facilities. This stage is characterized by a concentration of industrial risks, that emerge at the beginning of the project. Project management logic, involves delineating the timing and resources for various activities that are linked in a process that leads to a certain result within a preset time frame. The logical links among various activities are vital in order to arrive at the construction deadline with a refinery capable of functioning.

#### PLANNING RISK.

Grid analysis techniques (the critical path method—CPM—and the project evaluation and review technique—PERT), supported by software, make it possible to map out the timing of the project activities (Gantt chart). Delays in completing one activity can have major repercussions on subsequent activities. The risk is, in fact, that the structure on which the SPV depends to generate cash flows during the operations phase may not be available.

#### TECHNOLOGICAL RISK.

Construction works can require the use of technologies that are innovative or not fully understood. Under normal circumstances, it is the contractor who decides on the most suitable technology, with the consent of the other sponsors; in this case the contractor will almost certainly opt for tried and tested technology. It is not uncommon to find the situation where the EPC is not in consonance with technology supplied by technology partner/sponsor/counter party. In the situation where the technology partner and the EPC are not in agreement.

Technology risk in the project is treated as counter party risk and transferred to the Engineering and Procurement Contractor. The EPC will thus be required to guarantee the performance of the technology used for the development of the project, with penalties for non performance and failure to meet technology performance metrics.

#### **CONSTRUCTION RISK OR COMPLETION RISK.**

This type of risk can take various forms, primarily it is the risk that the project may not be completed or that construction might be delayed.

Possible instances construction risk:

- Non-completion or delayed completion due to force majeure
- Completion with cost overruns
- Delayed completion
- Completion with performance deficiency

Construction risk is treated as counter party risk and transferred to the Engineering and Procurement Contractor (EPC).

#### **POST-COMPLETION PHASE RISKS.**

The major risks in the post-completion phase involve the performance of the plant as compared to project standards, and the sale of the product or service. The occurrence of these risks, can cause a reduction of cash flows generated by the project during its economic life. If cash flows are lower than expected, lenders and sponsors will find it difficult to get repaid or to reach satisfying levels of internal rate of return.

#### **PERFORMANCE RISK.**

The operating risk (or performance risk) arises when the plant functions but technically underperforms in post-completion testing. The effect of performance risk is lower efficiency and, in the end, unwanted cost overruns.

#### **DEMAND RISK (OR MARKET RISK).**

Demand or market risk is the risk that revenue generated by the SPV is less than anticipated. This negative differential may be a result of *overly optimistic projections* in terms of quantity of output sold, sales price, or a combination of the two. Demand risk is mitigated in modelling the financial projections based on real figures provided by in the PPA/offtake agreement.

Risks Found in Both the Pre- and Post-completion Phases.

Risks found in both the construction and operational phases are those that might systematically arise during the life of the project, though with differing intensity depending on the phase in the life cycle of the initiative. Many risks common to both phases pertain to key macroeconomic and financial variables (inflation, exchange rate, interest rate);

#### **INTEREST RATE RISK .**

In project development, there is always the risk of fluctuations in interest rates. While there are no revenues during the construction phase, there are drawdowns which begin to generate interest expenses, the level of which depends on the level of interest rates during the years in which the project is under construction.

Interest rate costs represents a significant percentage of total costs; the more intense the recourse to borrowed capital, the greater the weight of the interest component. The risk the SPV runs is that unexpected peaks in the benchmark rate to which the cost of financing is indexed can cause an increase in the value of the investments such as to drain project funds entirely.

The risk mitigation for interest rate is to used a fixed interest rate. The disadvantages are losses saving in the event of reducing interest rates. However, downside, would be negative impact on the cashflows of the SPV in the event of hikes in interest rates. For stability and ease of prediction the project's financial modelling is based on fixed interest rate.

#### **EXCHANGE RATE RISK.**

Essentially this risk emerges when some financial flows from the project are stated in a different currency than that of the SPV. The pre-determined pricing for the project is USD. The impact of the exchange rates on the financial performance of the SPV will be seen in the seen in the domestic outflow for local expenses( which exposes the SPV to exchange risk) in the event of an adverse movement of the Cedi against the US dollar.

The mitigation strategies are the following:

- I. Forwards agreements for buying or selling currency
- II. Currency Swaps

These will be executed with the support of the agent bank.

#### **Inflation Risk**

Inflation risk arises when the cost dynamic is subject to a sudden increases that cannot be transferred to a corresponding increase in revenues. Inflation risk derives from the fact that most contracts between SPVs and their commercial counter-parties are based on revision mechanisms for rates or installments based on the behavior of a given price index.

To cover against this risk, swap contracts will be drawn up between a hedging bank and the SPV. The Consumer Price Index swap (CPI swap) serves to mitigate the effect that a drop in inflation would have on the capacity of nominal cash flows to service the debt, in any given period.

When a hedging contract is signed, the benchmark inflation rate is quoted by the hedging bank for the entire tenor of the loan (henceforth Fixed Swapped Index, or FSI). From that time forward the

debt service, in terms of capital and interest, is “immunized” from any possible future change in the rate of inflation.

