Petition
For Determination of a Feasibility Stage Tariff
For The Extraction Of Coal From Block VI
Thar Coalfield
District of Tharparkar
Province of Sindh

Prepared For:

Thar Coal and Energy Board, Government of Sindh

SINDH CARBON ENERGY LIMITED PAKISTAN

26 June 2015

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1 EXECUTIVE SUMMARY

- Sindh Carbon Energy Limited, (hereinafter "SCEL") a subsidiary of Oracle Coalfields PLC (hereinafter "Oracle"), presents its Coal Price Petition for its mine in Block VI, Thar Coalfield, District Tharparkar, Province of Sindh, Pakistan.

- Oracle is UK based, with access to international equity through its public listing on the London Stock Exchange.

- At every step, best available technical and commercial advice has been applied in the production of reports, feasibility studies, implementation and environmental plans etc that are fully internationally compliant.

- These studies show that the optimal development of the JORC compliant resource, of 529 million tonnes of lignite, is through the construction of a power plant immediately adjacent to the mine, linking through to the national transmission grid.

- The overall phased development plan of this resource is an 8 million tonnes per annum mine over the initial thirty years of the Mining Lease and its extension for a further thirty years. Mine mouth power plants supplying 1,200 MWh will be constructed.

- Oracle has signed an EPC Framework Agreement with SEPCO Electric Power Construction Corporation ("SEPCO") for both the mine and the adjacent power plant. This Agreement also allows for financing through Sinosure, the Chinese Export & Credit Insurance Corporation of the greater part of the project. Oracle has also entered into a Joint Development Agreement with K-Electric under which they will enter into a Power Purchase Agreement to offtake the electricity.

- The coal pricing mechanism adopted by the Government of Sindh recognises that the geological structure varies across the Thar coalfield area and as a consequence costs will vary from one block to another. A key variant in determining the coal price is the overburden stripping ratio, which for Block VI averages at 7.46:1.

- This Petition is presented in compliance with the Thar Coal Tariff Determination Rules 2014 (the "Rules"), and the Thar Coal and Energy Board ("TCEB") Coal Tariff Model, a cost-plus arrangement under which the Mine Leaseholder is allowed an Internal Rate of Return of 20% per annum in US Dollar terms. This Petition also includes an allowance for Return on Equity during Construction ("ROEDC"), to remunerate investors for the period of construction.

- Detailed documents supporting and forming part of this Petition have been placed in a File Transfer Portal (FTP).

- Phase One of this development, for which this Petition seeks Determination, is for a 4 million tonne pa mine feeding a 600 MWh (2 x 300 MWh) power plant.

- A levelised coal price of US$76.48/tonne for Phase One of the development is sought, giving rise to an electricity tariff of around 12.5 USCents per kilowatt hour. The development of Phase Two would give rise to economies of scale having an impact on unit production cost that is likely to be lower than the initial cost in Phase One. After the reassessment of cost on the completion of Phase Two, the electricity tariff would accordingly be determined.

SINDH CARBON ENERGY LIMITED PAKISTAN

26th June 2015

The Registrar
Thar Coal and Energy Board
1st Floor, State Life Building No 3
Dr Ziauddin Ahmed Road
Opposite CM House
Karachi

Dear Sirs,

PETITION FOR DETERMINATION OF A FEASIBILITY STAGE TARIFF FOR THE EXTRACTION OF COAL FROM BLOCK VI, DISTRICT THARPARKAR, PROVINCE OF SINDH, PAKISTAN

Sindh Carbon Energy Limited ("SCEL"), a subsidiary of Oracle Coalfields PLC is holder of Mining Lease over Block VI of Thar Coalfield, District Tharparkar, Province of Sindh, Pakistan.

Following the completion and approval of technical feasibility studies to bankable standard, SCEL herewith files a petition for the Determination of a Feasibility Stage Tariff for a mine of 4.0 million tonnes per annum in accordance with the Thar Coal Tariff Determination Rules 2014 (the "Rules").

Payment of PKR 10,000,000 (ten million rupees) is enclosed, in accordance with the Rules.

Yours faithfully,

Shahrukh Khan,
Chief Executive Officer

Leaseholder: Sindh Carbon Energy Limited	
Registered Address: 44/2, B-6 Street Off Khayabane Shaheen, Phase V D.H.A. Karachi	**Office & Mailing:** Office Suite No. 203 2nd Floor, Cotton Exchange Building I.I.Chundrigar Road Karachi
Mining Lease: No. DMD/S/Ex-L-Coal(11)12/1325 **Dated:** 11th April 2012	

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3 GROUNDS AND FACTS FORMING A BASIS FOR THE TARIFF PETITION

Pakistan has a population of 180 million. Its installed electricity generating capacity is around 23,000 MWh, with a current shortfall in generating capacity of some 5,500 MWh. This gives rise to frequent load-shedding, particularly in rural areas. At present electricity is generated from imported gas and heavy fuel oil, at a significant cost in foreign exchange. Studies suggest that electricity demand will grow by 5-6% annually over the coming ten years, more if growth development plans succeed.

