



Enhancing Value and Reducing Risk for Renewable Energy Projects

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Section 1:
Introduction

Introduction

1. Renewable energy fuels are not, by nature, reliable, which often requires a “Plan B” to ensure grid stability and to enable operators to meet their contractual availability or generation commitments. Alternatives can involve expensive fossil fuels such as diesel (which are not “clean”) or clean but high cost alternatives such as Pumped Storage Schemes (“PSS”)
2. Mature technologies such as onshore wind, PV and biomass have reliable and proven technologies. However, even when providing a relatively significant contribution to generation, the scale of manufacture of components presents a constraint. There is insufficient global manufacturing capacity to meet even current demand
3. Because of cheaper and more reliable fossil fuel sources, the global reality is that promoting the use of renewable technology currently requires financial incentives, which require funding, by governments, through subsidies, through environmental levies, etc.
4. Access (and proximity) to the grid remains a concern for renewables projects as preferred sites are commonly a significant distance from existing transmission infrastructure. Thus, the problem is that the grid must be extended for a generation source which (1) will generate a maximum of [35]% of annual hours of wind [20]% of solar and (2) still requires back-up power at alternative locations.
5. That said, given that large portions of Africa have a reliance on diesel-fired generation, it is likely individual African countries will be able to afford to pay renewable tariffs given that wind and solar tariffs are usually cheaper than diesel-fired power
6. The focus of this presentation is to strategically analyse the developments within the renewable energy (RE) market in Africa.
7. As of yet, the renewable energy market in Africa has not come close to reaching its potential. Regulatory, legal and organisational barriers are attributed to the slow rate of progress in the industry. However, the level of activity is increasing in the industry, despite the uncertainty in the strength of the global economy.
8. This presentation seeks to (1) explore the opportunities in the RE market, (2) address the industry challenges, (3) identify RE projects’ potential risks, (4) assess how best to mitigate them and (5) discuss the issues affecting the RE market. REFIT, a programme which be viewed as a benchmark for many African countries wishing to develop their RE market

Section 2:
Standard Bank Overview

Standard Bank Group has a global presence operating in 17 African countries and 16 countries on other continents including the key financial centres of Europe, the Americas and Asia...

Key Messages

“Full service bank covering”

“Global reach in 33 countries”

“Relationship with ICBC provides international reach”

Standard Bank Group is a South African-based financial services company with a global presence operating in 17 African countries and 16 countries on other continents including the key financial centres of Europe, the Americas and Asia.

- African-based financial services group focused on emerging markets on global scale
- Full service bank covering
 - Investment banking
 - Corporate banking
 - Personal and business banking
 - Investment management
 - Life assurance
- Global reach in 33 countries with capabilities in world’s leading financial centers including London, Moscow, Sao Paulo, Hong Kong and Beijing
- Corporate and Investment Banking (“CIB”) provides services to corporate clients, financial institutions and international counterparties focused on emerging markets around the world
- Over 45,000 employees world wide
- Relationship with ICBC provides international reach and strengthens access to what will soon be the world’s largest economy



Africa	Rest of world	Key regional offices
<ul style="list-style-type: none"> ▪ 17 African countries ▪ 712 branches in South Africa ▪ 239 branches in the rest of Africa 	<ul style="list-style-type: none"> ▪ 16 countries outside Africa 	<ul style="list-style-type: none"> ▪ Offices in key regional financial centres including London, Moscow, Sao Paulo, Beijing, Hong Kong and Dubai

A selection of recent accolades awarded to Standard Bank...

