

OIL & GAS SECTOR



Oil & Gas Sector

Project list

No	Project
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2	Gas to Liquid Plant (GTL).
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Upstream project	
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5	Block 2AE.
6	Block 15.
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8	Block 11.
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10	Block 14.
11	Block 18.
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Downstream project	
19	Upgrading 12 -Inches Pipeline.
20	KRC 16 MW Power Station Expansions.
21	Crude Distillation Unit (CDU) Material Upgrading.
22	Khartoum Refinery Equipment Reliability.
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1. Alfula Town Power Plant Fuel Gas Supply

S.N.	CRITERION	Data	
1.1	Project name.	Alfula Town Power Plant Fuel Gas Supply	
1.2	Project objectives.	To supply Alfula power generation plant with approximately 100 MMSCFD of fuel gas to generate 405 MW of electricity, additionally 350 ton per day of LPG and 3,000 Barrel of Condensate can be produced as a by-product from the gas processing facility.	
1.3	Project sector.	Energy.	
1.4	Project capacity.	Supplying 100 MMSCFD of fuel gas per day. Generate 350 ton per day of LPG. Generate 3,000 Barrel of Condensate.	
1.5	Location.	Al-Fula Town (west Kordufan) Gas location: Blocks (2, 6&17).	
1.6	Cost (Budget).		
1.7	Time frame.	2.5 Years	
1.8	Feasibility Financial Indicators.	ROI	NPV: @12.5% DR= M\$ 846
		PBP	1.6 Years
		IRR	87%
1.9	Market.	Electricity Generation Sector, Household sector & Refineries.	
1.10	Feasibility study.	Pre	Available.
		Final	Available.
1.11	Project status.	Contractors: - Sudapet Know-how and design documents: available. Scope of execution: available Technology origin: - China. Preferred Investment; Joint Venture.	

2. Gas to Liquid Plant (GTL)

No	CRITERION	Data	
2.1	Project Name	Gas to Liquid Plant (GTL)	
2.2	Project Objectives	Processing of associated gas to convert gas to liquid i.e. fuel (Benzene & Diesel) in addition to LPG. Establishing an operator (GTL Africa) in order to operate the plant and marketing the products.	
2.3	Project Sector	Energy.	
2.4	Project Capacity	Annual production capacity of 100,000 tons of different petroleum products (LPG, GASOLINE&DIESEL).	
2.5	Location	Neem Field, Block-4 (West Kordufan).	
2.6	Cost (Budget)		
2.7	Time frame	18 month	
2.8	Feasibility Financial Indicators	ROI	NPV: @ 12.5%, DR = 124 M\$.
		PBP	2.4 Years
		IRR	42%.
2.9	Market	Household sector, Transportation sector & Manufacturing sector.	
2.10	Feasibility Study	Pre	
		Final	
2.11	Project Status	Contractors: - Sudapet, (JSC). Know-how and design documents: available. Scope of execution: available Technology origin: - Russia	

3. Sudan LNG Receiving terminal and distribution system

S N	CRITERION		Data
3.1	Project Name.		Sudan LNG Receiving terminal and distribution system.
3.2	Project Objectives.		
3.3	Project Sector.		Energy.
3.4	Project Capacity.		6.16 MTPA by 2040
3.5	Location.		Terminal: Prot Sudan. Pipeline Route: Port Sudan – Atbara – Khartoum – Kosti
3.6	Cost (Budget).		
3.7	Time frame.		3 years
3.8	Feasibility Financial Indicators	ROI	NPV: 2.6 Billion \$
		PBP	8 Years
		IRR	17%
3.9	Market.		Electricity Generation Sector, Heavy industry sector ,Cement sector , Petrochemicals (fertilizers, plastic,...) &Transformation industry.
3.10	Feasibility Study	Pre	
		Final	
3.11	Project Status		Pre – feed.