The Thar coalfield is located in Thar Desert, Tharparkar District of Sindh Province in Pakistan. The deposits were discovered in 1991 by Geological Survey of Pakistan (GSP) and the United States Agency for International Development. It is one of the world's largest lignite deposits spread over more than 9,000 km^2, and comprising around 175 billion tonnes, sufficient to meet the country's fuel requirements for the foreseeable future.

Though the quality of Thar coal is not generally suitable for export, it is suitable for in-country power generation and its development could meet much of present shortages and the pent-up demand for electricity. It could also save substantial amounts of foreign exchange as a substitute for imported fuel. Accordingly, the Government of Sindh invited proposals for the development of Thar coal reserves.

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4 PROJECT HISTORY

SCEL was granted an Exploration Licence in November 2007 for 3 years over Block VI of the Thar coalfield, which was further extended in 2010. In order to fulfil the requirements of the Exploration Licence and work towards the granting of a Mining Lease, a number of reputable international consultants were engaged to carry out further works in Block VI as set out below.

A summary of the evolution of the project is as follows:

	Document	Quantities		Author
		Coal (million tonnes pa)	Electricity (MWh)	
1.	Competent Persons Report 2008	2.5	300	Dargo Associates
2.	Feasibility Study 2009-2011	5.0	600	SRK Consulting
3.	Implementation Plan 2012	2.4	300	Dargo Associates
4	Revised Implementation Plan 2015	4.0	600	Dargo Associates

4.1 Competent Person's Report

Oracle appointed United Kingdom based Dargo Associates to prepare a Competent Persons Report (CPR) on Block VI to assess the potential coal resource to JORC standards and to carry out a preliminary review of the potential for open pit mining and power generation.

The CPR was prepared in September 2008. In summary:

- It was based on the previous drilling carried out by the China Northeast Geological Bureau and RWE along with new drilling to accurately define the coal resource in Block VI. Cored holes were drilled to recover coal and overburden samples for testing and all boreholes were geophysically logged.
- The results of the drilling were used to define the coal resource in accordance with the JORC Code and to identify areas suitable for open pit mining where the stripping ratio was lower.
- The in situ coal resource was estimated at 1,423 million tonnes.
- The report identified the South West quadrant of Block VI as having the most potential for open pit mining.
- The report also detailed the hydrology and geotechnical conditions of the proposed mining areas as defined by the drilling and sampling works.
- A mine design for a 2.5 million tonnes pa year was proposed to supply a 300 MWh power plant and the report confirmed the suitability of the coal for electricity generation and for other industrial uses.
- A dewatering scheme for the three aquifers was proposed and the mine design envisaged a conventional shovel and dumptruck operation with the potential to employ a conveyor system for later overburden removal.

- The report also set out the requirements for an Environmental Impact Assessment and defined the scope of such an assessment.

- The report also examined the suitability of the coal for various power plant configurations and concluded that Circulating Fluidised Bed technology would probably be the most appropriate for Thar coal.

The full CPR is on the FTP.

4.2 Feasibility Study

In 2009 SRK Consulting, from the United Kingdom, were appointed to prepare a Feasibility Study to a bankable standard for the development of an open pit mine in Block VI. At the same time Aquaterra Ltd, now RPS Aquaterra, were appointed to carry out detailed hydrological studies of the Block VI area including drilling and hydrogeological test boreholes and wells.

The SRK Feasibility Study comprises 13 reports, summarised hereinafter.

Report 1: Executive Summary
The Executive Summary provides a summary of the entire report as well as setting out the scope.

Report 2: Project Background
This report sets out the topographical, geomorphological and geological setting of the Block VI project.

Report 3: Geology and Resources
The report updated the Dargo CPR and recalculated the coal resource using the previous drilling information and new drilling carried out in 2010 and 2011 where a further 27 boreholes were drilled in the potential Phase One and Two mining areas. A total of 69 boreholes and 4 geotechnical boreholes were drilled. A summary of the drilling is shown in the Table below extracted from the Feasibility Study.

Table 6-1: The number of Drillholes for each Campaign drilled on Block VI

Campaign	Year	No Drillholes on Block VI	Total Meterage
CNGB	2006	35	9,850
Dargo	2008	7	1,500
Dargo	2011	27	6,150
Total		69	17,500

The coal resource was again defined in compliance with the JORC code and economic mining areas defined by strip ratios and pit optimisation programs. Additional coal samples were recovered for testing.

The in situ coal for Block VI was confirmed as 1.4 billion tonnes, supporting the CPR assessment, and the coal resource for the Phase One and Two mining areas was assessed at 529 million tonnes.

