Projects Profiles

Energy Sector

Upstream Business Opportunities & Project Development Framework

Business Opportunities	Production Enhancement Opportunities	Blocks	2B	Type	Producing Block				
Background	✓Block 2B located in South Kordofan ✓Past exploration activities resulted in 15 structures. ✓Multi-target sands (9 layers) from Aradeiba Main (1400mkb) to Bentiu (1860mkb). ✓Mainly moderate to light oil 18-40 (28-35) API. ✓Scale oil production started in June 1999 with the drilling of 29 wells								
Investment Opportunities	▪ Production enhancement. ▪ Higher returns at low investment (i.e. workover, water shutoff etc.) ▪ IOR/EOR opportunity to step up reservoir production.			Unique Features	▪ 370km2 ▪ 21,700 daily production ▪ Production facility with capacity up to 350,000 bbl/day. ▪ 180 producing wells ▪ Roads connected to Red sea. ▪ Low lifting cost				
Investment Modes	▪ Direct equity ▪ Production sharing agreements ▪ PEC Model			Sponsor(s)	Ministry of Energy & Petroleum				

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Business Opportunities	Unexploited Producing Fields with Growing Potential	Blocks	2A&4	Type	Producing Block				
Background	✓Block 2A &4 located in the southwestern region in South Kordofan. ✓Past exploration activities resulted in 21 structures. ✓Mainly moderate to light oil (20-30) API. ✓Scale oil production started in 1999 with the drilling of 324 wells.								
Investment Opportunities	• Lower risk exploration to increase reserves • Production enhancement • Power generation utilizing produced gas			Unique Features	• 2A 1139km2 block4 16287 (larger than Belgium) • 20,000 daily production with 2.6B bbl oil in place. • Variety of products (Oil , Gas , associated gas) . • 190 producing wells • 85% unexplored area of the block . • Production 4 satellite production facilities connected to the CPF				
Investment Modes	- Direct equity - Production sharing agreements - PEC Model			Sponsor(s)	Ministry of Energy & Petroleum				

Business Opportunities	Attractive Exploration Play	Blocks	17	Type	Producing Block				
Background	✓**Block 17** located in the southwestern region. ✓Past exploration activities resulted in 2 structures Abu Gabra and Bentiu. ✓Mainly moderate to light oil 17-40 API. ✓Scale oil production started in Dec 2012 with the drilling of 56 wells, as of May-2016, 14 producers/35 active,								
Investment Opportunities	• Increase reserves through low-risk exploration • Production enhancement • Heavy oil production enhancement			Unique Features	• 21,000 km2 • 3000 daily production • Production facility with capacity up to 15,000 bbl /day • 12 producing wells • 95% unexplored area of the block • Roads connected to Red sea. • Low lifting cost				
Investment Modes	- Direct equity - Production sharing agreements			Sponsor(s)	Ministry of Energy & Petroleum				

Business Opportunities	**Green Field Development Opportunity**	**Blocks**	**25**	**Type**	**Producing Block**				
Background	Block 25 Rawat central region located in White Nile in South East Sudan. Rawat Basin is the northern extension of the Cretaceous Melut Basin. Consists of series of sub-basins. Three fields, currently one field producing and trucking from wellhead.								
Investment Opportunities	▪ Increase reserves through low-risk exploration ▪ Field development. ▪ Past exploration activities resulted in 19 structures. ▪ The main reservoir intervals identified are (Galhak, Lower Melut and Galhak Sand) ▪ Mainly moderate to light oil (26-32) API. ▪ Scale oil production started in 2018 with the drilling of 16 wells			**Unique Features**	▪ Approximately 8000 Square Kilometers (175 km X 50 km) ▪ Production facility need to be established ▪ 90% unexplored area of the block ▪ Abundance of seismic stratigraphic features (pinch-outs, unconformities and turbidite deposits). ▪ Potential for stratigraphic discoveries ▪ Close to export pipeline and roads is connected to Red sea.				
Investment Modes	▪ Direct equity ▪ Production sharing agreements			**Sponsor(s)**	Ministry of Energy & Petroleum				

Business Opportunities	Blue Nile Basin	Blocks	8	Type	Free Block				
Background	Block 8 located 200 km to the south of Khartoum. The Block area is 60,513 Sq. Km. Exploration started in 1980s by Chevron continued later by Petronas & Sudapet.								
Investment Opportunities	▪ ALL Block 8 wells were drilled for conventional oil play-type ▪ The Blue Nile Basin has a proven Hydrocarbon system based on drilling of 11 wells ▪ Blue Nile basin has most of shale gas characteristics with high gas readings and thinly interbedded siltstones ▪ HW application could upgrade reserve potential and enhance productivity ▪ Shale Gas Potential: More than 1000 m good-very good Source rock extended through whole the basin				Unique Features	▪ Covered by Gravity & Magnetic and 7,515 Km 2D Seismic. ▪ Nine (9) G&G Studies Performed. ▪ 11 wells drilled with a good HC shows. (10+1) ▪ 2Wells Discoveries (Tawakul-1, Hosan-1) ▪ Mixed oil/gas prone source rocks is seen from the wells drilled and high TOC values. ▪ Gas & Condensate reserves have been discovered. ▪ Proximity to export pipeline and Central Processing facility.		
Investment Modes	- Direct equity - Production sharing agreements				Sponsor(s)	Ministry of Energy & Petroleum			

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Business Opportunities	Red Sea Basin	Blocks	13,15,16,22 & 26	Type	Free Block				
Background	▪ Lies in North East of Sudan,1000 km from the capital Khartoum city. ▪ Covers 70,000 square Kilometers ▪ 700 Kms coastline on the Red Sea ▪ Proven petroleum system with sediment thickness exceeds10000 meters. ▪ Five promising exploration acreages are offered for exploration.								
Investment Opportunities	▪ One of the last remaining frontier hydrocarbon provinces in the world ▪ Potential for sizable hydrocarbon discoveries in the pre-salt ▪ Sudan is offering five blocks for licensing: 13, 15, 16, 22 and 26 ▪ Block 15 has potential gas reserves of 382 BSCF and 41 MMBBL of condensate. Several in-house studies were carried out to strategize the development of the discovered resources. The development plan is based on the drilling of Four (4) wells; two at each location (Bashaier and Swakin). Power generation is a primary gas utilization option.			Unique Features	▪ Five Exploration blocks on offer ▪ The blocks covered by 19503 km of 2D seismic data, and 10451 km of Gravity. ▪ 15 wells Drilled resulting in two gas and condensate discoveries ▪ International airport, three seaports, two marine terminals and refinery are very close to the block. ▪ Complex Rift Geology & Salt Tectonics ▪ Seismic imaging is a key to unlocking the hydrocarbon potential. ▪ Environmentally sensitive shallow				
Investment Modes	- Direct equity - Production sharing agreements			Sponsor(s) & Key Stakeholders	Ministry of Energy & Petroleum				

Business Opportunities	Khartoum Basin	Blocks	9	Type	Free Block				
Background	▪ Located in the central part of Sudan covering an area ~1500 km2. ▪ The basin formed during two rifting cycles and subdivided into three half grabens: Democratia, Sudan-6, and Gezira. ▪ The stratigraphic succession records up to 5500 m of Late Jurassic to Tertiary clastic sedimentation. ▪ Seven wells have been drilled in the period from 1987 to 2011. ▪ Potential source rocks in the Abu Gin Formation.								
Investment Opportunities	▪ Block9 in the central part of Sudan covering an area of 141,939.55km2 ▪ Proven hydrocarbon system (tested oil in Democratia-1) ▪ Many untested structures			Unique Features	▪ Data availability ✓ The Block is covered by Magnetic & Gravity ✓ 202 lines of 2D seismic data of good regional grid. ▪ 7 wildcat wells ▪ The main crude oil pipelines are passing through the Block.				
Investment Modes	- Direct equity - Production sharing agreements			Sponsor(s) & Key Stakeholders	Ministry of Energy & Petroleum				