4. Block 8

S N	CRITERION	Data
4.1	Project Name	Block 8
4.2	Project Objectives	
4.3	Project Sector	Energy.
4.4	Project Capacity	
4.5	Location	South-East of Sudan (covers an area of 60297.77 Km ²).
4.6	Cost (Budget)	
4.7	Time frame	20 Years \pm 5years. - Exploration period with minimum work and expenditure commitment (6 years). - Development and production period.
4.8	Feasibility Financial Indicators	ROI
		PBP
		IRR
4.9	Market	Local & International
4.10	Feasibility Study	Pre
		Final
4.11	Project Status	There were many exploration activities have been done in the block i.e. magnetic, Gravity, 7523 Km ² Seismic and out of 11 drilled exploration wells three out of them are discoveries.
		Aljabalein CPF is around 30 Km near to the borders of the Block and PDOC pipeline is crossing the block area.
		Two gas fields.
		Know-How: Available: Many Companies has work in the Block i.e. Chevron, PETRONAS, etc.
		Scope of execution: Exploration, production and processing of crude oil & gas.
		Contract Typed: Exploration Production Sharing Agreement (PSC).
		Technology origin: - Advanced Technology.

5. Block 2AE

S N	CRITERION	Data
5.1	Project Name	Block 2AE
5.2	Project Objectives	
5.3	Project Sector	Energy.
5.4	Project Capacity	
5.5	Location	Located in south of Sudan between Block 4 and Block 2A (producing blocks) in Muglad basin, covers about 3503.555 Km ² .
5.6	Cost (Budget)	
5.7	Time frame	- 20 Years ±5years. - Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
5.8	Feasibility Financial Indicators	ROI
		PBP
		IRR
5.9	Market	Local & International
5.10	Feasibility Study	Pre
		Final
5.11	Project Status.	There are (13) Wells drilled, some of them encountered Hydrocarbon shows in western and eastern part of the Block.
		There are two main proven hydrocarbon plays; Tertiary Play in EL-Mahafir Area and Cretaceous Play in the Eastern Part (Bamboo Area) and in the western Part of the block (Garaad-Koda Area).
		Know-How: (Available) Many Companies has worked in the block i.e. Chevron and GNPOC.
		Scope of execution: Exploration, production and processing of crude oil & gas.
		Contract Typed: Exploration Production Sharing Agreement (PSC).
		Technology origin: - Advanced Technology.

6. Block 15

S N	CRITERION		Data
6.1	Project Name		Block 15
6.2	Project Objectives		
6.3	Project Sector		Energy.
6.4	Project Capacity		
6.5	Location		East of Sudan..(Covers an area of 27807.814 Km2.).
6.6	Cost (Budget)		
6.7	Time frame		20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
6.8	Feasibility	ROI	Cost oil: negotiable. Profit oil: negotiable
	Financial	PBP	
	Indicators	IRR	
6.9	Market		Local & International
6.10	Feasibility Study	Pre	
		Final	
6.11	Project Status		The offshore part could be subdivided into; a shelf area covered mostly by the offshore part of Tokar Delta, with a prominent shelf break going to deep water eastward. The water depth of the shelf is varying from very shallow to deep.
			There were many exploration activities have been done in the Block i.e. Gravity, Magnetic, 9,152 km of 2D Seismic and 11 wells in the offshore area.
			Eight wells have HC shows, two wells were tested. The Block is considered as a proven petroleum system with Hydrocarbon discoveries.
			Know-How: Many Companies has work in the block i.e. AGIP, UNION TEXAS, CHEVERON, TEXAS EASTERN ,TOTAL, IPS, RSPOC.
			Scope of execution: Exploration, production and processing of crude oil & gas.
			Contract Typed: Exploration Production Sharing Agreement (PSC).
			Technology origin: - Advanced Technology.

7. Block 9

S N	CRITERION	Data
7.1	Project Name	Block 9
7.2	Project Objectives	
7.3	Project Sector	Energy.
7.4	Project Capacity	
7.5	Location	Central of Sudan (Covers an area of 126687.431 Km2.).
7.6	Cost (Budget)	
7.7	Time frame	20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
7.8	Feasibility Financial Indicators	ROI
		PBP
		IRR
7.9	Market	Local & International
7.10	Feasibility Study	Pre
		Final
7.11	Project Status	The Block consists of three basins; Khartoum, Atbara and Umm-Assala Basins.
		There were many exploration activities have been done in the Block i.e. Magnetic, Gravity, 7,400 km of 2D seismic, (8) wells have been drilled in Khartoum basin among them (4) wells encountered good Oil shows and two wells were tested Oil & Gas.
		Processing facilities & marine terminal Near the Block.
		Know-How: Available: Many Companies has work in the block i.e. SUDAPAK, STR, etc.
		Scope of execution: Exploration, production and processing of crude oil & gas.
		Contract Typed: Exploration Production Sharing Agreement (PSC).
		Technology origin: - Advanced Technology.