Report 4: Mining and Mine design
The report sets out the detailed design for a mine with up to 5.0 million tonne pa capacity and confirms the feasibility of developing an open pit utilising conventional shovels and dumptrucks. A Whittle pit optimisation program was used to define the most economic pit design.

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The design is based on the detailed geotechnical and hydrological studies also contained in the Feasibility Study.

Report 5: Hydrology and Water Management
The report sets out the results of the detailed hydrological study and the additional drilling works carried out to gain more hydrological data.

Hydrological modelling was carried out to enable a dewatering scheme to be designed and for water disposal options to be considered. This report incorporated the work carried out by RPS Aquaterra Limited.

Report 6: Geotechnical
The report is based on the 2008 and 2010 drilling programmes along with laboratory testing of recovered samples and field test results. Four fully cored boreholes were drilled to obtain information and samples for testing.

Using these results detailed stability analyses of the pit walls and slopes along with the overburden dumps were carried out to enable the mine design to be completed. The level of dewatering required to ensure stability of the mine and the pit floor was included in the analyses.

Report 7: Infrastructure
The report details the infrastructure design for the mine facilities including offices, workshops and workers accommodation. In addition the internal roads, communication systems, water treatment facilities and fuel storage are also considered.

The relocated villages and proposed infrastructure have also been considered here.

Report 8: Geochemistry
The report examines the geochemistry of the materials to be mined and details the tests undertaken to assess the long term potential for Acid Rock Drainage and Metal Leach Potential (ARDML) from the coal and waste material.

Proposals to minimise the impact are included and long term kinetic testing was also carried out after the feasibility Study which showed the potential for ARDML to be relatively low and manageable.

Report 9: Environmental and Social
The report sets out the requirements for an Environmental and Social Impact Assessment, noting that the detailed work is being carried out by Wardell Armstrong International and Hagler Bailly of Pakistan (see below Section 3(d)).

Report 10: Legal Opinion
The report examines the legal status of the licences and permissions in place held by SCEL for the Block VI project along with the legal requirements of Pakistan.

Reports 11 and 12: Capital and Operating Costs
These reports detail the anticipated costs for a 5.0 million tonne pa mine and were subsequently updated.

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Report 13: Financial and Economic Analysis
The report examines the capital and operating costs along with the Fiscal Incentives offered by the Pakistan and Sindh Governments for coal projects in Thar. Again the results of this analysis have not been used in this Petition as they have been updated in later studies.

The full Feasibility Study is on the FTP.

4.3 Mining Lease

The results of the Feasibility Study along with the application for the grant of Mining Lease were submitted to the Coal and the Energy Development Department, Government of Sindh in November 2011 (hereinafter "C&EDD"). In the joint meeting with the Technical Committee representing C&EDD and TCEB held on 29th November 2011, the Feasibility Study Reports were discussed and the Technical Committee agreed that the reports met the requirements and the grant of Mining Lease was approved. The Mining Lease Deed was subsequently executed between SCEL and Directorate General Mines & Mineral Development, Government of Sindh on 11th April 2012.

The Mining Lease is on the FTP.

4.4 Environmental and Social Impact Assessment

i) In 2009 Oracle appointed Wardell Armstrong International from the United Kingdom and Hagler Bailly of Pakistan to prepare an Environmental and Social Impact Assessment (ESIA) for the proposed mine in Block VI.

The ESIA comprises 3 volumes and was carried out to meet both the environmental standards of Pakistan and to be in compliance with international standards.

The ESIA details the field work undertaken to obtain all the base line information on climate, flora and fauna along with a survey of land use and population within Block VI to enable the impact assessments to be carried out.

The ESIA (Volume One) is set out as follows:

- Introduction and rationale for the project and ESIA.
- Block VI in regional context including geology, geomorphology, climate, land use and socioeconomic conditions.
- Environmental legislation and guidelines for Province of Sindh along with international standards and guidelines.
- A detailed project description along with alternatives considered. This includes a review of the mining methods and quantities of materials including waste and water along with air emissions and visual impacts.
- Environmental and Socioeconomic Scoping including Scoping Methodology Identification and Definition of Key Issues.
- Environmental Baseline including Topography and Geomorphology, Geology, Acid Rock Drainage and Geochemical Water Quality Predictions, Soils, Climate, Water Resources

from surface and groundwater and water usage, Air quality, noise and vibration, radioactivity, baseline ecology, and socioeconomic baseline.

- Stakeholders Consultation including Key Concerns Raised by Stakeholders and Future Stakeholder Engagement.

- The Environmental Impact Assessment and mitigation measures are then set out with impacts on groundwater, air quality, soils, flora and fauna, and cumulative impacts assessed.

- The Socioeconomic Impact Assessment is then presented including resettlement strategy, the economic impacts, the socioeconomic and infrastructure impacts, and health and education impacts.

- An Environmental Management Plan is set out including an Environmental Management System, a Project Environmental Management Plan, and a Social Management Plan.