The exchange of cash flows between the two counter-parties coincides with each loan repayment after the scheduled revision of rates or periodic payments collected by the SPV. At this time, after agreeing to a base inflation rate to use for computing the coefficient for revising the payments, one of the two parties gives the other a certain sum of money depending on the differential between the real inflation rate ( $CPI_t$ ) and the fixed rate (FSI) negotiated when the hedging contract was signed.

At every loan repayment date, the SPV can face three alternative scenarios:

1.  $CPI_t < FSI$ : When this occurs, the inflation rate at  $t$  is less than the rate fixed when the hedging contract was signed. The drop in the nominal value of cash flows and the resulting emergence of inflation risk is counterbalanced by a corresponding amount paid by the hedging bank to the SPV.
2.  $CPI_t > FSI$ : Here the inflation rate at  $t$  is higher than the rate fixed when the hedging contract was signed. The increase in the nominal value of cash flows is counterbalanced by a corresponding amount paid by the SPV to the hedging bank.
3.  $CPI_t = FSI$ : In this circumstance, the real and fixed rates of inflation are exactly the same.

#### **ENVIRONMENTAL RISK.**

This risk occurs as a result of potential negative impact the project could have on the surrounding environment. Such risk can be caused by a variety of factors, some of which are also linked to political risk. Operating the refinery can damage the surrounding environment.

- I. Change in law can result in plant variants and an increase in investment costs.
- II. Public opposition to projects with major environmental impact could lead the host government to reconsider government support agreements with the SPV and may create difficult operating conditions for the project.

#### **REGULATORY RISK.**

There are various facets to regulatory risk; the most common are the following:

1. The permits needed to start the project are delayed or canceled.
2. The basic concessions for the project are unexpectedly renegotiated. The core concession for the project is revoked.

#### **LICENSING RISK.**

Licensing stage risk is identified as the very low for this project due to the following :

- I. Signed PPA with approved test run of equipment from Seabased.
- II. Medium predictability for financial markets and the time it takes in securing large financing of such scale.
- III. Risk mitigation for the time validity of the operators license is to keep the regulator in the know with continuous updates, on financing progress. These reports are outside the regular reports required by the regulator.

## **POLITICAL RISK AND COUNTRY RISK.**

Political risk takes various forms, for instance, a lack of government stability, which for some projects may be critical. The SPV could be negatively impacted by a change of government if the new administration does not share the same views as the previous one. The risk is mitigated by a long term PPA.

The following is a generally accepted classification of different types of political risk.

**Investment risks:** These relate to limitations on the convertibility or transfer of currency abroad. Such restrictions are implemented for macroeconomic reasons, such as maintaining equilibrium in the balance of payments or stabilizing the exchange rate. Other examples of investment risk are the host government's expropriating a plant without paying an indemnity, or nationalizing a plant, or the breakout of war, revolt, or civil war (political force majeure risk). Investment risks are mitigated with registering the project with the Central Bank of Ghana and the Ghana Investment Promotion Centre. These institutions are mandated to support investor interests.

**Change in law risks:** These include any modification in legislation that can hinder project operations. We consider this risk as non applicable in this project.

**Quasi-political risks:** This category encompasses a wide range of different circumstances. Normally, it includes all disputes and interpretations regarding contracts already in place (breach of contracts) that emerge from a political, regulatory, or commercial background.

In some cases, these risks do depend not on the central government, but on the local administration empowered to implement its own laws and fiscal policies. If these public bodies are counterparties of the SPV and they default, the central government is under no obligation to provide any support; this results in "substate" or "subsovereign" risk. Quasi political risk are non applicable because of the centralized nature of the regulation.

**Creeping expropriation**(quasi-political risks) which refers to a combination of behaviors that a public body can adopt to "squeeze" project operations. Such actions do not constitute a formal act of breach of contract.

Political risks are especially important for lenders in project finance ventures located in developing countries. The typical political problems faced by investors in developing countries are very limited in Ghana. This is because of the highly regulated nature of the energy and power industry and its strategic importance to the country in addition, Ghana's energy strategy included reaching stability as a net exporter of power. However, political risk can be covered in two ways.

1)The first is to draw up an agreement with the government of the host country stating that the government will create a favorable (or at least nondiscriminatory) environment for the sponsors and the SPV. This can be obtained from the Ghana Investment Promotion Centre.

This kind of contract, called a government support agreement, can include provisions with the following intent:

- A. Support the projects bond and stock programs at the point of raising funds and exit of investors
- B. To create conditions that would serve to prevent possible currency crises from adversely affecting the convertibility of the debt service and the repatriation of dividends (for example, the host country could set up ad hoc currency reserves through its central bank)
- C. To facilitate the operational capacity of the SPV from a fiscal standpoint through tax relief or exemptions
- D. To create favorable institutional conditions (for example, importation procedures exempt from customs duties, streamlined bureaucratic processes, service provision for the SPV, concessions for the use of public lands, or provisions for accepting international arbitration outside the host country to resolve legal disputes)

All the above listed can be acquired from the Ghana Investment Promotion Centre. They would however, be contingent upon confirmation of financing and regulatory compliance.