8. Block 11

S N	CRITERION	Data
8.1	Project Name	Block 11
8.2	Project Objectives	
8.3	Project Sector	Energy.
8.4	Project Capacity	
8.5	Location	Central part of Sudan. (Covers an area of 148346.47 km ²).
8.6	Cost (Budget)	
8.7	Time frame	20 Years ±5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
8.8	Feasibility Financial Indicators	ROI
		PBP
		IRR
8.9	Market	Local & International
8.10	Feasibility Study	Pre
		Final
8.11	Project Status	This Block consist of many Sub-basins, (UM Rawaba, Um Agaga and Darqil).
		The block 1200 km far The Block has a high potential of hydrocarbons based on previous exploration, an active petroleum system is proven as indicated by HC shows in two wells. There are six (6) leads & 17 prospects in the Block.
		from Port Sudan (marine terminal)
		Covers about 125,500 Km ² .Two crude oil export pipelines are crossing the Block.
		Know-How: Available.
		Scope of execution: Exploration, production and processing of crude oil & gas.
		Contract Typed: Exploration Production Sharing Agreement (PSC).
		Technology origin: - Advanced Technology.

9. Block-C

S N	CRITERION	Data
9.1	Project Name	Block-C.
9.2	Project Objectives	
9.3	Project Sector	Energy.
9.4	Project Capacity	
9.5	Location	Western Sudan mainly in the states of Darfur and Kurdufan. (Covers an area of 44161.70 Km2).
9.6	Cost (Budget)	
9.7	Time frame	20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
9.8	Feasibility Financial Indicators	ROI
		PBP
		IRR
9.9	Market	Local & International
9.10	Feasibility Study	Pre
		Final
9.11	Project Status	Magnetic, gravity, 12,000 km 2D Seismic, 174 km2 3D Seismic, 10 exploration wells were drilled among them six wells encountered HC shows.
		There are two main proven hydrocarbon plays; Tertiary Play in EL-Mahafir Area and Cretaceous Play in the Eastern Part (Bamboo Area) and in the western Part of the block (Garaad-Koda Area).
		Many Companies has worked in the block i.e. Chevron, GNPOC.
		The Block is around 250 Km near to GNPOC CPF.
		Know-How: Available: Many Companies has worked in the block i.e. Chevron, Total, CNPC, APCO, STR.
		Scope of execution: Exploration, production and processing of crude oil & gas.
		Contract Typed: Exploration Production Sharing Agreement (PSC).
		Technology origin: - Advanced Technology.

10. Block 14

S N	CRITERION	Data
10.1	Project Name	Block 14
10.2	Project Objectives	
10.3	Project Sector	Energy.
10.4	Project Capacity	
10.5	Location	North of Sudan.(Covers an area of 97820.46153 Km2.).
10.6	Cost (Budget)	
10.7	Time frame	20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
10.8	Feasibility Financial Indicators	ROI
		PBP
		IRR
10.9	Market	Local & International
1.10	Feasibility Study	Pre
		Final
1.11	Project Status	The Block consists of two basins; Misaha and Murdi Basins.
		There were many exploration activities have been done in the Block i.e. Magnetic, Gravity, 12000 km 2D seismic.
		Know-How: Many Companies has work in the Block i.e. Salima, Statesman.
		Scope of execution: Exploration, production and processing of crude oil & gas.
		Contract Typed: Exploration Production Sharing Agreement (PSC).
		Technology origin: - Advanced Technology.