Volumes Two and Three contain all the appendices with the detail of the baseline studies and all other data used in the preparation of the ESIA.

ii) The ESIA was completed in 2013 and was submitted to the Sindh Environmental Protection Agency (SEPA) Government of Sindh in April 2013. Following a public hearing held on the Block VI site in June 2013 and a Technical Committee examination in Karachi later the same month the SEPA issued a No Objections Certificate (NOC) in January 2014.

The full ESIA is on the FTP.

4.5 Resettlement Action Plan

In May 2014 SCEL submitted its Resettlement Action Plan (RAP) to SEPA, in accordance with the conditions set out in the NOC. In summary:

- The RAP sets out the framework that will be adopted in resettling around 2,000 persons who currently live on and adjacent to the proposed mining area. The document is based on the Interim Resettlement Policy Framework published by the Government of Sindh.

- The methodology for carrying out the census and socioeconomic surveys that are to be carried out prior to formal land acquisition and resettlement of the affected persons is set out including the detailed consultation processes to be used and the envisaged timescales to carry out the process in an acceptable manner. SCEL has appointed a Community Liaison Officer who is already consulting with the affected persons to ensure that their needs and concerns are to be addressed in the process.

The full RAP is on the FTP.

4.6 Implementation Plans

Following the grant of the Mining Lease to SCEL, the project was reviewed with its consultants and it was concluded that the development should be phased into stages with the first phase being the development of a mine to supply a 300 MWh mine mouth power plant with long term plans to expand this up to 1,200 MWh.

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Oracle commissioned Dargo Associates to review and revise the earlier proposals made by them and those contained in the SRK Feasibility Study to prepare a revised mine plan along with new capital and operating costs for a mine with a capacity to produce up to 2.4 million tonne lignite per year. This Implementation Plan was completed in August 2012.

The plan proposed a conventional open pit development utilising hydraulic shovels and rigid dumptrucks for the initial opening up of the mine. Once the power plant was operational it was proposed to utilise conveyors to move some of the overburden as this would reduce the operating costs and improve efficiency.

Strategic partners were sought by Oracle in the development of an integrated mine and mine mouth power plant and Oracle had discussions with a number of parties from the international mining and power communities. In carrying out this process it became clear that the most competitive interest in developing both the mine and the power plant was to be found in China.

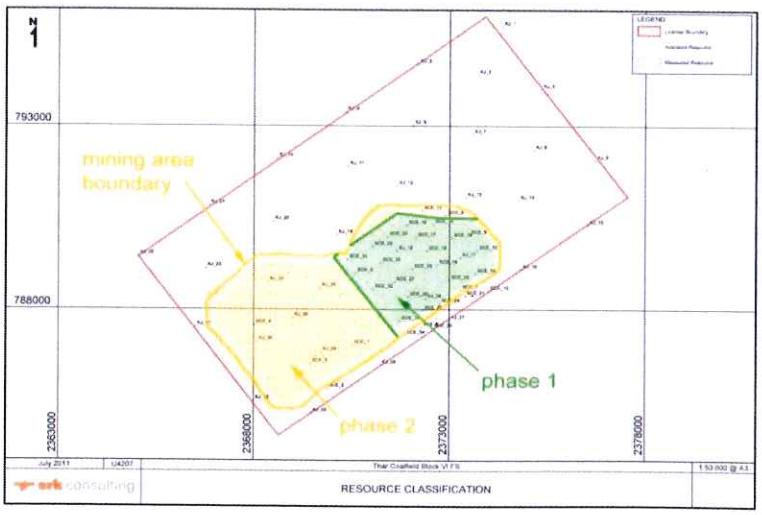
Conditional to completing a bidding process Oracle signed an EPC Framework Agreement with the SEPCO Electric Power Construction Corporation (SEPCO) for the development of both the mine and the power plant. During these discussions, it became clear that there were significant economies of scale if a 600 MWh power plant comprising 2x300 MWh units was constructed at the outset and this was incorporated into the EPC Framework Agreement.

A mine with a capacity to produce 4.0 million tonnes of lignite per annum would be required to supply the 600 MWh plant and in May 2015 Oracle commissioned Dargo Associates to prepare a Revised Implementation Plan and capital and operating costs for a mine with this capacity. **This Revised Implementation Plan has been used in the preparation of this Coal Price Petition.**

The Revised Implementation Plan again proposes the initial mine is opened up utilising conventional hydraulic shovels and dumptrucks. Once the power plant is commissioned it is again proposed that overburden will be moved by conveyor to minimise operating costs.

The peak overburden removal requirement is at the start of the operation to open up the box cut and an allowance has been made in the initial years to supplement the overburden capacity by employing local contractors. The average stripping ratio for the mine over the 30 year period is 7.46:1 and is 12.56:1 in the first four years.

The drawing below shows the layout of the mining areas for Phases One and Two. The Power Plant is to be located to the north of the mine and the overburden dump to the east.