The second way to cover against political risks is through the insurance market. Insurance policies are available offering total or partial coverage against political risks. These policies are offered by multilateral development banks and export credit agencies as well as by private insurance companies

#### **LEGAL RISK.**

Legal risk centers primarily on the project's lenders, whose lawyers analyze and manage this risk. Their job is to ascertain whether the commercial law of the host country offers contract enforceability should problems emerge during the construction or post-completion phases.

It should be noted that contract enforceability does not depend exclusively on the degree of economic development in a country. It also involves a series of other factors, such as a country's judicial tradition and the institutional conditions and context characteristics. As for the first variable, in countries where the rule of law is grounded in civil law, lenders find less protection than in nations where common law is in force. Generally the rule of Law in Ghana is grounded in Common Law and thus legal risk for the transaction is low.

Institutional conditions may complicate matters, because they are linked to factors such as corruption and the tendency toward illicit behavior, which can often turn a decision against lenders. The transaction structure and investment vehicle (the SPV structure) in addition to the shareholders agreement for the SPV owners insulate the investors/lenders to the project from institutional risk. The security structure for pure debt lenders is the cashflows assets developed by the SPV shared *pari passu*. The option for mezzanine financing is also backed by share purchase agreements.

#### **CREDIT RISK OR COUNTERPARTY RISK.**

This risk relates to the parties who enter into contracts with the SPV for various intents and purposes. The creditworthiness of the contractor, the offtaker and the plant operator would be carefully assessed by lenders through an exhaustive due diligence process. The financial soundness of the counterparties (or respective guarantors if the counterparties are actually SPVs) is essential for financiers.

## **RISK ALLOCATION WITH CONTRACTS STIPULATED BY THE SPV**

### **THE TURNKEY (OR ENGINEERING, PROCUREMENT, AND CONSTRUCTION—EPC) AGREEMENT**

A turnkey agreement—also known as EPC (engineering, procurement, and construction)—is a construction contract by which the SPV transfers construction risk of the refinery to the contractor. In exchange for a set fee, the contractor guarantees the SPV the following:

1. The completion date
2. The cost of the works
3. Plant performance

### **ALLOCATION OF CONSTRUCTION RISK:**

- To engage independent technical advisors for their opinion on the effectiveness of the technology
- To require the technology supplier to pay penalties either in one lump sum or proportional to the patent value of the technology.
- To require the contractor to provide performance guarantees on the technology that are incorporated in the construction contract (wrapping or wraparound responsibility).
- Wrapping (or wraparound responsibility) is what provides lenders with a real guarantee. With this type of contract, the contractor is required to ensure that the plant corresponds exactly to design and technical specifications listed in the license agreement for use of know-how with the SPV.

### **ALLOCATION OF OPERATIONAL RISK:**

#### Operations and Maintenance (O&M) Agreements

Operating risk may be mitigated by the experience and the reputation of the project operator. As far as O&M contracts are concerned, two solutions are possible:

**Fixed-price contract:** In this case the operator assumes risks relating to the fluctuations in operating costs and makes a profit only if the costs actually incurred are lower than the contract price for services rendered.

**Pass-through contract:** In this case, the operator receives a fixed payment and performance bonuses while the SPV covers operating costs. With this contract structure, the level of performance bonuses is crucial, as is determining penalties the operator would face if satisfactory output levels are not attained.

As a supplemental guarantee, lenders may also request a step-in right, which is the option to remove the original operator and substitute that company with another of the lender's choosing.



## **ALLOCATION OF MARKET RISK.**

Market risk coverage is central to the stability of the revenue lines which in turn directly impact the financial model. The revenue lines for the project are secured with a long term off take agreement with the Electricity Corporation of Ghana

## **Risks Related to the Business.**

This Information Memorandum also contains forward looking statements that involve risk and uncertainties. The projects's actual results may differ materially from those anticipated in these forward looking statements as a result of various factors, including the risks described below and elsewhere in this report.

The projects's ability to generate cash depends on many factors beyond our control and, if we do not have enough cash to satisfy our obligations, we may be required to refinance all or part of our existing debt.

Our ability to meet our expenses and service our debt, including the payment of Cash Interest on the Notes, and the repayment of principal on the Notes when due, depends on our future performance.

We are affected by financial, business, economic and other factors, many of which we are not able to control. In addition, tax and other considerations may effectively limit or restrict our future ability to make payments in respect of the Notes.

We cannot assure you that our business will generate sufficient cash flows from operations or that future borrowings will be available to us in an amount sufficient to enable us to make interest and principal payments on our debt, or to fund our other liquidity needs.