11. Block 18

S N	CRITERION	Data
11.1	Project Name	Block 18
11.2	Project Objectives	
11.3	Project Sector	Energy.
11.4	Project Capacity	
11.5	Location	North of Sudan..(Covers an area of 187845.5948 Km2).
11.6	Cost (Budget)	
11.7	Time frame	20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
11.8	Feasibility Financial Indicators	ROI PBP IRR Cost oil: negotiable. Profit oil: negotiable
11.9	Market	Local & International
11.10	Feasibility study	Pre Final
11.11	Project Status	<p>The Block consists of three main sedimentary basins; Abyad, Salima and Gabgaba Basins. These Sedimentary Basins were delineated by Gravity indicates the depth of about 3 km.</p> <p>The sedimentary fill ranges in age from shallow marine Silurian through continental Permo-Triassic, Jurassic, shallow marine late Cretaceous and marine Tertiary carbonate & cherts.</p> <p>The configuration of these basins is similar to Misaha basin (Block 14) & Kom- Ombo basin (Egypt) which is producing basin.</p> <p>There were many exploration activities have been done in the Block i.e. Magnetic and Gravity.</p> <p>Scope of execution: Exploration, production and processing of crude oil & gas.</p> <p>Contract Typed: Exploration Production Sharing Agreement (PSC).</p> <p>Technology origin: - Advanced Technology.</p>

12. Block 22

S N	CRITERION	Data
12.1	Project Name	Block 22
12.3	Project Objectives	
12.3	Project Sector	Energy.
12.4	Project Capacity	
12.5	Location	South of Sudan to the northeast of Block 4 in Muglad basin.(Covers an area of 4866.9332 Km2).
12.6	Cost (Budget)	
12.7	Time frame	20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
12.8	Feasibility Financial Indicators	ROI
		PBP
		IRR
12.9	Market	Local & International
12.10	Feasibility Study	Pre-
		Final
12.11	Project Status	The block is embedded by two gravity high, and 50km from Bamboo Field away.
		There were many exploration activities have been done in the Block i.e. Magnetic, Gravity, 950 2D seismic and two exploration wells were drilled.
		The Block is adjacent to bamboo Oil field which is a producing field.
		The export pipeline near to the borders of the Block.
		Know-How: Many Companies has work in the block i.e. Chevron, GNPOC.
		Scope of execution: Exploration, production and processing of crude oil & gas.
		Contract Typed: Exploration Production Sharing Agreement (PSC).
		Technology origin: - Advanced Technology.

13. Block 20

S N	CRITERION	Data
13.1	Project Name	Block 20
13.2	Project Objectives	
13.3	Project Sector	Energy.
13.4	Project Capacity	
13.5	Location	East of Sudan, It is an offshore Block. (Covers an area of 8842.953 km ²).
13.6	Cost (Budget)	
13.7	Time frame	20 Years ±5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
13.8	Feasibility	ROI
	Financial	PBP
	Indicators	IRR
13.9	Market	Local & International
13.10	Feasibility Study	Pre
		Final
13.11	Project Status	There were many exploration activities have been done in the Block i.e. Magnetic, Gravity and 3227.6 Km of 2D seismic.
		The Hydrocarbon shows were encountered in the nearby Blocks.
		Know-How: Available: Many Companies has work in the Block i.e. AGIP, UNION TEXAS, CHEVERON, TEXAS, EASTERN and CPOC.
		Scope of execution: Exploration, production and processing of crude oil & gas.
		Contract Typed: Exploration Production Sharing Agreement (PSC).
		Technology origin: - Advanced Technology.

14. Block 21

S N	CRITERION	Data				
14.1	Project Name	Block 21				
14.2	Project Objectives					
14.3	Project Sector	Energy.				
14.4	Project Capacity					
14.5	Location	East of Sudan, It is an offshore Block. (Covers an area of 9791.924 km ²).				
14.6	Cost (Budget)					
14.7	Time frame	20 Years ±5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.				
14.8	Feasibility Financial Indicators	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30px; text-align: center;">ROI</td> <td rowspan="3" style="padding-left: 10px;">Cost oil: negotiable. Profit oil: negotiable</td> </tr> <tr> <td style="text-align: center;">PBP</td> </tr> <tr> <td style="text-align: center;">IRR</td> </tr> </table>	ROI	Cost oil: negotiable. Profit oil: negotiable	PBP	IRR
ROI	Cost oil: negotiable. Profit oil: negotiable					
PBP						
IRR						
14.9	Market	Local & International				
14.10	Feasibility Study	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30px; text-align: center;">Pre-</td> <td></td> </tr> <tr> <td style="text-align: center;">Final</td> <td></td> </tr> </table>	Pre-		Final	
Pre-						
Final						
14.11	Project Status	<p>There were many exploration activities have been done in the Block i.e. Magnetic, Gravity and 3748.9 Km of 2D seismic.</p> <p>The Hydrocarbon shows were encountered in the nearby Blocks.</p> <p>Know-How: Available: Many Companies has work in the Block i.e. AGIP, UNION TEXAS, CHEVERON, TEXAS EASTERN and CPOC.</p> <p>Scope of execution: Exploration, production and processing of crude oil & gas.</p> <p>Contract Typed: Exploration Production Sharing Agreement (PSC).</p> <p>Technology origin: - Advanced Technology.</p>				