The Implementation Plan 2012 and Revised Implementation Plan 2015 are on the FTP.

4.7 Coal Quality

The coal quality for Block VI is set out below and has been confirmed as suitable for use in a conventional circulating fluidised bed power plant. The coal quality parameters have also been used in confirming the boiler size for the proposed 600 MWh power plant.

The anticipated coal quality and the JORC Resource Statement are set out in the table below extracted from the Feasibility Study.

Table 6-15: Coal Resource Statement October 2011

Block VI Mineral Resource Statement		Tonnage (Mt)	RD (g/cm³)	Gross CV (kcal/kg)	Moisture (%)	Ash (%)	Sulphur (%)
Measured Mineral Resource							
	272	11.1	1.15	2,792	46.5	8.6	0.78
	273	25.4	1.15	2,878	47.7	7.2	0.83
	274	49.1	1.15	3,083	48.1	4.6	0.56
	275	65.4	1.15	3,077	48.2	4.2	0.49
	Subtotal Measured	**151**	1.15	3,025	48.0	5.1	0.60
Indicated Mineral Resource	12	8.3	1.15	3,094	46.5	9	3.62
	211	2.7	1.15	3,203	48.4	7.3	2.16
	212	6.2	1.15	2,852	47.0	9.3	0.81
	221	1.0	1.15	3,448	35.5	13.7	2.72
	222	8.0	1.15	2,800	48.4	8	1.14
	233	6.5	1.15	4,079	39.8	8.3	1.01
	241	0.4	1.15	2,696	53.9	4.7	0.47
	242	7.6	1.15	3,078	43.1	11.9	1.56
	271	2.6	1.15	2,690	49.1	8.7	1.38
	272	8.5	1.15	2,996	47.2	8.5	1.63
	273	47.8	1.15	3,064	46.3	7.6	1.48
	274	102.4	1.15	3,379	44.4	4.5	0.66
	275	106.5	1.15	3,281	45.2	4.1	0.51
	Subtotal Indicated	**308**	1.15	3,257	45.3	5.6	0.91
Inferred Mineral Resource	12	9.2	1.15	3,094	46.5	9	3.62
	211	2.5	1.15	3,203	48.4	7.3	2.16
	212	5.8	1.15	2,852	47.0	9.3	0.81
	221	4.6	1.15	3,448	35.5	13.7	2.72
	222	16.1	1.15	2,784	49.4	7.3	1.21
	232	1.7	1.15	3,491	35.0	11.9	1.11
	233	13.3	1.15	4,079	39.8	8.3	1.01
	241	6.1	1.15	2,696	53.9	4.7	0.47
	242	9.9	1.15	3,078	43.1	11.9	1.56
	271	1.2	1.15	2,690	49.1	8.7	1.38
	Subtotal Inferred	**70**	1.15	3,193	45.4	8.9	1.58
Total		**529**	1.15	3,182	46.1	5.9	0.91

*Lignite Qualities reported on an "As Received" Basis

4.8 Summary of Advisers/Consultants

Leading independent international consultants have been engaged and retained to advise on the mine and on the powerplant:

- **Dargo Associates** are a geological and mining consultancy established over 25 years ago. They are specialists in coal geology.
- **Mott MacDonald** is a multi-discipline world-wide consultancy with a well established Thermal Power Generation Division. The consultants have also been appointed to review the EPC proposals for the power plant(s).
- **Wardell Armstrong International** is a long established consultancy originally specialising in mining and minerals but now a multi-disciplinary business based in the UK with a strong environmental team working on mining projects around the world.

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- **Hagler Bailly** is a well established Pakistan environmental consultancy working throughout south Asia and Afghanistan.

- **SRK Consulting** are a leading international mining consultancy with offices around the world with specialists covering all the disciplines of mining and the environment.

- **RPS Aquaterra** are a world-wide consultancy specialising in water, environment and related disciplines.

- **Turner and Townsend** are a world-wide project management consultancy advising on the EPC proposals for the mining operation.

5 COSTS

Costs for Phase One are made up of:

1. Development costs, being costs incurred up to Financial Close
2. Capital Costs included in the Revised Implementation Plan
3. Other Capital and Deferred Costs
4. Operation and Maintenance Costs

5.1 Development Costs

Development costs include technical and other consulting costs, management and corporate costs up to 31st December 2014, capitalised exploration costs in SCEL, and budgeted costs to Financial Close

Total Development Costs: US$12,914,536

5.2 Capital Costs included in the Revised Implementation Plan

The development of the initial box cut and opening of the pit area will use the truck and shovel system of mining. Excavated overburden will be transported by truck to the designated external dump area north of the pit area.

Overburden removal will increase from 5 million bcm in Year One to a maximum of 45 million bcm. Seven 22m^3 shovels and twenty-two 110 m^3 truck fleet will be employed.