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Recent Accolades



The Banker – 2010, 2009, 2008

- Deal of the Year Africa: Bonds (2010)
- Deal of the Year Africa: Capital Raising (2010)
- Deal of the Year Africa: Structured Finance (2010)
- African Bank of the Year (2009, 2008)
- Bank of the Year, South Africa (2009, 2008)
- Best Investment Bank from Africa (2009, 2008)
- Best Bank in Botswana, Lesotho, Malawi, Swaziland, Tanzania (2009)
- Deal of the Year for the Ruashi Copper Mining Project in DRC (2008)
- Deal of the Year - Botswana for National Development Bank BWP100 million 11.25% notes due 2017 (2008)
- Deal of the Year - DRC for the Ruashi Copper Mining Project (2008)
- Deal of the Year - Finland for Talvivaara Nickel Project US\$320m debt facility (2008)
- Deal of the Year - Germany for Kreditanstalt für Wiederaufbau NGN28.7 billion 8.5% notes due by 2011 (2008)
- Deal of the Year - Tanzania Electricity Supply Limited TZS300 billion syndicated loan (2008)
- Deal of the Year - Zambia Sugar Project (2008)
- Deal of the Year (South Africa) for the 20% investment by ICBC in Standard Bank (2008)
- Deal of the Year Award - Bahrain for Arcapita Bank US\$1.1b syndicated Murabaha facility (2008)
- Most innovative in Trade and Project Finance (2008)
- Ranked No 1 in sub-saharan Africa and No 106 in The Banker Top 1000 World Banks (2008)



Euromoney – 2010, 2009

- Best Investment Bank in Africa (2010)
- Best Investment Bank in Nigeria (2010)
- Best Bank in South Africa (2010)
- Best Equity House in Africa (2009)
- Lakatabu Expansion - Africa Industrial Deal of the Year (2009)
- MTN Uganda - Africa Telecoms Deal of the Year. (2009)
- Zain - Middle East Telecoms Deal of the Year (2009)



Africa Investor – 2009

- Best Africa Investment Bank (2009)
- Best Africa Research Team (2009)
- Infrastructure Deal of the Year for Gautrain (2008)



Environmental Finance Magazine - 2009

- Carbon Finance Deal of the Year for Camco-Standard Bank Structured Carbon Credits Transaction (2009)



African Banker – 2009, 2008

- Investment Bank of the Year, Africa (2009)
- Best Issuing House in Africa (awarded to Stanbic IBTC Bank) (2008)
- Deal of the Year - ICBC 20% acquisition of Standard Bank (2008)



Global Finance Magazine – 2009

- Best Debt Bank in Africa (2009)
- Best Foreign Exchange Provider in South Africa (2009)
- Best Investment Bank in Africa (2009)
- Best Investment Bank in Nigeria (2009)
- Best Investment Bank in South Africa (2009)



EMEAFinance – 2009, 2008

- Best Investment Bank in Africa (2009, 2008)
- Best Investment Bank in Nigeria (awarded to Stanbic IBTC Bank) (2009)
- Best Natural Resources Deal in EMEA: Kayelekera Uranium project (2009)
- Best Oil and Gas Deal in Africa: Oando (2009)
- Best Project Finance Deal in Africa: Botswana Power Corporation (2009)
- Best Project Finance House in Africa (2009)

Standard Bank has won various awards that demonstrate our capabilities across the entire range of advisory and funding services in Africa

Standard Bank – Recent / Ongoing Africa Power/Gas Transactions...

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Power Project Advisory / Finance / Structured Transactions (1/2)