If we do not generate sufficient cash flows from operations or if we otherwise do not have enough money to service our debt, we may be required to refinance all or part of our existing debt, forego opportunities and delay capital expenditures, or sell assets or borrow more money. These alternative measures may not be successful and may not be sufficient to enable us to meet our scheduled debt obligations. In the absence of such cash flows and resources, we could face substantial liquidity problems and could be required to sell material assets to attempt to meet our debt service and other obligations. We may not be able to consummate those asset sales to raise capital or sell assets at prices and on terms that we believe are fair, and any proceeds that we receive may not be adequate to meet any

debt obligations then due. If we cannot meet our debt obligations, the holders of our debt may accelerate our debt and, to the extent such debt is secured, foreclose on our assets securing such debt. In such an event, we may not have sufficient assets to repay all of our debt. In addition, any failure to make payments of interest or principal on our outstanding indebtedness on a timely basis would likely result in a reduction of our credit rating, which could harm our ability to incur additional indebtedness.

- unexpected and actual weather conditions, natural disasters, accidents, interruptions to transportation or other events that can cause unscheduled shutdowns or otherwise adversely affect our refineries; and
- changes in technology.

If our suppliers fail to provide us with sufficient trade credit in a timely manner, we may have to use cash on hand or other sources of financing which may not be readily available or, if available, may not be on terms acceptable or favorable to us.

Our business is very competitive and increased competition could adversely affect our financial condition and results of operations.

We operate in a highly competitive industry and actions of our competitors could reduce our market share or profitability. We expect increasing additions to Wave energy operation as the technology becomes acceptable as a result of our operations. These may impact the price per kWh and would affect our financial capacity in the future.

Economic instability and market volatility may have a negative effect on our business, results of operations, financial condition, and future growth prospects.

Political and economic instability could impact the African economy. Events, amongst others, such as changes in Governments and terrorism and local political instigations, may affect our operations and market. This could cause our revenues and margins to decline and could negatively affect our refining margins and our business, financial condition and results of operations. Should the global economy relapse into recession or should a new global and long-lasting economic recession occur, it could have a materially adverse effect on our business, financial condition or results of operations.

We are faced with operational hazards as well as potential interruptions that could have a material adverse effect on our financial condition and results of operations.

Our operations are subject to all of the risks normally associated with producing, storage, transportation and distribution, including fire, mechanical failure and equipment shutdowns, transport accidents and other unforeseen events. In any of these situations, undamaged processing units may be dependent on, or interact with, damaged sections of our systems and, accordingly, are also subject to being shut down. In addition, damage to the cables or port facilities for transporting inventory to and from our facilities could cause an interruption in production at those facilities. Any of these risks could result in damage to or loss of property, suspension of operations, injury or death to personnel or third parties, or damage or harm to the environment. We would depend on cashflows from the project therefore, a prolonged interruption in production would have a material adverse effect on our business, financial condition, results of operations and cash flow.

*As partial protection* against these hazards, we would maintain property, casualty, and business interruption insurance in accordance with industry standards. Although there can be no assurance that the amount of insurance carried by us is sufficient to protect us fully in all events, all such insurance is carried at levels of coverage and deductibles that we consider financially prudent. *However, our business interruption insurance does not cover losses for the first 45 days of interruption and may not cover blockades*, interruption due to political circumstances in foreign countries, hostilities or labor strikes. Any major loss for which we are underinsured or uninsured could have a material adverse effect on our business, financial condition or results of operations.

In the future, we may not be able to maintain or obtain insurance of the type and amount we desire at reasonable rates. As a result of factors affecting the insurance market, insurance premiums with respect to renewed insurance policies may increase significantly compared to what we are currently paying. In addition, some forms of insurance may become unavailable in the future, or unavailable on the terms we believe are economically acceptable, the level of coverage provided by renewed policies may decrease, while deductibles and/or waiting periods may increase, compared to our existing insurance policies.

We are subject to governmental laws and regulations, including environmental laws and regulations on climate change, occupational health and safety laws, competition laws and energy laws in Ghana and elsewhere, which may impact our business and results of operations.

Changes in legislation or regulations and actions by Ghanaian and other regulators, including changes in tax laws or administration and enforcement policies, may from time to time require operational improvements or modifications at, or possibly the closure of, various facilities or the payment of additional expenses, fines or penalties. We cannot predict the nature, scope or effect of legislation or regulatory requirements that could be

adopted in the future or how existing or future laws or regulations will be administered or interpreted in the future. Consequently, we may need to make additional and potentially significant expenditures in the future to comply with new or amended environmental and energy laws and regulations. We may not have sufficient funds to make such expenditures. Regulatory liabilities and expenses may therefore have a material adverse effect on our business, financial condition or results of operations, including, without limitation, in the regulatory categories discussed below.

Carbon credits/emissions regulations. We are subject to various supranational, national, regional and local environmental laws and regulations relating to emissions standards for, and the safe storage and transportation of, our products. We are also subject to strict AU, EU and international and Ghanaian environmental regulations. Ghana has among the strictest environmental specifications in the AU. While our operations are located in Ghana, we may raise financing from the EU region and United States and other economic and political regions and may be subject to their regulations as clauses of default if and when we borrow from these regions. We would comply with EU regulations as a standard for international regulatory compliance.