Lignite production will be held back until Year Three to match the construction of the power plant. Lignite in pit will be left with a bench height (7m) of overburden above the lignite to prevent overheating. In Year Three, lignite production will commence to provide commissioning and load testing material for the power plant. A single 12m^3 excavator and three trucks of 60 m^3 capacity will be employed.

Capital Costs are under three headings: Equipment, Facilities and Initial Overburden Removal. Details of Capital Costs are given in the Revised Implementation Plan on the FTP.

Total capital costs: US$694,408,000

5.3 Other Capital and Deferred Costs

Other capital and deferred costs are here summarised. These costs will be trued up and adjustment sought in due course.

	US$'000
Interest during construction	92,343
Financing Costs	53,230
Insurance inc Construction All Risks	9,079
Additional Project Costs during Construction	29,000
TOTAL OTHER CAPITAL AND DEFERRED COSTS	**183,652**

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Interest during Construction

During the opening up of the mine, lenders allow a period in which no repayments of capital and no interest payments are made. Interest in this period is "rolled up" and added to the principal due for repayment.

Financing Costs

The major cost element is the fee due to Sinosure.

Insurance including Construction All Risks

Oracle has engaged Willis as Insurance Broker. Insurance cover will be sought in these areas for the construction period:

- Construction All Risk
- Excess Third Party
- Delay in Start-up
- Marine Cargo
- Cargo delay in start-up
- Terrorism
- Fronting fee

Hedging

The EPC contract is payable in the US Dollar, but with an adjustment every month following for the variation from the Renmimbi/US$ exchange rate at Financial Close. This represents a risk of higher cost to the project if the Renmimbi strengthens against the US$, (or conversely a gain to the project should the Renmimbi weaken). Oracle has explored the possibility of hedging this risk, but has come to the view that such hedging for a project of this magnitude and payable over a period of three years is unreasonably expensive. Oracle proposes that no hedging be undertaken, and this Petition assumes that the necessary currency adjustments will be settled through the true-up adjustments to the coal price.

Additional Project Costs during Construction:

Land Purchase and Relocation Costs

This cost includes the purchase of land within Block VI, initial relocation costs and associated fees.

Other Infrastructure

Allowance has been made for additional infrastructure costs eg. access roads not included in the Revised Implemention Plan.

Project Management Costs and Site Management

There will be a team, partly based on Block VI site and partly in Karachi and overseas that will oversee the work of the EPC Contractor and represents the owner's interests through the construction period.

Corporate Costs of Sindh Carbon Energy Limited

These are for the construction period.

Community Support

There will be an ongoing programme of community support.

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5.4 Operation and Maintenance Costs

In years 4-8 the pit area is opened up and lignite production begun, using trucks, shovels, conveyors and a spreader for overburden and trucks shovels and conveyors for lignite.

During this period overburden removal increases to a peak of 45 million bcm per annum for 4 years. Purchasing equipment for this short period of time would not be economic, so contractors will be employed for these peak overburden removal years. Shovels of $22m^3$ capacity will be increased to seven in number and remain at that level throughout the operation together with twenty-two trucks of $110m^3$. Lignite production increases from 3 million tonnes pa to 4 million tonnes pa.

In addition to the truck and shovel fleet, a combined system for overburden transport to the outer dump will use two crushers and conveyor belts. Bulldozers and two spreaders will be used for dump configuration. Two crushers will be used for lignite which will then be transported using a conveyor belt to the coal stockyard in the power plant.

Operating Costs are split into two headings: Equipment Operating Costs and Labour.

Details of Operating Costs are given in Revised Implementation Plan, on the FTP.

6 KEY FINANCIAL ASSUMPTIONS

Grant Thornton

Thar Coal & Energy Board
Coal Tariff Model for Sindh Carbon Energy Limited

Control Panel

EPC Contracted Cost	USD	Foreign Component	Local Component
Offshore Procurement & Supply	694,403,000	385,866,000	30,946,261,100
			30,946,261,100
Equipment	321,914,000	321,914,000	-
Facilities	63,952,000	63,952,000	-
Overburden Removal	308,537,000		30,946,261,100

Non-EPC Cost	USD	Foreign Component	Local Component
Non-EPC Costs	28,922,233	3,000,000	2,600,000,000

Project Development Cost	USD	Foreign Component	Local Component
Engineering, Consultancy	12,914,536	11,219,861	169,975,866
Approval & Process Fee	-		
Administrative & Management Expenses	-		

Financing Fees & Charges		
Foreign Debt Arrangement Fee	% of Debt	1.20%
Foreign Debt Security Trustee Fee	% of Debt	1.00%
Sino Sure Fee	% of Debt	7.00%
Commitment Charges	% per Annum	0.50%
LC Charges	% per Annum	0.15%
Local Debt Arrangement Fee	% of Debt	1.50%
Local Debt Security Trustee Fee	% of Debt	1.00%
Commitment Charges	% per Annum	0.50%
LC Charges	% per Annum	0.15%