15. Block 10

S N	CRITERION		Data
15.1	Project Name		Block 10
15.2	Project Objectives		
15.3	Project Sector		Energy.
15.4	Project Capacity		
15.5	Location		East of Sudan. (Covers an area of 85041.43 Km2.).
15.6	Cost (Budget)		
15.7	Time frame		20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
15.8	Feasibility Financial Indicators	ROI	Cost oil: negotiable. Profit oil: negotiable
		PBP	
		IRR	
15.9	Market		Local & International
15.10	Feasibility Study	Pre	
		Final	
15.11	Project Status		This Block consists of Gedaref basin.
			There were many exploration activities have been done in the Block i.e. Geological field survey, Magnetic, Gravity and also There are 4 regional seismic lines.
			The Block falls within vicinity of the two crude Oil export pipelines & few hundred kilometers away from the marine terminal (Port Sudan).
			Know-How: Available: Many Companies has work in the Block i.e. IPL , Global Energy.
			Scope of execution: Exploration, production and processing of crude oil & gas.
			Contract Typed: Exploration Production Sharing Agreement (PSC).
			Technology origin: - Advanced Technology.

16. Block 13

S N	CRITERION	Data
16.1	Project Name	Block 13
16.2	Project Objectives	
16.3	Project Sector	Energy.
16.4	Project Capacity	
16.5	Location	North East of Sudan.(Covers an area of 8950.64 Km2..).
16.6	Cost (Budget)	
16.7	Time frame	20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
16.8	Feasibility	ROI
	Financial	PBP
	Indicators	IRR
16.9	Market	Local & International
16.10	Feasibility Study	Pre
		Final
16.11	Project Status	This Block consists of many sedimentary environments as lacustrine, alluvial fan, delta, fringing reef, lagoon, shallow marine sand and braided channel.
		There were many exploration activities have been done in the Block i.e. Gravity, Magnetic, 518.9 km 2D seismic and three exploration wells, two wells have HC shows.
		The Block is considered as a proven petroleum system with Hydrocarbon discoveries.
		Know-How: Many Companies has work in the Block i.e. AGIP, UNION TEXAS, CHEVERON, TEXAS EASTERN and CPOC.
		Scope of execution: Exploration, production and processing of crude oil & gas.
		Contract Typed: Exploration Production Sharing Agreement (PSC).
		Technology origin: - Advanced Technology.

17. Block 23

S N	CRITERION		Data
17.1	Project Name		Block 23
17.2	Project Objectives		
17.3	Project Sector		Energy.
17.4	Project Capacity		
17.5	Location		South of Sudan to the South and Southwest of Block 4 (producing block) in Muglad basin. .(Covers an area of 3726.242814 km2).
17.6	Cost (Budget)		
17.7	Time frame		20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.
17.8	Feasibility Financial Indicators	ROI	Cost oil: negotiable. Profit oil: negotiable
		PBP	
		IRR	
17.9	Market		Local & International
17.10	Feasibility Study	Pre	
		Final	
17.11	Project Status		There is no well drilled in this Block.
			There is 545 Km 2D Seismic have been acquired.
			The block is adjacent to producing fields like (Azraq and Shelungo, Haraz-Shaf, Canar, Diffra-Hamam, Balome).
			Know-How: Available: Many Companies has worked in the block i.e. Chevron and GNPOC.
			Scope of execution: Exploration, production and processing of crude oil & gas.
			Contract Typed: Exploration Production Sharing Agreement (PSC).
			Technology origin: - Advanced Technology.