#### **REACH.**

We are also subject to laws and regulations relating to, among other things, the production, discharge, storage, treatment, handling, disposal and remediation of equipment and products and certain materials, substances and wastes used in our operations and other decontamination and remedial costs. For example, the system in the European Union for registration, evaluation and authorization of chemicals (“REACH”) is among the most significant environmental matters affecting our operations. REACH required companies, to register and perform risk assessments in relation to certain regulated substances. Our failure to comply with any of these requirements, which in some cases would constitute a criminal offense, would subject us (including individual members of management) to fines and penalties and could force us to modify our operations. While our operating country and region may not require REACH compliance, we envisage the situation where we may have to be compliant to a high degree with regulation from countries where we may have significant trade partnership and financial exposure.

#### **PERMITS.**

In addition, we require a variety of permits to conduct our operations. From time to time, we must obtain, comply with, expand and renew permits to operate our facilities including, inter alia, permits under the Ghanaian Environmental Code and permits for the handling of flammables and explosive goods. Failure to do so could subject us to civil penalties, criminal sanctions and closure of our facilities. The risk exists that we will be unable to obtain or renew material permits, which could have a material adverse effect on our ability to continue operations and our financial conditions, results of operations and cash flows; or

that obtaining or renewing material permits will require adopting controls or conditions that would result in additional capital expenditures or increased operating costs.

Health and safety regulations. Our oil refining transportation and distribution activities are also subject to a wide range of supranational, national, regional and local occupational health and safety laws and regulations in each jurisdiction in which we operate. These health and safety laws change frequently, as do the priorities of those who enforce them. Any failure to comply with these health and safety laws, including general industry standards, record keeping requirements and monitoring and control of occupational exposure to regulated substances, could lead to criminal sanctions, civil fines or compliance costs and changes in the way we operate our facilities, which could increase the costs of operating our business and have a material adverse effect on our results of operations, financial condition and cash flows.

#### **COMPETITION LAWS.**

We are subject to strict Ghanaian and AU competition laws, which may limit the types of supply, sales, marketing and cooperation arrangements we can enter into, and may subject us to fines, damages and invalidity of such agreements or certain provisions thereof. Legal action by the Competition Authority, other regulatory authorities or any related third party claims may expose us to liability for fines and damages.

The risk of significant environmental liability is inherent in our business. We are subject to risks relating to crude oil or refined product spills, discharge of hazardous materials into the soil, air and water, asbestos and other environmental damage. Our feedstock and refined products are shipped to and from our refineries in tankers that pass through environmentally sensitive areas. An oil spill from a tanker in such areas would have an adverse impact on the environment, and could impact our reputation and our business. In our industry, there is an ever-present risk of accidental discharges of hazardous materials and of the assertion of claims by third parties (including governmental authorities) against us for violation of applicable law and/or damages arising out of any past or future contamination related to any of our current or former operations. Environmental regulators may in some cases, may investigate the existence of soil and groundwater contamination at our refinery, at some of our depot sites, at some sites where we previously had operations, which could lead to legal proceedings being initiated against us. In respect of past or future operations, acquisitions or disposals. Any amounts paid in fees and penalties, for remediation, or as compensation to third parties would reduce, and could eliminate, the funds available for paying interest or principal on our debts and for financing our normal operations and planned development.

We may also be liable for environmental damage caused by previous owners of operations or properties that we have acquired, use or have used.

We may be liable for decontamination and other remedial costs at, and in the vicinity of, most of the sites we operate or own and that we (and companies with which we have merged) have operated or owned, including following the closure or sale of, or expiration of leases for, such sites.

We may also be liable for decontamination and other remedial costs as a result of contamination caused in connection with the transportation and distribution of our products. In some instances, such as the closure of a number of our depots,

For operational sites, we maintain environmental liability insurance that covers sudden and gradual pollution. Any major or unexpected remediation or clean-up costs for which we are underinsured or not insured at all and/or for which we have not made sufficient provision in our costs budget, could have a material adverse effect on our business, financial condition or results of operations.

We are exposed to currency and commodity price fluctuations, which could adversely affect our financial results, liquidity and ability to pay interest and principal due on our debt.

Our crude oil purchases are primarily denominated in dollars. Our revenues are primarily denominated in dollars and Cedis. We publish our financial statements in Dollars and Cedis.

We must make substantial capital expenditures on our rWEC units and substations and other facilities to maintain their reliability and efficiency. If we are unable to complete capital projects at their expected costs and/or in a timely manner, or if the market conditions assumed in our project economics deteriorate, our financial condition, results of operations or cash flows could be adversely affected.