O&M Cost	USD	Foreign Component	Local Component
Operational Overheads	-		
Direct Labour	14,256,000		1,429,876,800
Spares Consumables	71,732,000	71,732,000	
Tyres for Main Mining Equipment	-		
Diesel for Mining Operations	-		
Power	-		
Land Rehabilitation	-		

Currency Exchange Rates	Source		PKR
United States Dollars	NBP	USD	100.30
Euro	NBP	EUR	125.28

Interest Rates	Source	Percentage
1 Month PKR KIBOR	SBP	9.91%
3 Month PKR KIBOR	SBP	9.65%
3 Month USD LIBOR	WSJ	0.24%

Project Financing	Base Rate	Spread	
Foreign Financing Ratio of Project Cost			60.00%
Foreign Debt Repayment Period			10 Years
LIBOR Based Financing Cost	0.24%	4.50%	4.74%
Local Financing Ratio of Project Cost			10.00%
Local Debt Repayment Period			10 Years
KIBOR Based Financing Cost	9.65%	3.50%	13.15%
Equity Financing Ratio of Project Cost			30.00%
Equity Internal Rate of Return (IRR)			20.00%

Working Capital Assumptions			
Working Capital Financing Cost	9.91%	2.00%	11.91%
Payables		Days	30
Receivables – Operational		Days	18
Coal Inventory – Production Payments		Days	15
Spares Inventory		Days	360
Diesel Inventory		Days	21

Other Assumptions		
Coal Mining Capacity Petitioned	Tonnes per Annum	4,000,000
Discount Factor		10.00%
Interest Earned on Recurring CAPEX Reserve Account		5.00%
Cost of Insurance During Construction	% of Equipment	1.35%
Cost of Insurance During Opertions	% of EPC Cost	1.35%
Royalty Charged by Government of Sindh	PKR Per Tonne	0.00

Project Schedules	
Grant of Mining Licence	11 Apr '12
Date of Financial Close	31Dec '15
Construction Period	42 Months
Construction Delays	00 Months
Required Commercial Operations Date	01 Jan '18
Scheduled Commercial Operations Date	01 Jan '18
Operational Period	30 Years

Coal Transportation Costs			
Associated Power Plant Distance from Mine	100.00 KM	Mine Mouth	5.00 KM
Coal Transportation Allowance			0.20%
Coal Transportation Cost	Road	PKR per Tonne	0

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7 SUMMARY OF FINANCING ARRANGEMENTS

The plans for debt and equity financing, to be provided to SCEL, are shown in the table below.

	US$ million
Capital Costs	
• Capital Costs included in the Revised Implementation Plan	695
• Other capital costs	184
Total Financing Requirements	879
Financing	
Equity (Oracle Coalfields plc 100%)	264
Loan Finance	
• Sinosure supported	486
• Pakistani Banks/Other Financial Institutions	129
Total	615
Total Finance Provided	879

In line with the requirements of TCEB and with normal prudent financing, the project will be financed through a mixture of debt and equity in the ratio of 70% debt and 30% equity.

For the debt, a Financing Proposal has been received from SEPCO under which Sinosure, the Export Credit Insurance Agency of China, and supporting lending banks will provide financing for up to 85% of the EPC cost. Outline costs are included in this Proposal:

- Loan amount : 70% - 85% of EPC Contract price.
- Interest rate : US$ 3-month LIBOR plus 4% - 5%
- Management Fee : 1.2%
- Insurance Premium : 7%

A timetable is included in the Financing proposal.

The Financing Proposal is on the FTP.

Detailed negotiation is presently ongoing with SEPCO and Sinosure.

The figures above assume 70% financing of the final EPC contract cost is provided through Sinosure. The balance of loan finance then required would be of the order of US$129 million and it is anticipated that this will be available through Pakistani banks and international capital markets

The equity requirement, of US$264 million, will be raised through the London Stock Exchange, strategic partners and other capital sources.

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8 SUMMARY OF CALCULATIONS

The tariff, after debt financing, is levelised over the thirty year period at US$76.48 per tonne. After the ten year period of debt repayment, for the following twenty years, the tariff falls to US$62.98 per tonne.