Project Name	Purchasing of Specialized Software License	Cost (USD)	3.75 M USD	Type*	R & D	Target Start Date	2021	Target End Date	2026
Project Description	Acquiring advanced petroleum E &P applications & securing the compute power required to optimize the use of these applications. This is intended to upgrade the Petroleum Laboratories, Researches and Studies (PLRS) Unit of the Ministry of Energy and Petroleum to ensure in-country execution of sensitive and crucial studies and research projects.								
Impact	• Adoption of the latest efficient and cost effective technologies in the field to produce accurate exploration studies and reliable field development plans. • Maximization of local content. • Improvement of national capacity in this important sector of the industry.			Unique Features	▪ This project helps optimize drilling activities in order to minimize environmental foot print and capital losses resulting from excessive drilling and associated surface facilities. ▪ The project contributes to the enhancement of Sudan's proven oil and gas reserves.				
Financing	Donation/ Self-financing			Sponsor(s)	Ministry of Energy & Petroleum				

Natural Gas Monetization Opportunities

Project Name	*Neem NG Monetization Project*	Cost (USD)	50 M USD	Type*	Gas	Target Start Date	2022	Target End Date	2023
Project Description	*For the last two decades the flared gas from Neem field has remained wasted. This project aims at utilizing the associated flared gas to produce LPG and Condensate for local market beside Fuel gas to generate electricity . The project design feed input is 10.6 MMSCF with expected capacity of 60 tons of LPG.*								
Impact	▪ *To benefit from the flared gas.* ▪ *Address LPG local supply shortage.* ▪ *To work as a pilot for more LPG production products*			Unique Features	▪ *Use the gas as clean source of energy* ▪ *The opportunity for environmental funds to support the project* ▪ *Electricity supply for surrounds village*				
Financing	- *JV* - *PPP*			Sponsor(s)	Ministry of Energy & Petroleum				

Project Name	*Alfula Power Plant*	Cost (USD)	250 M USD	Type*	Gas	Target Start Date	2022	Target End Date	2024
Project Description	*Al-Fula Town Power plant project is set to utilize natural gas as a strategic project which is the first project in Sudan that will utilize fuel gas for power generation plant that will be connected to the National Electric Grid. Ministry of Energy is planning to construct a 100 MMSCFD Gas gathering & Processing Plant located at Moga to treat and process the commingled gas from the three blocks (4,6 and 17) and to produce LPG, condensate and supply of fuel Gas to Fula Power Plant.*								
Impact	▪ *Bridging the electricity gap in SUDAN.* ▪ *Reduce the regional inequalities in Sudan.* ▪ *Improve the environmental condition through shifting from wood and charcoal to electricity as safer source of energy.* ▪ *Reduce the LPG imports.*			Unique Features	▪ *Gathering of flared gas from several fields* ▪ *The location near to underdeveloped areas of Darfur and Kordofan.* ▪ *The concentrated nearby demand of factories and industrial areas.*				
Financing	- *JV*			Sponsor(s)	Ministry of Energy & Petroleum				

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Downstream Projects

April 2021

Project Name	Port Sudan Refinery Project	Cost (USD)	6 BUSD	Type*	Downstream	Target Start Date	2022	Target End Date	2026
Project Description	Building a new refinery with total capacity of (150,000 ~ 200,000) bbl/ day with potential expansion for petrochemical complex The refinery shall process the imported crude oil or the locally produced one incase of production increasing in Sudan blocks								
Impact	- Cover the deficit of Sudan consumption (satisfy the demand). - Export to neighboring countries and the whole world especially African depth. - Lay a concrete base for Petrochemicals industry - Economical Utilization of Existing Facilities.			Unique Features	• Availability of local crude supply potential • Refinery site directly overlooks to Red Sea coast. • Ease of importing and exporting to the outside market with ready-made infrastructure in crude & product terminals. • The presence of ready infrastructure in the old refinery • Existence of a real market inside Sudan & Potential market in neighboring countries. • Growing local petrochemicals demand				
Financing				Sponsor(s)	GOS				

Project Name	Sudan Depots Expansion Project	Cost (USD)	338.5 MUSD	Type*	Downstream	Target Start Date	2022	Target End Date	2024
Project Description	Building a new Seven depots in different region in Sudan to increase the storage capacity from 1 million m³ to 1.6 million m³ as follows: 1. **Elfashir:** to serve transportation, agriculture and industrial sectors 2. **Eldein**: to serve transportation, agriculture and industrial sectors 3. **Sennar:** to serve transportation, agriculture and industrial sectors 4. **Omdurman:** to serve transportation, agriculture and industrial sectors 5. **Karima:** to serve transportation, agriculture and mining sectors 6. **Medani:** to serve transportation, agriculture and industrial sectors 7. **Rabak: to** serve transportation, agriculture and industrial sectors As well as construct one products pipeline 1. **Medani – Sennar – Rabak:** to link the three depots and reduce the losses and risks associated with road tankers transportation								
Impact	▪ Achieve more coverage area of consumption, and make petroleum product available at demand areas ▪ Reduce the risk associated with products shortage . ▪ Establish reliable, more safety and cost effective petroleum product. ▪ Minimizing the transportation cost and environmental risk as well as preventing the risk related to the transportation.			Unique Features	• Increase the productivity in both industrial & agriculture sectors. • Reducing the unemployment rate • Secure social stability in the targeted states				
Financing				Sponsor(s)	GOS				

Project Name	Port Sudan Depots, Products Pipeline & Anchorage Upgrading Project	Cost (USD)	260 MUSD	Type*	Downstream	Target Start Date	2022	Target End Date	2024
Project Description	**Upgrade** the storage capacity of Port Sudan depots to **171,000 m^3**, **Increase** the transportation capacity of the products pipeline **from 1 MMT to 3.2 MMT** by upgrading the pump stations as well as **Add** one more Anchorage to accommodate **200,000 MT** vessels								
Impact	• Transferring the increasing quantities imported of the gasoil product, it estimated to reach 4.9 million MT/Y in 2021 • Secure supplying of petroleum products to the central Sudan • Helps to break the bottlenecks in Port Sudan due to the increase in import quantities. • Minimizing the transportation cost and environmental risk as well as preventing the risk related to the transportation • Reduce fines resulting from slow unloading of ships.			Unique Features	• Availability of Gasoil pipeline from port Sudan to Khartoum which can be upgraded by increasing its throughput capacity. • Projects' locations reduces a lot of costs related to logestics.				
Financing				Sponsor(s)	GOS				

Project Name	Um Dabakir Refinery Project	Cost (USD)	300 MUSD	Type*	Downstream	Target Start Date	20xx	Target End Date	20xx
Project Description	Building a new refinery with total capacity of 20,000 BPD topping plant at Um Dabakir to process the heavy crude from South Sudan as well as the heavy crude production from Block-25 and to supply the furnace to Um Dabakir Power Plant								
Impact	• Extract light products out from Dar blend • Secure Furnace supply for Um Dabakir power plant • Process the crude of Block-25 which has no pipeline for evacuation. • Supply the oil products to the neighboring countries			Unique Features	• Low Capital Investment • Location closeness to major consumer (the power plant) • Availability of local crude supply potential (including South Sudan production) • Economic growth will lead to increasing demand local market- same would be observed within neighbouring countries				
Financing	**PBP:** 5-8 years			Sponsor(s)	GOS				

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Electricity Sector

Package	Projects	Capacity		Required Finance		Priority
Solar	Solar PV plants	415	MWp	255.5	MUSD	Priority 1
Wind	Wind Farms	300	MW	375	MUSD	Priority 2
Hydro	Hydro power plants/uprating	440	MW	177MEUR 343MUSD	MEUR MUSD	Priority 3
Thermal	Upgrading to Combined Cycle Power Plant and Steam Turbines	2460	MW	1,975	MEUR	Priority 4
Transmission	Transmission Lines and Substations			1,320	MUSD	Priority 5
Total		3615	MW	2,293.5 2,152.0	MUSD MEUR	