Delays or cost increases related to the engineering, procurement and construction of new facilities, or improvements and repairs to our existing facilities and equipment, could have a material adverse effect on our business, financial condition, results of operations or cash flows. Such delays or cost increases may arise as a result of unpredictable factors in the marketplace, many of which are beyond our control, including:

- unplanned increases in the cost of equipment, materials or labor;
- disruptions in transportation of equipment and materials;
- severe adverse weather conditions, natural disasters or other events (such as equipment malfunctions, explosions, fires or spills) affecting our facilities, or those of our vendors and suppliers;
- denial or delay in obtaining regulatory approvals and/or permits;
- prices and availability of equipment and material;
- shortages of sufficiently skilled labor, or labor disagreements resulting in unplanned work stoppages;
- market-related increases in a project's debt or equity financing costs; and
- non-performance or force majeure by, or disputes with, our vendors, suppliers, contractors or sub-contractors.

Our Equipment, even if properly maintained, may require significant capital expenditures and expenses to keep it operating at optimum efficiency. These costs do not result in increases in unit capacities, but rather are focused on trying to maintain safe and reliable operations. Furthermore, requirements imposed by authorities mean that we will need to continually invest substantial amounts for replacement, maintenance and upgrades to our refinery.

Any one or more of the occurrences noted above could have a significant impact on our business. If we were unable to make up the delays or to recover the related costs, or if market conditions change or we otherwise cannot finance our capital expenditure program, it could materially and adversely affect our business, financial position, results of operations or cash flows.

Given the highly specialized and technical nature of our business, we depend on key management personnel that we may not be able to replace if they leave our company.

Our industry and our specific operations are highly specialized and technical and require a management team with industry-specific knowledge and experience. Our continued success is highly dependent on the personal efforts and abilities of our executive officers and technical managers, who have trained and worked in the oil refining industry for many years. Our operations and financial condition could be adversely affected if certain of our executive officers become unable to continue in, or devote adequate time to, their present roles, or if we are unable to attract and retain other skilled management personnel.

A substantial portion of our workforce is unionized, and we may face labor disruptions that would interfere with our refinery operations.

Our operations may be affected by labor disruptions involving our employees and employees of third-parties. Substantially all of our employees would be represented by trade unions under collective bargaining agreements. We would maintained good relationships with the trade unions representing our employees in Ghana and would renegotiated many of our employee contracts in order to streamline our various employee agreements and create greater efficiency. We may be affected by strikes, lockouts or other significant work stoppages in the future, any of which could have a material adverse effect on our business, financial condition or results of operations.

We may be exposed to economic disruptions in the various countries in which our suppliers and customers are located, which could adversely affect our operations, tax treatment under foreign laws and our financial results.

Although we operate primarily in Ghana, our operations extend beyond Ghana. Through our supply chain and possible expansion to opportunities across the African continent. We are subject to legal, economic and market risks associated with operating internationally, purchasing and supplies from other countries. These risks include:

Interruptions in our supply chain for our inventory:

- imposition of more extensive international sanctions on countries where we have critical supply chain;
- increase of hostilities between Russia and Ukraine or other countries; problems in the South China Sea
- devaluations and fluctuations in currency exchange rates;
- imposition of limitations on conversion of foreign currencies or remittance of dividends and other payments by our foreign subsidiaries;
- imposition or increase of withholding and other taxes on remittances by foreign subsidiaries;
- imposition or increase of investment and other restrictions by foreign governments; failure to comply with a wide variety of foreign laws; and unexpected changes in regulatory environments and government policies. The occurrence of any one or more of these risks could have a material adverse effect on our business, financial position or result of operations.

It is difficult to compare our results of operations from period to period, which may result in misleading or inaccurate financial indicators and data relating to our business.

It is difficult to make period-to-period comparisons of our results of operations as a result of, among other things, changes in our business, and fluctuations in our capital expenditures, which are primarily denominated in USD. As a result, our results of operations from period-to-period are subject to currency exchange rate fluctuations, in addition to typical period-to-period fluctuations.

Fluctuations in inventory prices therefore have a direct effect on the valuation of our inventory and these fluctuations may impact our results for a given period. For these reasons, a period-to-period comparison of our results of operations may not be meaningful. We may incur additional liabilities in connection with our pension plans, which could have a material adverse effect on our business.

The project would have defined benefit and defined contribution pension plans under which TCES has an obligation to provide agreed benefits to current and former employees. The closed defined benefit plans, which are non-active, are both unfunded and funded. The actuarial valuation, would be conducted annually according to International Accounting Standard 19 (“IAS 19”),

Changes to local legislation and regulation relating to pension plan funding requirements may result in significant deviations in the timing and size of the expected cash contributions under such plans.

There can be no assurance that we will not incur liabilities relating to our pension plans, and these additional liabilities could have a material adverse effect on our business, financial



condition or results of operations. Claims in relation to the Refinery's pensions liabilities will rank ahead of claims you may have under the Notes.

Severe weather, natural disasters, climate change, terrorist attacks, threats of war and actual conflict may negatively impact our business.