Grant Thornton

Thar Coal & Energy Board

Coal Tariff Model for Sindh Carbon Energy Limited

Coal Tariff

Year	Variable O&M	Transportation	Royalty	Fixed O&M	Working Capital Cost	Insurance	Equity Returns	ROEDC	Debt Service	USD per Tonne	PKR per Tonne
31 Dec '18	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '19	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '20	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '21	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '22	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '23	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '24	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '25	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '26	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '27	21.20	-	-	3.56	1.54	2.34	23.21	10.92	20.91	83.68	8,394
31 Dec '28	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '29	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '30	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '31	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '32	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '33	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '34	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '35	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '36	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '37	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '38	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '39	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '40	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '41	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '42	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '43	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '44	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '45	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '46	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
31 Dec '47	21.20	-	-	3.56	1.74	2.34	23.21	10.92	-	62.98	6,317
										76.48	7,670.56

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9 LATER ADJUSTMENTS

This Petition is submitted based on Feasibility Study costs, as provided in the Revised Implementation Plan and will be subject to adjustment as the project is further developed. These adjustments can be summarised as follows:

EPC contract	The main EPC contract is being finalised for the development of the mine with SEPCO. Contract costs may be expected to vary from the Revised Implementation Plan estimates. Sub-surface geology is an imprecise science and initial EPC contract prices will themselves be subject to variation as the project progresses, major elements being : • Variation in Overburden Volumes • Geotechnical design • Dewatering costs
Financing	• Oracle has commenced the detailed process for obtaining finance from Sinosure, which will cover approximately 55% of total cost. Insurance Premium, Management Fees, Arrangement Fees and interest rates are all subject to finalisation. • Detailed discussion on the residual debt finance will be initiated when the total debt available from Sinosure is more clear and requirements are known. Associated costs will be firmed up when known.
Project Development Costs	Project Development work is ongoing and the costs here presented are based on historic costs to 31st December 2014, together with budget costs to Financial Close. These costs will be firmed up following Financial Close.
Water Management and Waste Water Disposal	Mine dewatering costs and water treatment costs are included in the Revised Implementation Plan. The Government is developing a management scheme for the disposal of waste water from the Thar mine developments and no provision has been included for such costs in this Petition.
Other Capital Costs	Capital costs beyond those included in the Revised Implementation Plan will be firmed up as the project develops, in particular land acquisition costs, project management and corporate costs, community support, insurance.
Currency adjustments	The operating currency of the Coal Pricing Regime is the United States Dollar. Therefore all costs and revenue estimates that are denominated in currencies other than the US$ will give rise to cost and revenue variations where exchange rates vary from those originally forecast. The core currencies outside the US$ are the Pakistani Rupee, major costs of which will be labour costs and diesel costs, and the Chinese Renminbi, the core currency of the EPC contract. SCEL will petition for adjustment to the coal price based on such currency adjustment over time.
Taxation (direct and indirect) Customs Duties Royalties	SCEL has undertaken a further review of the incidence and application of taxation (direct and indirect), customs duties, sales taxes, royalties etc. There remains considerable uncertainty. The assumption of this Petition is that these are zero, and should this not be the case, an adjustment Petition will be submitted accordingly. A letter from AF Fergusons & Co, summarising the areas of uncertainty is included in the FTP.
Other Force Majeure	Other costs may arise or other changes occur that may change the calculation of the Coal Price. SCEL will petition for variation as circumstances may require.

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10 SUMMARY OF IMPACT OF EXPANDED MINE

Block VI has a JORC confirmed resource of 529 million tonnes of lignite. The Phase One plan here presented, 4 million tonnes a year, exploits 23% of this resource over a thirty year period, and 45% over a sixty year period, if the lease extension is applied. After financial close, SCEL will develop Phase Two plans, to expand production to 8 million tonnes a year, which, over a sixty year period, will exploit 91% of the confirmed JORC resource. Given that the infrastructure will be in place to support an 8 million tonnes a year mine, there should be a reduction in unit mining costs, and hence coal price and electricity tariff when the economics are presented.

The Feasibility Study confirms a resource of 1.4 billion tonnes. Expansion beyond the JORC confirmed resource of 529 million tonnes, will also be examined, but the costs beyond Phases One and Two will be higher because one area of the Mining Lease, being heavily duned, will have a higher stripping ratio than the area under Phases One and Two and another area has more substantial population. These further expansion possibilities will be considered after the financial close of Phase Two.

11 FILE TRANSFER PORTAL

Some of supporting information required under the Rules for the Coal Price Petition are very large and these are provided by way of a File Transfer Protocol (FTP), an electronic data base. These documents, listed below, can be viewed or downloaded from the FTP.

1. Oracle Coalfields PLC Annual Review 2012, 2013, 2014
2. Oracle Coalfields PLC Accounts 2012, 2013, 2014
3. SCEL Accounts 2012, 2013, 2014
4. Competent Persons Report (Dargo Associates)
5. Environmental and Social Impact Assessment (Wardell Armstrong and Hagler Bailly)
6. Mott MacDonald Power Plant Feasibility studies (Mott MacDonald)
7. Resettlement Action Plan (Wardell Armstrong and Hagler Bailly)
8. Financing Proposal (SEPCO)
9. Feasibility Study (SRK Consulting UK)
10. Implementation Plan 2012 (Dargo Associates)
11. Revised Implementation Plan 2015 (Dargo Associates)
12. Taxation Letter (A.F.Fergusons & Co)
13. Mining Lease
14. No Objection Certificate
15. Other Documents required under the Rules