	Package	Project	Capacity		Required Finance	
1	Solar	Omdurman Solar Project A (200 MW)	100	MWp	120	MUSD
2		Port Sudan Solar Park	200	MWp	60	MUSD
3		Elobied Solar Park (100MWp)	100	MWp	62	MUSD
4		Elgeneina Solar Photovoltaic Project (5MWp)	5	MWp	4.5	MUSD
5		Kadogli Solar Photovoltaic Project (5MWp)	5	MWp	4.5	MUSD
6		Zalengi Solar Photovoltaic Project (5MWp)	5	MWp	4.5	MUSD
7	Wind	Dongola Wind Energy phase I	100	MW	125	MUSD
8		Toker Wind Farm	180	MW	225	MUSD
9		Nyala Wind Farm	20	MW	25	MUSD
10	Hydro	Roseires power plant uprating	172	MW	177	MEUR
11		Sennar New Power Plant	146	MW	200	MUSD
12		Left Bank Irrigation Outlet / Hydropower Plant – Merowe Dam	122	MW	143	MUSD

		Project	Capacity		Required Finance	
13	Thermal	Garri (3) 240 MW Upgrading to Combined Cycle Power Plant	240	MW	286	MEUR
14		Port Sudan Block (1) 170MW Upgrading to Combined Cycle Power Plant	170	MW	196	MEUR
15		Port Sudan Block (2& 3) 2 x 500 MW Combined Cycle Power Plant (LPG+LNG)	1000	MW	413	MEUR
16		Red Sea 600MW Steam Power Plant Project	600	MW	670	MEUR
17		Alfula Radifa 450MW Combined Cycle Power Plant Project	450	MW	410	MEUR
18	Transmission	Khartoum Reinforcement Project			200	MUSD
19		Maringan - Elfaw - Elgadarif Transmission Lines and Substations			100	MUSD
20		500kV Sudan Ethiopia Power Interconnection			500	MUSD
21		Port Sudan Substation Extension Project			10	MUSD
22		500kV Khartoum Ring Project			250	MUSD
23		Alhuda – Bohat - Altamtam – Aldeba			170	MUSD
24		Mushkor – Elmanagel – Maringan			90	MUSD

Project Name	**Dongola Wind Energy**	Cost (USD)	125MUSD	Type*	Wind Energy	Target Start Date	2021	Target End Date	2022
Project Description	Installation of 100MW turbines of wind Energy as phase 1 up to 700MW in later 3 phases in Dongola town in North Sudan to produce electrical energy and evacuate it to the national grid.								
Impact	➢ **Contributes to the gap bridging in electrical energy.** ➢ **Complements solar generation and maximizes overall renewable energy share.** ➢ **Saves 72,500 ton/year of fuel.** ➢ **Reduces GHG by 125,552.7 tonCO2/year.** ➢ **Reduces overall cost of energy unit.** ➢ **Increases electrification rate (about 40% now).** ➢ **Creates enabling environment for agricultural investment and agrarian transformation.** ➢ **Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation.** ➢ **Promotes growth of small, micro and medium sized enterprises (SMES).** ➢ **Boosts job creation potential.**			Unique Features	➢ **High wind potential energy in the area.** ➢ **Close proximity to grid connection.** ➢ **Wide flat areas of land.** ➢ **Pilot project of 1MW wind turbine in the location is already under construction.** ➢ **Resource assessment, environmental and social impact studies are ready. FS almost ready.** ➢ **Foreseen agricultural transfer industries nearby.** ➢ Project land officially allocated. ➢ Right of way granted to connection to grid.		
Cost Impact	**Fuel saving of 43.5MUSD/year**			Sponsor(s)	**Government of Sudan**				

Project Name	Omdurman Solar Project A (200 MW)	Cost (USD)	**170MUSD**	Type*	**Solar PV Energy**	Target Start Date	**2021**	Target End Date	**2022**
Project Description	Installation of 200MWp of the latest technology of solar PV near city Omdurman in the capital Khartoum state.								
Impact	➢ **Contributes to the gap bridging in electrical energy.** ➢ **Reduces overall cost of energy unit.** ➢ **Saves 92,400 ton/year of fuel.** ➢ **Reduces GHG by 157,837.68 tonCO2/year.** ➢ **Increases electrification rate (about 40% now).** ➢ **Creates enabling environment for agricultural investment and agrarian transformation.** ➢ **Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation.** ➢ **Promotes growth of small, micro and medium sized enterprises (SMES).** ➢ **Boosts job creation potential.**			Unique Features	➢ **High average of Direct Normal Irradiance in the area.** ➢ **Close proximity to grid connection.** ➢ **Wide flat areas of empty land.** ➢ **Feasibility study is ready.** ➢ Project land officially allocated. ➢ Right of way granted to connection to grid.				
Cost Impact	**Fuel saving of 55.44MUSD/year**			Sponsor(s)	**Government of Sudan**				