18. Block 12B

S N	CRITERION	Data	
18.1	Project Name	Block 12B	
18.2	Project Objectives		
18.3	Project Sector	Energy.	
18.4	Project Capacity		
18.5	Location	South West of Sudan.(Covers an area of 184377.8726 Km2.).	
18.6	Cost (Budget)		
18.7	Time frame	20 Years \pm 5years. Exploration period with minimum work and expenditure commitment (6 years). Development and production period.	
18.8	Feasibility Financial Indicators	ROI	Cost oil: negotiable. Profit oil: negotiable
		PBP	
		IRR	
18.9	Market	Local & International	
18.10	Feasibility Study	Pre	
		Final	
18.11	Project Status	The Block is consists of South WadiHowar Basin which is analogous to the geology of the neighboring Kufra (SE Libya), Murdi (Chad) and Dakhla (SW Egypt).	
		In addition to Miedoub Sub-Basin (North of Muglad Basin).	
		These basins are quite virgin with very little data.	
		There are indications from recent gravity data that the South WadiHowar basin could reach more than 5 km depth access from Khartoum through Elfashir and Nyala International Air ports in addition to roads and railway network.	
		Know-How: Many Companies has work in the block i.e. German Qatari	
		Scope of execution: Exploration, production and processing of crude oil & gas.	
		Contract Typed: Exploration Production Sharing Agreement (PSC).	
		Technology origin: - Advanced Technology.	

19. Upgrading 12 -Inches Pipeline

S N	CRITERION	Data
19.1	Project Name	Upgrading 12 -Inches Pipeline
19.2	Project Objectives	To to maximize the pipeline throughput by adding intermediate pump station(s) to reach maximum throughput of the 12” pipeline which is currently transport 900 Kton/year of Gasoil from Port-Sudan to Elrawian and that represents 30% of full capacity.
		The upgraded 12” pipeline will transport the increased quantities to reach the optimal utilization to meet the demand of Gasoil, upgrading will enable the existing 8” pipeline to be fully dedicated to export the excess quantities of Mogas.
19.3	Project Sector	O&G.
19.4	Project Capacity	Increase the capacity from 0.9 million ton up to 3 million ton.
19.5	Location	The 12 Inches pipeline length is 741 KM. With 2 stations at (PORTSUDAN – ALRAWYAN).
19.6	Cost (Budget)	
19.7	Time frame	24 months
19.8	Feasibility Financial Indicators	ROI
		NPV: 339.9 M\$
		PBP
2 Years		
IRR		
47%		
19.9	Market	Agricultural Projects, Transportation Sector & Household Sector
19.10	Feasibility Study	Pre
		Final
19.11	Project Status	
		Contractors: SPPC.
		Know-how and design documents: Available.
	Scope of execution: Available.	

20. KRC 16 MW Power Station Expansion

S N	CRITERION	Data	
20.1	Project Name	KRC 16 MW Power Station Expansion.	
20.2	Project Objectives	To Grantee a 100% reliable steam power supply during outage of one boiler or generator. Replacing two gas turbine with one high capacity boiler and steam turbine generator.	
20.3	Project Sector	Energy	
20.4	Project Capacity	16MW Generator+130T/h Boiler+150T/h desalt water.	
20.5	Location	Khartoum Refinery Company, Alijaili, Khartoum North, Sudan	
20.6	Cost (Budget)		
20.7	Time frame	(22 MONTH) March 1, 2016 to Dec. 31, 2017	
20.8	Feasibility	ROI	Satisfy KRC energy demand.
	Financial	PBP	Refinery efficiency and reliability.
	Indicators	IRR	
20.9	Market	KRC, to satisfy country oil products.	
20.10	Feasibility Study	Pre	
		Final	
20.11	Project Status	Contractors:	
		Designer: Chengdu engineering Company of China Light Industry.	
		Know-how and design documents: Available.	
		Scope of execution: Available.	
		Project description: Adding 1×130 t/h steam boiler. Adding 1×16 MW steam turbine generator. To expand water Treatment plant. Upgrade the steam distribution network. Adding cooling tower & circulating water. High and low voltage distribution system.	