Severe weather and natural disasters such as hurricanes, earthquakes, water or other natural resource shortages, tsunamis, floods, typhoons, drought, fire, extreme weather conditions, rising sea levels and the direct and indirect effects of climate change (such as additional rising sea levels, increased storm severity, drought, flooding, wildfires, pandemics and social unrest from resource depletion and price increases), as well as any power shortages or telecommunications failures which may occur, may cause damage or disruption to our employees, facilities, customers, partners, suppliers, distributors and resellers, which could have an adverse impact on our business, results of operations and financial condition.

Our insurance coverage with respect to natural disasters is limited and is subject to deductibles and coverage limits. Such coverage may not be adequate, or may not continue to be available at commercially reasonable rates and terms. Any future material and sustained interruptions in our ability to continue operations at our facilities could damage our reputation, harm our ability to retain existing customers or obtain new customers and could result in lost revenue, any of which could have a material adverse effect on our business, financial position or results of operations.

External electrical power supply failure, due to severe weather or an interruption in the external power generation or transmission system, could cause an interruption in production at each of our refineries. This could have an adverse impact on our business, results of operations and financial condition. We do not have insurance coverage for external power supply failure.

Additionally, terrorist attacks, events occurring in response to terrorist attacks, rumors, sabotage, threats of war and actual conflict may adversely impact our suppliers, our customers and oil markets generally and disrupt our operations. As a result, there could be delays or losses in the delivery of supplies and raw materials to us, decreased sales of our products and delays in our customers' payment of our trade receivables. Energy-related assets, including oil refineries like ours, may be at greater risk of terrorist attack than other targets. It is possible that occurrences of terrorist attacks or the threat of war or actual conflict could result in government-imposed price controls. These occurrences could have an adverse impact on energy prices, including prices for our products, which could drive down demand for our products. In addition, disruption or significant increases in energy prices could result in government-imposed price controls. Any of, or a combination of, these

occurrences could have a material adverse effect on our business, financial condition or results of operations. We maintain terrorism insurance which provides partial protection against property damage and business interruption in case of an attack on our refineries or terminals. Although there can be no assurance that this insurance is sufficient to protect us fully in all events, such insurance is carried at levels of coverage and deductibles that we consider financially prudent. However, a major loss for which we are underinsured or uninsured could have a material adverse effect on our business, financial condition or results of operations.

We may be subject to certain risks because we may operate some of our business through joint ventures. We may have a number of joint ventures. There can be no assurance that these arrangements will be successful and/or achieve their planned objectives. The performance of all such operations in which we do not have a controlling interest will depend on the financial and strategic support of the other shareholders and partners. Such other shareholders and partners may take positions with which we may not agree, may make ill-informed or inadequate management decisions, or may fail to supply or be unwilling to supply the required operational, strategic and financial resources, which could materially adversely affect these operations. If any of our strategic partners were to encounter financial difficulties, change their business strategies or no longer be willing to participate in these strategic partnerships, joint ventures and alliances, this could have a materially adverse effect on our business, financial condition or results of operations.

Our growth strategy may involve acquisitions, and we may experience difficulties identifying acquisition targets, integrating acquired businesses and achieving anticipated synergies. We regularly identify and evaluate potential acquisition opportunities. There can be no assurance, however, that suitable acquisition targets will, or can, be identified in the future, or that we will be able to finance such acquisitions on favorable terms. Any acquisitions of businesses entail numerous operational and financial risks, including:

- higher than expected acquisition and integration costs;
- the possibility that we could pay more than the acquired company or its assets are worth;
- the possibility that we may not identify appropriate acquisition targets, complete future acquisitions on satisfactory terms or realize expected synergies or cost savings within expected timelines;
- unforeseen expenses, delays or conditions may be imposed upon the acquisition, including due to required regulatory approvals or consents;
- exposure to unknown liabilities (including, but not limited to, liabilities in relation to tax and environmental regulations and laws);
- difficulty and cost in combining the operations and personnel of acquired businesses with our existing operations and personnel;
- diversion of management's attention from our day-to-day business;

- impairment of relationships with key suppliers or customers of acquired businesses due to changes in management and ownership and the restructuring of logistics and information technology systems;
- the inability to retain key employees of acquired businesses;
- difficulty avoiding labor disruptions in connection with any integration, particularly in connection with any headcount reduction; and
- the incurrence of substantial debt, the cost of servicing which may affect our ability to service our short-term and long-term liabilities or otherwise negatively impact our cashflows.
- the occurrence of any such event could have a material adverse effect on our business, financial condition or results of operations.

In addition, there can be no assurance that, following integration, an acquired operation will be able to maintain its customer base consistent with expectations or generate the expected margins or cash flow. Although we analyze each acquisition target, our assessments are subject to a number of assumptions concerning profitability, growth, interest rates and company valuations. We may have difficulties in implementing our business model within an acquired company or acquired assets due to various factors, including conflicting corporate culture. There can be no assurance that our assessments of and assumptions regarding acquisition targets will prove to be correct and actual developments may differ significantly from our expectations.