Project Name	Port Sudan Solar Park	Cost (USD)	85MUSD	Type*	Solar PV Energy	Target Start Date	2021	Target End Date	2022
Project Description	Installation of 100MWp in the city of Port Sudan (the main port of Sudan) from the latest technologies of solar PV to produce 189,537MWh and evacuate it to the national grid.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Reduces overall cost of energy unit. ➢ Saves 46,200 ton/year of fuel. ➢ Reduces GHG by 78,918.84 tonCO2/year. ➢ Stabilizes the radial power line of the city of Port Sudan and hence the supply of the city and harbour. ➢ Increases electrification rate (about 40% now). ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Close proximity to the main port of Sudan. ➢ High average of Direct Normal Irradiance in the area. ➢ Close proximity to grid connection. ➢ Wide flat areas of empty land. ➢ Feasibility study is ready. ➢ Project land officially allocated. ➢ Right of way granted to connection to grid.				
Cost Impact	Fuel saving of 27.7MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Toker Wind Farm	Cost (USD)	225MUSD	Type*	Wind Energy	Target Start Date	2021	Target End Date	2023
Project Description	Installation of 180MW turbines of wind energy in Toker town in eastern of Sudan near the city of Port Sudan to produce about 643.3GWh/y from wind farm with a capacity factor about 40%.								
Impact	➢ Complements solar generation and maximizes overall renewable energy share. ➢ Saves 130,500 ton/year of fuel. ➢ Reduces GHG by 225,994.86 tonCO2/year. ➢ Reduces overall cost of energy unit. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ About 160km from the main port of Sudan. ➢ High wind potential energy in the area. ➢ Wide flat areas of land. ➢ Resource assessment, environmental and social impact studies are ready. FS almost ready. ➢ Project land officially allocated. ➢ Right of way granted to connection to grid.				
Cost Impact	Fuel saving of 78.3MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Nyala Wind Farm	Cost (USD)	25MUSD	Type*	Wind Energy	Target Start Date	2021	Target End Date	2022
Project Description	Installation of 20 MW turbines of wind energy in the isolated grid of Nyala city in Western Sudan to produce about 64,006MWh/yr from wind energy farm to reduce fuel consumption.								
Impact	➢ Complements solar generation and maximizes overall renewable energy share. ➢ Saves 14,500 ton/year of fuel. ➢ Reduces GHG by 25,110.54 tonCO2/year. ➢ Socioeconomic status improvement in Darfur state. ➢ Reduces overall cost of energy unit. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ High wind potential energy in the area. ➢ Wide flat areas of land. ➢ Resource assessment, environmental and social impact studies are ready. ➢ Industrial centre project nearby Nyala city waiting for energy and finance. ➢ Huge agricultural and industrial resources in West Darfur state and surrounding states. ➢ Project land officially allocated.				
Cost Impact	Fuel saving of 8.7MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Elobied Solar Park (100MWp)	Cost (USD)	102MUSD	Type*	Solar PV Energy	Target Start Date	2021	Target End Date	2022
Project Description	**The 100MWp Elobied PV Solar park is proposed in the mid-Western part of Sudan around 10km south from the centre of Elobied city which is approximately 363km away from the capital Khartoum. The total area available for the plant (and future expansions) is nearly 400 hectares (4 square kilometres) flat area. Mainly proposed to incentivise the industrial high potential in the area.**								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Reduces overall cost of energy unit. ➢ Saves 46,200 ton/year of fuel. ➢ Reduces GHG by 78,918.84 tonCO2/year. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ High average of Direct Normal Irradiance in the area. ➢ Close proximity to grid connection. ➢ Wide flat areas of empty land. ➢ Feasibility study is ready. ➢ Huge agricultural and industrial resources in North Kordufan state and surrounding states. ➢ Project land officially allocated. ➢ Right of way granted to connection to grid.				
Cost Impact	Fuel saving of 27.7MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Elgeneina Solar Photovoltaic Project (5MWp)	Cost (USD)	4.5MUSD	Type*	Solar PV Energy	Target Start Date	2021	Target End Date	2022
Project Description	A solar PV park with total capacity of 5MW as clean, sustainable energy project utlizing the abundant solar irradiation to generate electrical energy that will feed the isolated grid of Algeneina city in West Darfur state.								
Impact	➢ Contributes to the gap bridging in electrical energy by adding 9,800MWh/year. ➢ Reduces overall cost of energy unit. ➢ Reduces GHG by 7,128 tonCO2/year. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ High average of Direct Normal Irradiance in the area. ➢ Huge agricultural and transfer industrial resources in the area. ➢ 500 hectares available for project site. ➢ Project land officially allocated.				
Cost Impact	Fuel saving of ????MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Kadogli Solar Photovoltaic Project (5MWp)	Cost (USD)	4.5MUSD	Type*	Solar PV Energy	Target Start Date	2021	Target End Date	2022
Project Description	A solar PV park with total capacity of 5MW as clean, sustainable energy project utlizing the abundant solar irradiation to generate electrical energy that will feed the isolated grid of Kadogli city in South Kordufan state.								
Impact	➢ Contributes to the gap bridging in electrical energy by adding 9,800MWh/year. ➢ Reduces overall cost of energy unit. ➢ Reduces GHG by 7,128 tonCO2/year. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ High average of Direct Normal Irradiance in the area. ➢ Huge agricultural and transfer industrial resources in the area. ➢ 500 hectares available for project site. ➢ Project land officially allocated.				
Cost Impact	Fuel saving of ????MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Zalengi Solar Photovoltaic Project (5MWp)	Cost (USD)	4.5MUSD	Type*	Solar PV Energy	Target Start Date	2021	Target End Date	2022
Project Description	A solar PV park with total capacity of 5MW as clean, sustainable energy project utlizing the abundant solar irradiation to generate electrical energy that will feed the isolated grid of Zalengi city in Central Darfur state.								
Impact	➢ Contributes to the gap bridging in electrical energy by adding 9,800MWh/year. ➢ Reduces overall cost of energy unit. ➢ Reduces GHG by 7,128 tonCO2/year. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ High average of Direct Normal Irradiance in the area. ➢ Huge agricultural and transfer industrial resources in the area. ➢ 500 hectares available for project site. ➢ Project land officially allocated.				
Cost Impact	Fuel saving of ????MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Roseires power plant uprating	Cost (EUR)	177MEUR	Type*	Hydro-electric	Target Start Date	2021	Target End Date	2027
Project Description	Replacement of major turbine parts of the existing 7x40MW units, runner hub, and generator at Roseires dam. Will feasibly increase plant installed capacity by 162 MW (+57.9%) {Uprating the units (1-4) from (40 to 58 MW) and units (5-7) from (40 to 70 MW)}.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Harnesses more hydro-electric wasted energy. ➢ Enhances stability of the national grid. ➢ Saves 177,390.00 ton/year of fuel. ➢ Reduces overall cost of energy unit. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Modification to existing clean energy power station. ➢ Feasibility study is ready. ➢ Tender Documents under preparation (99% completed). ➢ Ethiopian Renaissance dam will maintain sustainable inflow upstream.				
Cost Impact	Fuel saving of 88.695MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Sennar New Power Plant	Cost (USD)	200MUSD	Type*	Hydro-electric	Target Start Date	2021	Target End Date	2025
Project Description	Construction of a new powerhouse 146MW capacity (4 units Bulb turbines X 36.5MW) in existing Sennar dam on the Blue Nile river, approximately 320km Southeast of Khartoum and 270 km downstream Roseires Dam. The existing power house is a 2x7.5MW Kaplan turbines set.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Harnesses more hydro-electric wasted energy. ➢ Enhances stability of the national grid. ➢ Saves 127,896.00 ton/year of fuel. ➢ Reduces overall cost of energy unit. ➢ Increases electrification (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Modification to existing clean energy power station. ➢ Feasibility study is ready. ➢ Tender Documents under preparation. ➢ Ethiopian Renaissance dam and Roseires dam will maintain sustainable inflow upstream.				
Cost Impact	Fuel saving of 63.948MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Left Bank Irrigation Outlet / Hydropower Plant – Merowe Dam	Cost (USD)	143MUSD	Type*	Hydro-electric	Target Start Date	2021	Target End Date	2024
Project Description	Installation of 3 New Francis units X 40.7MW (122.1 MW total) on left bank irrigation outlet of Merowe dam Located downstream of the 4th cataract of the River Nile, about 350km North of Khartoum.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Harnesses more hydro-electric wasted energy. ➢ Enhances stability of the national grid. ➢ Saves 80,154.00 ton/year of fuel. ➢ Reduces overall cost of energy unit. ➢ Increases electrification rate (about 40% now). Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Modification to existing clean energy power station. ➢ Feasibility study is ready. ➢ Ethiopian Renaissance, Roseires, Sennar and Upper Atbara dams will all maintain sustainable inflow upstream. ➢ Promotion of agricultural production sector in wide areas in North Sudan.				
Cost Impact	Fuel saving of 40.077MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Garri (3) 240 MW Upgrading to Combined Cycle Power Plant (CCPP)	Cost (EUR)	246 – 286 MEUR	Type*	Waste Heat Recovery	Target Start Date	2021	Target End Date	2025
Project Description	Upgrading of Garri 3 Ongoing OCPP project which is under commissioning phase now to CCPP. The existing plant includes 3x187MW Siemens GT (Iso Mode). The project is technically and economically feasible.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Harnesses waste heat energy. ➢ Saves 550,050.91 ton/year of fuel. ➢ Increases Garri 3 plant efficiency by more than 20%. ➢ Reduces overall cost of energy unit. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ 240MWe from waste heat recovery. ➢ All necessary equipment needed for not interrupting the operation of the OCPP during upgrading to CCPP are ready. ➢ Energy source secured. ➢ Installed gas turbines (3x187MW) are multi fuel. ➢ Power plant fuel piped from adjacent refinery strategic storage. ➢ **Project site ready for construction.**				
Cost Impact	Fuel saving of 247.523MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Port Sudan Block (1) 170MW Upgrading to Combined Cycle Power Plant (CCPP)	Cost (EUR)	196 MEUR	Type*	Waste Heat Recovery	Target Start Date	2021	Target End Date	2024
Project Description	Upgrading of Port Sudan Ongoing OCPP project which is under construction phase now to CCPP. The existing plant includes 2x187MW Siemens GT (Iso Mode). The project is technically and economically feasible.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Harnesses waste heat energy. ➢ Enhances stability of the national grid. ➢ Increases plant efficiency by more than 20%. ➢ Saves 389,619.40 ton/year of fuel. ➢ Reduces overall cost of energy unit. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ 170MWe from waste heat recovery. ➢ All necessary equipment needed for not interrupting the operation of the OCPP during upgrading to CCPP are ready. ➢ Energy source secured. ➢ Installed gas turbines (2x187MW) are multi fuel. ➢ Close proximity to the main port of Sudan. ➢ **Project site ready for construction**.				
Cost Impact	Fuel saving of 175.329MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Port Sudan Block (2& 3) 2 x 500 MW Combined Cycle Power Plant (CCPP)(LPG+LNG)	Cost (EUR)	413 MEUR	Type*	CCPP	Target Start Date	2021	Target End Date	2024
Project Description	Installation of 2x500MW Combined Cycle Power Plant about 4km to the South of Port Sudan city (the main port of Sudan). LPG and LNG fuel types are to be used which can easily be secured through the port.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Enhances stability of the national grid. ➢ Saves 420,480.00 ton/year of fuel. ➢ Reduces overall cost of energy unit. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.	Unique Features	➢ Will contribute to about 28% increase to the total installed generation capacity in the country which is equivalent to the present supply gap. ➢ Close proximity to the main port of Sudan. ➢ Feasibility study is ready. ➢ **Project site ready for construction.** ➢ Right of way granted to connection to grid.						
Cost Impact	Fuel saving of 94.608MUSD/year	Sponsor(s)	Government of Sudan						