- **2009 - Morupule B Power Project, Botswana:** The US\$ 1, 6 billion coal-fired Morupule B Power Project in Botswana. Joint Lead Arrangers (with ICBC) for 20 year USD 825m Term Loan Facility and USD 140m Bridge Facility.
- **2008/9– Matola Gas Company, Mozambique:** Mandated Lead Arranger of refinancing facilities and credit backed facilities totalling US\$25.5m for the gas pipeline and distribution network in Matola, Mozambique.
- **Ongoing – Mphanda Nkuwa Hydropower Project, Mozambique:** Financial advisor to the Mphanda Nkuwa consortium (consisting of Electricidade de Moçambique, Camargo Corrêa Moçambique Ida and Energia Capital) on the development of 1500 MW hydro electric project in Mozambique.
- **2009 – Eskom:** Standard Bank acted as the Mandated Lead Arranger in the Kusile Boilers contract. Standard Bank acted with 4 international banks in funding the Euro 705 million contract over 12 years. Export Credit was also arranged with Euler Hermes (German ECA) over the foreign content of the contract with Hitachi Power Europe.
- **2010 – Companhia Moçambicana de Hidrocarbonetos, S.A. (“CMH”), Mozambique:** Standard Bank acted as financial advisor and lead arranger to Companhia Moçambicana de Hidrocarbonetos, S.A. (“CMH”) for the USD 100 million funding of its share of the project costs for the expansion of the Central Processing Facility at the Pande and Temane fields’ reservoirs near Bazaruto in Mozambique.
- **Ongoing - Anglo IPP, South Africa:** Standard Bank has been mandated as the Financial Advisor to Anglo American’s 300-450 MW discard coal-fired IPP
- **Ongoing - Oelsner Group Wind Farms, South Africa:** Standard Bank has been mandated as the Financial Advisor and Lead Arranger to the Oelsner Groups’ two wind farms being Kerrifontein (20.8MW) and Langefontein (50MW).
- **Ongoing – SARGE, South Africa:** Standard Bank has been mandated as the sole Project and Equity Raising Financial Advisor and Lead Arranger to the SARGE 50 MW, Solar PV project in the Northern Cape.
- **Ongoing – Confidential, South Africa:** Standard Bank has been mandated as the sole Project and Equity Raising Financial Advisor and Lead Arranger to a SA renewable energy company on a multiple wind farm project.
- **Ongoing – Forest Petroleum, South Africa:** Standard Bank has been mandated as Financial Adviser to Forest Petroleum on a Feasibility Study to develop a 750 MW CCGT IPP using natural gas from the offshore Ibhubesi gas field

Standard Bank – Recent / Ongoing Africa Power/Gas Transactions...

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Power Project Advisory / Finance / Structured Transactions (2/2)



- **2009 - Mmamabula Energy Project, Botswana:** The development by CIC Energy of a 1200 MW coal fired power plant, coal mine and related infrastructure in Mmamabula, Botswana. Project size of US\$5 billion and mandated as co-lead arrangers for the ECIC covered ZAR tranche as well as the ZAR commercial facility.



- **2009/10 – Republic of Mozambique Pipeline Investment Company Limited (“ROMPCO”), South Africa and Mozambique:** Arranger of additional finance to ROMPCO, which was part of the Sasol Natural Gas Project, in order to expand the existing capacity of the pipeline.



- **2007 – Copperbelt Energy Corporation, Zambia:** Financial advisor and mandated lead arranger to CEC on a debt capital raising exercise to fund the expansion of the business and to upgrade some of the existing assets. Deal size US\$50m. Closed January 2008.



- **2007/8/9 – Gamma Energy Waste Incineration Project, Mauritius:** Mandated Lead Arranger to Gamma Civic and Covanta on a development of a waste-to-energy project.



- **2006/7 – Eleme Petrochemicals Company Ltd, Nigeria:** Arranger of Commercial Loan and Working Capital facilities, totalling US\$125m, for the Turnaround and Maintenance Plan of the petrochemical plant in Port Harcourt. Closed March 2007.



- **2005/7 – Tata/J&J Consortium, South Africa:** Financial advisor and lead arranger to the Tata Power and J&J led consortium, bidding for the Independent Power Producer (IPP) licence in the Eastern Cape province of South Africa. The peaking power plant will utilise Open Cycle Gas Turbine (OCGT) technology, and should be between 300MW and 350MW in size. The consortium was one of five shortlisted for this IPP licence, but decided not to submit a final bid.



- **2006/7/8/9 – Guinea Alumina, Guinea:** Financial arranger of tranche of Export Credit Insurance Corporation of South Africa (ECIC)-backed funding for the development, construction, ownership and operation of an alumina refinery and related facilities in the Boké region of Guinea. The tranche size is estimated at US\$250m – US\$300m, on a total deal size of approximately US\$ 2.8bn.