In agreeing to acquire entities, we generally make certain assumptions and determinations on, among other things, future net sales and earnings, based on our investigation of the respective businesses and other information then available. We cannot assure you that our assumptions and determinations will prove to be correct or that liabilities, contingencies or other risks previously not known to us will not arise. In addition, we may be limited in our ability to acquire companies depending on the concentration of ownership in specific markets and our relative market position. Any such unanticipated risks, liabilities, contingencies, losses or issues, if realized, could have a material adverse effect on our business, results of operations and financial condition.

Furthermore, acquisitions of companies expose us to the risk of unforeseen obligations with respect to employees, customers, suppliers and subcontractors of acquired businesses, public authorities and other parties. We cannot ensure that there will not be unexpected risks or obligations. Such obligations, were they to materialize, could have a material adverse effect on our business, financial condition or results of operations.

We may not be able to successfully manage future growth and any failure to do so could have a material adverse effect on our business.

Our ability to manage our growth and integrate operations, technologies, services and personnel depends on our administrative, financial and operational controls and our ability to create the infrastructure necessary to exploit market opportunities for our services, as well as our financial resources. In order to compete effectively and to grow our business profitably, we will need, on a timely basis, to maintain and improve our financial and management controls, reporting systems and procedures, implement new systems as necessary, attract and retain adequate management personnel, and hire, retain and train a highly qualified workforce. Furthermore, we expect that, as we continue to introduce new services and enter new markets, we will be required to manage an increasing number of relationships with various customers and other third parties.

Finally, we expect that the expansion and diversification of our business could require us to attract, train and retain increasing numbers of highly skilled technical personnel and managers. The failure or delay of our management in responding to these challenges could have a material adverse effect on our business, financial condition and result of operations.

Our operations could be disrupted if our information systems fail, causing increased expenses and loss of sales.

Our business is highly dependent on financial, accounting and other data processing systems and other communications and information systems, including our enterprise resource planning tools. We process a large number of transactions on a daily basis and rely upon the proper functioning of computer systems. If a key system was to fail or experience unscheduled downtime for any reason, even if only for a short period, our operations and financial results could be affected adversely. Our systems could be damaged or interrupted by fire, flood, power loss, telecommunications failure or similar event. Additionally, our business is highly dependent on our refinery control systems. Such systems could fail due to fires, security breaches or similar events and could result in disturbances to production, shutdowns, mechanical damage, fire or explosion. We have a formal disaster recovery plan in place, but this plan may not prevent delays or other complications that could arise from an information systems failure. Furthermore, our business interruption insurance may not compensate us adequately for losses that may occur. Any prolonged disruptions, or any significant shortfall in our business interruption insurance, may have a material adverse effect on our business, financial condition or results of operations.

Security breaches and other disruptions could compromise our information and expose us to liability, which would cause our business and reputation to suffer.

#### **RISK RELATED TO DATA.**

In the ordinary course of our business, we collect and store sensitive data, including intellectual property, our proprietary business information and that of our customers and suppliers, and personally identifiable information of our employees, in our facilities and on

our networks. The secure processing, maintenance and transmission of this information is critical to our operations. Despite our security measures, our information technology infrastructure may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions and has recently been subject to such disruptions affecting key applications such as logistics, prices, accounting and invoicing. Any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings, disrupt our operations, damage our reputation, and cause a loss of confidence, which could adversely affect our business, financial condition or results of operations.

#### **RISKS RELATED TO OUR CAPITAL STRUCTURE.**

Our substantial indebtedness poses certain risks and may affect our ability to operate our business.

making it more difficult for us and our subsidiaries to satisfy our obligations with respect to our debt;

- increasing our vulnerability to economic downturns in our industry;
- exposing us to interest rate increases;
- placing us at a competitive disadvantage compared to our competitors that have less debt in relation to cash flow;
- industry;
- restricting us from pursuing strategic acquisitions or exploiting certain business opportunities;
- and limiting, among other things, our ability to borrow additional funds or raise equity capital in the future and increasing the costs of such additional financings.

## **Lending Basis**

1. Long term Offtake agreement/ PPA in place for up to 1000MW in Ghana and agreements for up to 400MW to be developed in Togo and Benin.
2. Low of of generating power using *Seabase's* wave energy technology is a net of US\$0.7/ KW
3. Revenue lines are secured with a US\$5.0M guarantee from the offtaker : this revolves on a monthly basis and rolled over on a yearly basis.
4. Proven technology; accepted by Offtaker.
5. Project location : The minimums wave high required to generate power is 1.5M, the project location (offshore) has an average seawave of 2.5Meters.

6. Project contract structure transfers risk to mitigating counter parties
7. World class Engineering and Procurement Contractor Sino Hydro
8. Financial guarantees for the total project value from Mutual Federal of South Africa (BB-) re-insured by the Federal Risk USA (AA)
9. Credible off taker : Electricity Corporation of Ghana

**Financial Model Attached.**