Project Name	Red Sea 600MW Steam Power Plant Project	Cost (EUR)	670 MEUR	Type*	Thermal Power Generation	Target Start Date	2021	Target End Date	2024
Project Description	Installation of 600MW thermal power plant of steam turbines about 60km to the North of Port Sudan city (the main port of Sudan). Coal fuel type is to be used which can easily be secured through the port.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Reduces overall cost of energy unit. ➢ Increases electrification (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Will contribute to about 17% increase to the total installed generation capacity in the country. ➢ Close proximity to the main port of Sudan. ➢ Feasibility study is ready. ➢ **Project site ready for construction**. ➢ Right of way granted to connection to grid. ➢ Nearby potential of large mining industry elaborated by feasibility study. ➢ Free customer trading and industry zone planned close to this project.				
Cost Impact	Fuel saving of 39.420MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Alfula Radifa 450MW Combined Cycle Power Plant Project (CCPP)	Cost (EUR)	410 MEUR	Type*	CCPP	Target Start Date	2021	Target End Date	2024
Project Description	Installation of 450MW electricity generation capacity 4km to the North of Alfula town in the state of North Kordufan in the middle area of Sudan. The project is planned to utilize the associated and non-associated natural gas from nearby oil fields.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Improves overall environmental impacts. ➢ Saves 197,100.00 ton/year of fuel. ➢ Reduces overall cost of energy unit. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Will contribute to about 13% increase to the total installed generation capacity in the country. ➢ Feasibility study is ready. ➢ Associated and non-associated natural gas reserves discovered nearby. ➢ **Project site ready for construction.** ➢ **Grid transmission Substation adjacent to project site.** ➢ **Project reached tender evaluation phase and cancelled for insufficient finance.**		
Cost Impact	Fuel saving of 88.695MUSD/year			Sponsor(s)	Government of Sudan				

Project Name	Khartoum Reinforcement Project	Cost (USD)	200 MUSD	Type*	Transmission	Target Start Date	2021	Target End Date	2023
Project Description	Construction of 220&110kV transmission lines, 2 new substations and the extension of 9 existing substations.								
Impact	➢ Increases electrification rate (about 40% now). ➢ Reduces overall system losses. ➢ Maintains a continuous and reliable supply of electric power in the strategic state of Khartoum. ➢ Relieves the bottlenecks in the transmission grid. ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Feasibility study is ready. ➢ **Project sites ready for construction.** ➢ **Right of way granted to transmission lines.**				
Cost Impact	Awaiting data from SETCO			Sponsor(s)	Government of Sudan				

Project Name	Maringan - Elfaw - Elgadarif Transmission Lines and Substations	Cost (USD)	100 MUSD	Type*	Transmission	Target Start Date	2021	Target End Date	2023
Project Description	Construction of 224km of 220kV transmission lines in addition to a new substation and extension of 2 existing substations.								
Impact	➢ Increases electrification rate (about 40% now). ➢ Reduces overall system losses. ➢ Relieves the bottlenecks in the transmission grid. ➢ Provides alternative to evacuate power imported from Ethiopia and Upper Atbara Dam. ➢ Improves the voltage profile in Gazeira area. ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Huge energy potential from Ethiopia Renaissance Dam. ➢ Feasibility study is ready. ➢ **Project sites ready for construction.** ➢ **Right of way granted to transmission lines.**				
Cost Impact	Awaiting data from SETCO			Sponsor(s)	Government of Sudan				

Project Name	500kV Sudan Ethiopia Power Interconnection	Cost (USD)	500 MUSD	Type*	Transmission	Target Start Date	2021	Target End Date	2023
Project Description	Construction of 500kV transmission line with a length of 590km, 2 new substations and extension of 2 existing substations.								
Impact	➢ Contributes to the gap bridging in electrical energy. ➢ Reduces overall cost of energy unit. ➢ Increases electrification rate (about 40% now). ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Huge energy potential from Ethiopia Renaissance Dam. ➢ Feasibility study is ready. ➢ Tender documents are ready. ➢ **Project sites ready for construction.** ➢ **Right of way granted to transmission line.**				
Cost Impact	Awaiting data from SETCO			Sponsor(s)	Government of Sudan				

Project Name	Port Sudan Substation Extension Project	Cost (USD)	10 MUSD	Type*	Transmission	Target Start Date	2021	Target End Date	2022
Project Description	Upgrade and extension of transformers to a capacity of 3*150MVA in the existing substation of Port Sudan.								
Impact	➢ Increases electrification rate (about 40% now). ➢ Evacuates the power generated from the new planned Port Sudan Power Plant to the national grid. ➢ Establishes reliable electric power supply to the city of Port Sudan. ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Huge power generation expected in the area. ➢ Feasibility study is ready. ➢ **Project site ready for construction.**				
Cost Impact	Awaiting data from SETCO			Sponsor(s)	Government of Sudan				

Project Name	500kV Khartoum Ring Project	Cost (USD)	250 MUSD	Type*	Transmission	Target Start Date	2021	Target End Date	2023
Project Description	Construction of 271km of 500kV transmission lines, new substation and extension in two existing 500kV substations.								
Impact	➢ Increases electrification rate (about 40% now). ➢ Reduces overall system losses. ➢ Maintains a continuous and reliable supply of electric power in the strategic state of Khartoum. ➢ Relieves the bottlenecks in the transmission grid. ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Feasibility study is ready. ➢ Project sites ready for construction. ➢ **Right of way granted to transmission lines.**				
Cost Impact	Awaiting data from SETCO			Sponsor(s)	Government of Sudan				

Project Name	Alhuda – Bohat - Altamtam – Aldeba	Cost (USD)	170 MUSD	Type*	Transmission	Target Start Date	2021	Target End Date	2023
Project Description	Construction of 320km of 220kV transmission lines in addition to 2 new substations and extension of 2 existing substations.								
Impact	➢ Increases electrification rate (about 40% now). ➢ Supplies the agricultural projects to the North and West of Khartoum state. ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ Huge agricultural and transfer industrial resources targeted. ➢ Feasibility study is ready. ➢ **Project sites ready for construction.** ➢ **Right of way granted to transmission lines.**				
Cost Impact	Awaiting data from SETCO			Sponsor(s)	Government of Sudan				

Project Name	Mushkor – Elmanagel – Maringan	Cost (USD)	90 MUSD	Type*	Transmission	Target Start Date	2021	Target End Date	2023
Project Description	Construction of 165km of 220kV transmission lines in addition to a new substation and extension of 2 existing substations.								
Impact	➢ Increases electrification rate (about 40% now). ➢ Maintains a continuous and reliable supply of electric power in the agricultural area of Almanagel. ➢ Evacuates the power from IPP generation in Sugar White Nile Factory. ➢ Creates enabling environment for agricultural investment and agrarian transformation. ➢ Modernizes network industries to promote competitiveness, inclusive growth and to boost economic transformation. ➢ Promotes growth of small, micro and medium sized enterprises (SMES). ➢ Boosts job creation potential.			Unique Features	➢ IPP biomass generation potential nearby. ➢ Huge agricultural and transfer industrial resources targeted. ➢ Feasibility study is ready. ➢ **Project sites ready for construction.** ➢ **Right of way granted to transmission lines.**				
Cost Impact	Awaiting data from SETCO			Sponsor(s)	Government of Sudan				