21. Crude Distillation Unit (CDU) Material Upgrading

S N	CRITERION	Data				
21.1	Project Name	Crude Distillation Unit (CDU) Material Upgrading.				
21.2	Project Objectives	To enable the unit to process high TAN (Total Acid Number) & Calcium content in Nile Blend Crude.				
21.3	Project Sector	O&G.				
21.4	Project Capacity	To Upgrade CDU metallurgy in order to enable the refinery process Nile Blend crude with high TAN and High Calcium Content.				
21.5	Location	Khartoum Refinery Company, Alijaili, Khartoum North, Sudan				
21.6	Cost (Budget)					
21.7	Time frame	2 years				
21.8	Feasibility Financial Indicators	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">ROI</td> <td rowspan="3" style="vertical-align: top;">By enabling the refinery to process high TAN & high Calcium will enable the refinery to increase the annual crude processed in the refinery.</td> </tr> <tr> <td style="text-align: center;">PBP</td> </tr> <tr> <td style="text-align: center;">IRR</td> </tr> </table>	ROI	By enabling the refinery to process high TAN & high Calcium will enable the refinery to increase the annual crude processed in the refinery.	PBP	IRR
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PBP						
IRR						
21.9	Market	KRC, to satisfy country oil products				
21.10	Feasibility Study	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">Pre</td> <td></td> </tr> <tr> <td style="text-align: center;">Final</td> <td></td> </tr> </table>	Pre		Final	
Pre						
Final						
21.11	Project Status	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 100%;">Contractors: CNPC (China Petroleum Engineering & Construction Corporation).</td> </tr> <tr> <td style="width: 100%;">Know-how and design documents: Available.</td> </tr> <tr> <td style="width: 100%;">Scope of execution: Available.</td> </tr> </table>	Contractors: CNPC (China Petroleum Engineering & Construction Corporation).	Know-how and design documents: Available.	Scope of execution: Available.	
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Know-how and design documents: Available.						
Scope of execution: Available.						

22. Khartoum Refinery Equipment Reliability

S N	CRITERION		Data
22.1	Project Name		Khartoum Refinery Equipment Reliability
22.2	Project Objectives		To improve KRC plants reliability by adding three centrifugal compressors in different Units.
22.3	Project Sector		Energy
22.4	Project Capacity		Installing Three Compressors in KRC (Key Equipment).
22.5	Location		Khartoum Refinery Company, Alijaili, Khartoum North, Sudan
22.6	Cost (Budget)		
22.7	Time frame		18 months
22.8	Feasibility Financial Indicators	ROI	Current working compressors are under sanction, so no way to obtain spare parts and services. Key equipment in KRC, in case of failure will result in total shutdown and lose of production.
		PBP	
		IRR	
22.9	Market		KRC, to satisfy country oil products.
22.10	Feasibility Study	Pre	
		Final	
22.11	Project Status.		Contractors: CNPC (China Petroleum Engineering & Construction Corporation).
			Know-how and design documents: Available.
			Scope of execution: Engineering, Procurement, Construction and Commissioning (EPCC).

23. Khartoum – Madani - Rabak Pipeline

S N	CRITERION	Data
23.1	Project Name	Khartoum – Madani - Rabak Pipeline
23.2	Project Objectives	To Develop Sudan Petroleum Product Transportation and distribution Matrix.
		To establish reliable, more safety and cost effective petroleum product transportation and distribution network.
		To achieve more coverage area of consumption, and make petroleum product available at demand areas.
23.3	Project Sector	O&G.
23.4	Project Capacity	To transport 1.3 MMT of Multi petroleum products per Year in the 1st phase and 1.8 MMT petroleum products per Year in the further phases.
23.5	Location	About 400 km, (12 Inches) starts from Algailly (north of Khartoum) and ends at Rabak strategic depots.
23.6	Cost (Budget)	
23.7	Time frame	24 months
23.8	Feasibility Financial Indicators	ROI NPV: 135 M\$
		PBP 5 Years
		IRR 18.4%
23.9	Market	Agricultural Projects, Transportation Sector & Household Sector.
23.10	Feasibility Study	Pre
		Final
23.11	Project Status	Contractors: SPPC.
		Know-how and design documents: Available.
		Scope of execution: Available.