- **2005/8/9 – Moatize Coal project, Mozambique:** Financial advisor to Vale (formerly CVRD) on the development of the Moatize coal field in the Tete province of Mozambique. Standard Bank is advising Vale through the Pre and Bank Feasibility Studies for the construction of the mine, processing plant, rail link, port and an associated power plant (1500MW).

Credentials of Standard Bank Team in Renewable Energy – Brazil (1/2)...

Credentials of Standard Bank Team in Renewable Energy – Brazil

Recent Closings

Nov 2008



R\$ 2,454,000,000

Estimated Investments

R\$ 363,429,000

Annual Fixed Revenue

Araraquara transmission line
 Converter Station 3150 MW – Rondônia
 Converter Station 2950 MW – São Paulo
 SE Coletora Porto Velho 500/230 kV
 2 Converter Stations 400MW
 Porto Velho transmission line

Rio Madeira Transmission Line Auction (BOT)

Standard Bank
 Financial Advisor

Jan 2009



R\$ 117.428.630

Proinfa Wind Farm of 25,20 MW

20 year BNB / SUDENE Financing
 R\$ 80.336.887

Standard Bank

Financial Advisor
 and Arranger

Standard Bank

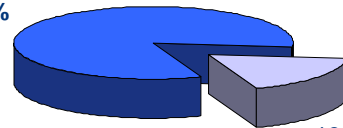


Participation in Windmill Projects
 619,70 MW



Windmill total capacity in construction or operating
 753,98 MW

619,70 MW
 82%



134,3 MW
 18%

Summing up our experience, we participated directly in 16 projects, 82% of Brazil's total wind power capacity (currently operating or in construction, according to ANEEL's database).



Participation in Hydro Projects
 5.043,27 MW



Hydro total capacity in operating
 74.700,63 MW

Summing up our experience, we participated directly in 11 projects, 7% of Brazil's total hydro capacity (currently operating according to ANEEL's database).



Participation in Lines Projects
 7,747 km



Interlinked System Capacity of
 106,726 km

Summing up our experience, we participated directly in 17 projects, 7% of Brazil total interlinked system, which is mainly operated by Eletrobras (Federal State controlled company), who manage 56% of the Interlinked Capacity.

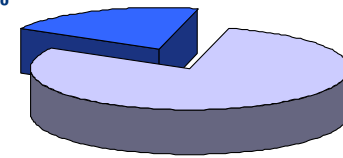


Participation in Small Hydro Projects
 548,81 MW



Small Hydro total capacity in operating
 2.683,31 MW

548,81 MW
 20%



2.134,50 MW
 80%

Summing up our experience, we participated directly in 30 projects, 20% of Brazil's total small hydro capacity (currently operating according to ANEEL's database).

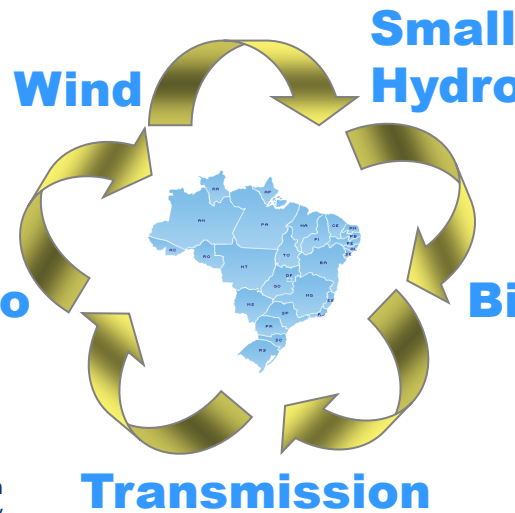


Participation in Biomass Projects
 282,00 MW



Biomass total capacity in operating
 6.620,05 MW

Summing up our experience, we participated directly in 4 projects, 4% of Brazil's total Biomass capacity (currently operating according to ANEEL's database).



Credentials of Standard Bank Team in Renewable Energy – Brazil (2/2)...