ENARAA Flagship

wind, solar, hydroelectric, and waste heat recovery totaling 1.2 billion USD and will generate 1000 MW of power

	Cost (million USD)	Output (megawatts)
Wind	375	375
Solar	357	357
Hydro	143	143
Thermal	286	286
Total	1161	1062

Mining Sector Opportunities

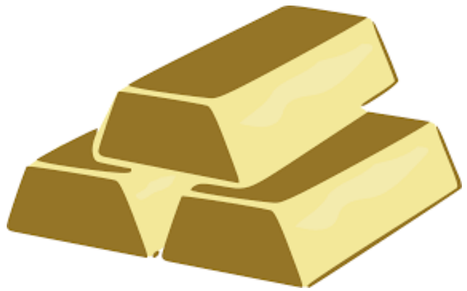
Project Name	Produce Gold from The Remnants of past years operations	Cost (USD)	100 M £	Type*	R & D	Target Start Date	2021	Target End Date	2023
Project Description	Absorbing the minerals stone in the square, which is sold to companies outside the concession area (with concept of national mining paper), can be a quick solution to increase the annual production (extra 3 tons per year).								
Impact	❖ Expected production: ➢ 15 tons of gold ➢ 90 tons of silver			Unique Features	❖ There is a feasibility study (international expert) ❖ There is a design study for a water line from the Nile river 170 km.				
Financing	Donation/ Self-financing			Sponsor(s)	Ministry of Energy & Petroleum				

Project Name	Produce copper , zinc and Gold from Volcanogenic massive Sulfide	**Cost (USD)**	480 M £	**Type***		**Target Start Date**	**2021**	**Target End Date**	**2023**
Project Description	Absorbing the minerals stone in the square, which is sold to companies outside the concession area (with concept of national mining paper), can be a quick solution to increase the annual production (extra 3 tons per year).								
Impact	❖ **Expected production**: ➢ 600,000 tons of copper ➢ 200 thousand tons of zinc ➢ 20 tons of gold ➢ 100 tons of silver			**Unique Features**	❖ There is a feasibility study (international expert) ❖ Proven Mineral Reserves ✓77 tons of gold ✓688,000 tons of copper ✓200 thousand tons of zinc ✓3000 tons of silver				
Financing	➢ Formation of a public joint stock company. ➢ Looking for a financially competent partner with and technological preference. ➢ Create a Financial portfolio.			**Sponsor(s)**	Ministry of Mining				

Project Name	Marble and granite	Cost (USD)	1.5 USD	Type*		Target Start Date		Target End Date	
Project Description	Establishing factories for the production and manufacture of marble for architectural and decorative purposes for the global and local markets, with the increase in urban growth in the past few years, creating a large market for natural marble inside Sudan, through external financing. The following states will be targeted to implement the project, namely: Kassala State The company has (5 quarries). South Darfur State. Red Sea State.								
Impact	❖ It is the societal and regional development of its production areas, increasing employment opportunities, and thus providing sources of income for new groups			Unique Features	❖ The marble industry is one of the very limited industries in Sudan. ❖ The company owns 5 quarries in Kassala, with an area of 130,000 square meters of pure white marble. ❖ The reserve of Sudanese marble, known to date, has been estimated at 1,400 million cubic meters.				
Financing	➢ Formation of a public joint stock company. ➢ Looking for a financially competent partner with and technological preference. ➢ Create a Financial portfolio.			Sponsor(s)	Ministry of Mining				

Flagship

- Gold Production



Agricultural

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SUDAN السودان

Agricultural Sector Opportunities

Project Name	Al-Hawad Valley	Cost (USD)	400 M USD	Type*	Investment	Target Duration	7 Years	Stages	3
Project Description	Acquiring latest technologies and building irrigation systems to cultivate corn, wheat, legume, and fruits. This project will be established in White Nile Province on area of one million hectare.								
Impact	• Improving citizens' incomes and raising their standard of living. • Contributing to social development in the area. • Providing job opportunities for different educational levels.			Unique Features	▪ Production of 120K ton of wheat and 180K ton of legume and other crops. ▪ Utilizing new technologies. ▪ Availability of rich soil. ▪ Availability of water for irrigation				
Financing	40% Local-60% Foreign			Sponsor(s)	Ministry of Agriculture				

Project Name	Hashaba Agricultural & Animal Cultivation	Cost (USD)	650M USD	Type*	Investment	Target Duration	20 Years	Stages	3
Project Description	Building irrigation facilities and water harvesting dams to cultivate green fodder, vegetables, fruits, jatropha, and animal resources. The project is located in N.Kurdufan province on area of 130K hectare.								
Impact	• Improving citizen's income and providing them with essential commodities. • Contributing to social development in the project area. • Providing job opportunities for different educational levels.			Unique Features	▪ Availability of rich soil & water for irrigation. ▪ Suitable climate for cultivation of crops. ▪ Availability of capable and trained manpower. ▪ Infrastructure and services. ▪ The project is in the vicinity of Khartoum new airport, Khartoum International airport, and Al-Obaied airport. ▪ Availability of Research and Consultancy institutes.				
Financing	Collaboration between Gov and Foreign Partner			Sponsor(s)	Ministry of Agriculture				

Project Name	Jabal Marra Agricultural Development	Cost (USD)	850M USD	Type*	Investment	Target Duration	10 Years	Stages	3
Project Description	Building irrigation facilities and water harvesting dams to cultivate onion, potato, wheat, citrus, field crops, and fruits crops. This project is located in Darfur province on area of 7400Km^2								
Impact	• Improving citizen's income and providing them with essential commodities. • Contributing to social development in the project area. • Providing job opportunities for different educational levels.			Unique Features	▪ Availability of rich soil & water for irrigation. ▪ Suitable climate for cultivation of crops.				
Financing	Collaboration between Gov and Foreign Partner			Sponsor(s)	Ministry of Agriculture				

Project Name	**Gum Arabic Production & Distribution**	**Cost (USD)**	**1106M USD**	**Type***	**Investment**	**Target Duration**	**4 Years**	**Stages**	**-**
Project Description	recultivating gum on an area 0f 104.166 Hectare and establishing spray powder factory and provide it with raw gum for production. This project is located in Darfur, Sennar, Blue Nile, W.Kurdufan, N.Kurdufan, and Al-Gadarif provinces on area of 1450K acre.								
Impact	• Improving citizen's income and providing them with essential commodities. • Contributing to social development in the project area. • Providing job opportunities for different educational levels. • Rehabilitation of gum Arabic cultivation and production. • Establishing new opportunities for distribution of gum Arabic. • Attracting more investments.			**Unique Features**	▪ Sudan is the top producer of Gum Arabic. ▪ Sudan is rich in gum producing trees. ▪ Acacia and Hashab produces high quality gum Arabic.				
Financing	Collaboration between Gov and Foreign Partner			**Sponsor(s)**	Ministry of Agriculture				

Project Name	Rehabilitation of Gezira Scheme	Cost (USD)	$1.08 M	Type*	Agricultural	Target Duration		Stages	
Project Description	The oldest and the largest interns of area irrigated scheme in history of Sudan. It the most important development project. The total irrigated area of 2.1 Million feddens (882,000 ha)								
Impact	• Achievement of welfare and good livelihood for people of the scheme through sustainable socio-economic development • Protect environment with the scheme area • Assure the right of farmer to effectively manage their production and economic affairs freely within the technical parameters and make better use of technology support to increase productivity and maximize profits.			Unique Features	▪ Crop rotation witness several changes. From two crop rotation to five crop rotation and free choice of crops for farmers and returned to five crop rotation. ▪ Main crops grown include: cotton, wheat, sorghum and grand nuts. ▪ The water needed at the major level is the sum of the needs of all minors taken of from the side major, and the need of the majors where added up to compute the supply needed into the main canals. According to the demand thus estimated, water is supplied from the dam. ▪ Continuous flow is provided to the offtakes so that in principle, canals run continually to provide a specified discharge to the controls off-takes.		
Financing				Sponsor(s)	Governor of Gezira Scheme				

Flagship Project

- Rehabilitation of Gezira Scheme
- Gum Arabic Production & Distribution

Livestock Sector

Opportunities

1-A free zone for livestock products. Fattening and livestock breeding area - quarantine area - modern slaughterhouses - meat industry - leather industries - animal waste industry - cold storage area Location: South Suakin

2. Veterinary vaccine production research: Establishing a complex for the production of viral vaccines and the production of bacterial vaccines to combat diseases and epidemics and to preserve livestock.

Location: Khartoum (Central Veterinary Research Laboratory)

Cost: $ 700 million

3. Livestock Economics Research Center:

Develop strategies and guidelines for implementing research aimed at developing the livestock sector, providing food security, contributing to increasing national income by marketing livestock products.

Location: Khartoum

Cost: $ 50 million

4. Leather Industries Complex

5. A complex for the manufacture of fish products

6. A complex for the manufacture of dairy products

7. Development and development of animal production

Project Name	Fish Farming	Cost (USD)	50 M USD	Type*	Livestock	Target Start Date	2022	Target End Date	2023
Project Description	Fish Farming Project is targeting 4 important rich states in Sudan , (Khartoum, Algezira , River Nile and White Nile State) The Expected Space for the Project is 50 acres per state. : 5 Acres for the fences and roads, 5 Acres for the building construction and facilities and 40 Acres for The Ponds. The Project aims to use techniques for comprehensive fish farming in different places Such as The Nile river , Farms Ponds and Canals.								
Impact	Economical : • Open Markets to meet local and International demand. • Increase Job Opportunities. • Contribute in achieving Food Security. • Contributing in supporting the domestic gross product. • Contributing in maximizing the production and minimizing the costs. • Developing the rural areas.			Unique Features	▪ Keeping The Natural Resources Safe ▪ Filling the gap and shortage of fish industry ▪ Increase the local competition opportunities in the market				
Financing	Fund			Sponsor(s)	Ministry Of Animal Resources & Ministry Of Investment				

Project Name	Integrated Meat and Animal Products Resources	Cost (USD)	177 M USD	Type*	Livestock	Target Start Date	2022	Target End Date	2025
Project Description	This Project focuses on producing the best quality meat to meet the local , regional and international demand for consumption It consists of internal small projects as follow: • Slaughterhouse for the purpose of exporting mutton • Meat products factory • A project for the production and export of fodder • A project to raise goats for live export and for slaughterhouse • Dairy products factory • Leather tannery project								
Impact	Positive Impacts : A high-efficiency sanitation system will be implemented for the slaughterhouse so that the slaughterhouse waste does not affect the environment surrounding the barn areas. Negative Impacts : The negative effects are limited and can be controlled, and if the sanitation is not constructed with the required efficiency, the factory's differences will affect the environment and lead to the transmission of diseases.			Unique Features	• The presence of large numbers of food animals and their availability throughout the year in the selected areas • The presence of an internal and external market to receive the project's products • Availability of land, water, energy, roads, auxiliary services and a trained workforce • Infrastructure for meat exports, especially slaughterhouses and cold stores • Increasing rates of meat consumption in neighboring countries, especially the Gulf and Middle East countries • Increasing the number of livestock will reduce pressure on pastures and water resources • The establishment of slaughterhouses opens the way for the establishment of many small industries and thus increased job opportunities				
Financing	Fund			Sponsor(s)	Ministry Of Animal Resources & Ministry Of Investment				

A free zone for livestock products. Fattening and livestock breeding area - quarantine area - modern slaughterhouses - meat industry - leather industries - animal waste industry - cold storage area Location: South Suakin

Project Name	**Modern automatic slaughterhouses**	**Cost (USD)**	**50 M per State**	**Type***	**Livestock**	**Target Start Date**	**2022**	**Target End Date**	**2023**

Project Description	• Slaughterhouse for the purpose of exporting veal and sheep meat - a factory for meat products for the purpose of slaughtering calves and preparing them for export purposes. The slaughterhouse operates with a production capacity of 500 heads of calves and 3000 heads of sheep per shift and connects electricity services, irrigation water, drinking water, sanitation, coolers and an integrated export village at the airport and quarry
	• Consists of :
	  • Fattening unit (daily slaughter pens, restrooms and offices.
	  • Meat Production Department
	  • Slaughterhouse section (meat inspection laboratory, slaughterhouse equipment room, incinerator – sanitation, disinfection and sterilization room.
	  • freezing stores
	  • Sub-Meat Products Factory
	  • Tannery section / Refrigerated vehicle carriers and means of transport section
				Impacts	▪ Positive Impact :
					▪ A high-efficiency sanitation system will be implemented for the slaughterhouse so that the slaughterhouse waste does not affect the environment surrounding the barn areas.
					▪ Negative Impact:
					▪ The negative effects are limited and can be controlled, and if the sanitation is not constructed with the required efficiency, the factory's differences will affect the environment and lead to the transmission of diseases.				

Financing	Fund			**Sponsor(s)**	Ministry Of Animal Resources & Ministry Of Investment				

Flagship Project

- Integrated Meat & Animal Products Complex

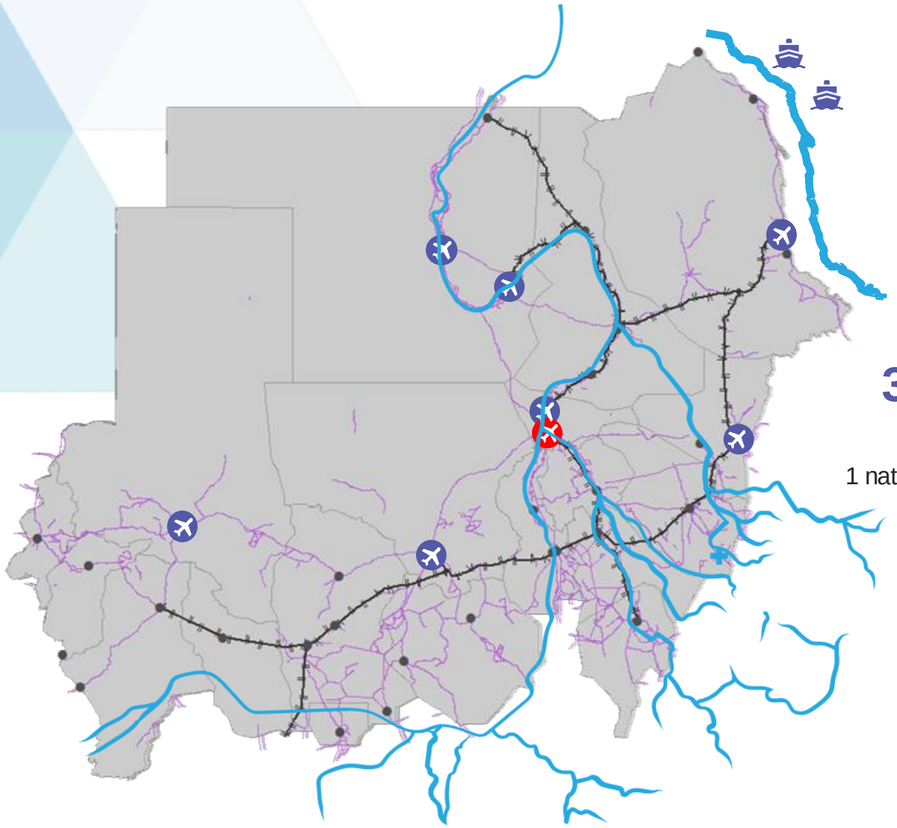
Infrastructure Sector

رؤيـــة VISION

السودان SUDAN

Transport Investment & Opportunities

Existing Transport Infrastructures



Highways
11,800 km

50% requires Rehabilitation

Aviation
36 Airports

7 international
1 national air Carrier- **90% Gap**

Railways
5,503 km

80% requires Rehabilitation

River Ports
2120 km

85% Not navigable

Maritime
750 km

2 major ports
1 National Shipping carrier
Re-establishment

Project Name	Port Suakin development Project	Cost (USD)	3-5 Billion	Type*	Infrastructure	Target Start Date	2021		2024
Project Description	Design and construction of a new port as a continental new hub for trade. Location and area: Eastern Sudan, Red Sea State. Suakin lies on the Red Sea coast 36 miles (58 km) south of Port Sudan.								
Impact	Expand market opportunities and boast domestic and international trade (exports and imports) for Sudan and neighboring countries. Direct positive impact on the GDP. Increase capacity of maritime traffic. Improve transport logistics for the country and neighboring countries- Economic growth, social and urban development for the underserved region.			Unique Features	Main gate (entry and exit to trade) to Sudan and neighboring land locked countries. Natural port with capacity to receive motherships.				
Financing	Public Private Partnership or Investment by an international financial institution and **Commercial financing** **NPV 14%= USD 65,899,580.56, Cumulative NCF =30.5 USD Billion**			Sponsor(s)	GoS				

Project Name	Sudan Airways Projects	Cost (USD)	$ 2 Billion	Type*	Procurement	Target Start Date	2021	Target End Date	2023
Project Description	Rebuild the national air carrier-purchase of fleet (passengers and cargo), upgrade of catering services and ground handling equipment and processes.								
Impact	- re-capture market share both in domestic and international air traffic - utilize the current under-capacities such as routes rights and human capital. - On the domestic market, an improvement of travel services may encourage Sudan residents to use more air travel.- - According to economies of scale rule, expansion of fleet will contribute to reduction of operating costs and hence generating more than proportional revenue. -help to boost aggregate demand, increase short-run economic growth and create job			Unique Features	Established name/logo and established fly to routes – 60 bilateral agreements, government support. Easily accessible and navigable airway/hub.				
Financing	**lease purchase; Commercial financing**			Sponsor(s)	GoS				

Project Name	Building Sudan Shipping Line Fleet	Cost (USD)	1.2-2 Billion	Type*	Infrastructure	Target Start Date	2021	Target End Date	2022
Project Description	Building and reestablishing Sudan Shipping Line Fleet. The company is aimed to efficiently serve the following activities: Shipping Agency: provides ship agency services for shipping Lines calling Sudanese ports; Clearance and Forwarding, Warehousing and Inland Transportation; Stevedoring Services; Passengers Services; Travel and Tourism; Ship Chandelling Services; Ship Contracting.								
Impact	➢ secure flow of national commodities to and from the country. Open new markets for national exports ➢ Reduce foreign currency demand by transporting state imports through the national carrier. ➢ Create new jobs in the field of maritime industry, training of new candidates and positively affects the overall employment.			Unique Features	▪ Well established and recognized logo/brand Help opening new markets for Sudanese exports. ▪ Transport state and private sector imports necessary for socioeconomic development. ▪ Play an important role in stabilizing the prices by availing reliable international sea transport services. ▪ Render more foreign currency and hence support balance of payments. ▪ Assist in transferring new technologies.				
Financing	**lease purchase; Commercial financing**			Sponsor(s)	GoS				

Project Name	Railways	Cost (USD)	2.6 Billion	Type*	Infrastructure	Target Start Date	2021	Target End Date	2023
Project Description	Rehabilitation and construction of rails, purchase of locomotives and installation & operations of computerized systems								
Impact	**Project Description:** Rehabilitation and construction of rails, purchase of locomotives and installation & operations of computerized systems **Impact:** Facilitation of trade			Unique Features	: existing network and available lands.				
Financing	**lease purchase for PPP; Commercial financing**			Sponsor(s)	GoS				

MUTRABIT Flagship will cost **24.2 billion dollars** and will include rehabilitating existing assets and developing new ones

Program Areas	Existing Assets	Current Challenges	Program Cost ($B)
Highways	11,800 km of roads	50% requires rehabilitation	7
Sea Ports & National Shipping Line	750 km coast 2 ports and 1 national line	Requires major overhaul	9
Railways	5,503 km of track	80% requires rehabilitation	5
River Transport	2120 km of rivers	85% Not navigable	.2
Airports & National Carrier	36 airports 7 international and 1 National Carrier	restricted access to airspace	3
MUTRABIT Program Cost			**24.2**

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SUDAN السودان

Digital Transformation Program (Emmar)
(Re-building Telecommunications Infrastructure in Post- Conflict Areas)

Project Overview and Rationale

- The project aim to ensure availability of telecommunication services (voice and internet) for all members of society , especially for rural , remote areas which are economically non profitable
- One of the transitional government key goals is to provide all citizens the right to access telecommunications and information technology without any discrimination

Broadband infrastructure needed to take advantage of enabling digital inclusion in the post-conflicts areas

→ The project aims to implement (2000) Base Telecom Stations (BTS) in Post-Conflicts areas.

→ The project will adopt broadband (3G & 4G)

ka-Band

→ WI-FI Hotspots using VSAT Ka-Band

Indirect impact of the project

- Enabling Public services and utilities (e.g: electricity, education, market, police)
- Improve proximity of the remote areas
- Improve security situation and accessibility in the area
- Serving 6 million population living in the area

Universal Coverage Project: Investment Model

PPP investment: build 2000 telecom towers
$ 696 M

→ Telecom operators buy network coverage from the investor

→ MNOs sell airtime and internet services to consumers

Public Private Partnership Investment

Project Profile and Description

Project Name	**Digital Transformation Program (Emmar)**	Cost (USD)	***$ 695 M***	Type*	Service	Target Start Date	***2022***	Target End Date	***2025***
Project Description	The project aims to deploy (2000) Base Telecom Stations (BTS) in Post-Conflict areas serving 6 million people living in theses areas. This project will provide telecommunication services that include voice , mobile broadband and short messages (SMS) to achieve universal access to telecom services and ICT applications. The project is divided into two phases, the Rural Telecommunications Improvement phase; this is expected to provide security, health, electricity, education, etc, while in the second phase the focus will be on bridging the financial inclusion gap by the development and provision of Digital Financial Services in post- conflict areas in order to reduce income inequality. **The investor will sell coverage services to MNOs who will sell it to consumers in the form of voice calls and internet services.**								
Impact	• Achieve more coverage of Telecommunications and spread of Digital Financial Services and make financial products and service available on demand. • Create jobs for youths in post conflict areas (Youth Engagement with Digital Transformation). • Promote and accelerate the current peace efforts. • Enable the stabilization efforts of the post conflict areas population. • Fast-track the rebuilding and integration process towards resuming normal life and economic activities. • Support transitional government strategy for Digital Transformation across the country .			Unique Features	❖ Reasonable time for project implementation. ❖ Securing Social Stability in the Targeted States. ❖ Reducing the unemployment rate and increasing women participation in the labor force. ❖ Promotion of SMEs financial inclusion in post conflict areas ❖ Enhanced Telecommunication sector performance				
Financing	Required an amount of $ 695,969,265 to establish telecom infrastructure in order to serve all post- conflict areas and to broaden the provision of digital services in the targeted areas. **Project payback (PBP) estimated between 6-8 years with IRR : 12.6% and ROI: 15.2%**			Sponsor(s)	Ministry of Telecommunications & Digital Transformation (MTDT)				