Credentials of Standard Bank Team in Renewable Energy – Brazil

Broad Experience

- Standard Bank has a broad experience as advisor and coordinator of Long Term Financings to Wind Farms.
- Recently, Standard Bank has closed the financial advisory of 6 wind farms, that together reaches:
 - Installed Capacity: 224 MW;
 - Total Investment: R\$ 1,1 billion;
 - Senior Debt R\$ 740 million.
- Standard Bank role on those projects has been very broad, covering from equity raising, to the coordination of a Bridge and Mezzanine Finance, and Advisory and Arranger Long Term Financing.

2009



Eólica Icaraizinho (54MW)




R\$ 201.753.228
20 years Loan with Banco do Nordeste (FNE – Verde Line) and SUDENE (FDNE Line)



Standard Bank
Financial Advisor

2009



Eólica Foz do Rio Choró (25,2 MW)




R\$ 78.914.807
20 years Loan with Banco do Nordeste (FNE – Verde Line) and SUDENE (FDNE Line)



Standard Bank
Financial Advisor

2009



Eólica Paracuru (25,2 MW)




R\$ 80.336.887
20 years Loan with Banco do Nordeste (FNE – Verde Line) and SUDENE (FDNE Line)



Standard Bank
Financial Advisor

2009



Eólica Formosa (105 MW)




R\$ 338.379.283
20 years Loan with Banco do Nordeste (FNE – Verde Line) and SUDENE (FDNE Line)



Standard Bank
Financial Advisor

2009




Eólica Lagoa do Mato (4,2MW)
Eólica Can... (10,5MW)



R\$ 43.638.190
20 year Senior Loan with Banco do Nordeste (FNE – Verde Line)



Standard Bank
Financial Advisor

2008



SIIF Énergies do Brasil (210 MW)

Sale Advisory of 51% of 210 MW Wind Farm Portfolio to an Utility Company




Standard Bank **citi**
Financial Advisor

2007



SIIF Énergies do Brasil (210 MW)

R\$ 25.000.000
Mezanino Loan



Standard Bank
Arranger and Lender

2007



SIIF Énergies do Brasil (210 MW)

R\$ 124.300.000
Bridge Loan



Standard Bank
Arranger

Section 3:
Overview of RE Project Financing

Global renewable energy deals are being driven by tax incentives, renewable energy targets and feed in tariffs ...

Key Messages

“In 2008, renewable energy deals accounted for a tenth of mergers and acquisitions in the total power sector”

“Wind power accounted for 42.0 percent of the value of renewable energy deals in 2008”

“In 2008, both the U.S. and the E.U. added more power capacity from RE than from conventional sources”

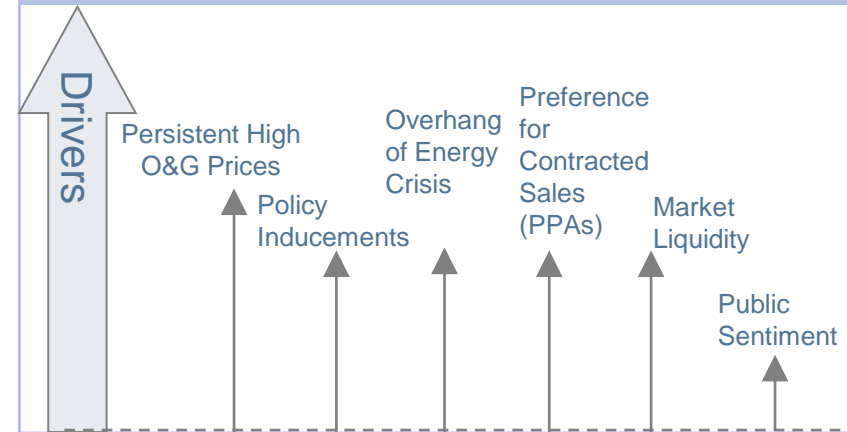
Global Investment into the Renewable Energy Sector (2007-2008)

- Renewable energy deals accounted for a tenth of mergers and acquisitions in the total power sector
- In 2008, an estimated \$120.0 billion invested in RE worldwide (including new capacity (asset finance and projects) and biofuels refineries)
- This was twice the equivalent 2006 investment figure of \$63.0 billion

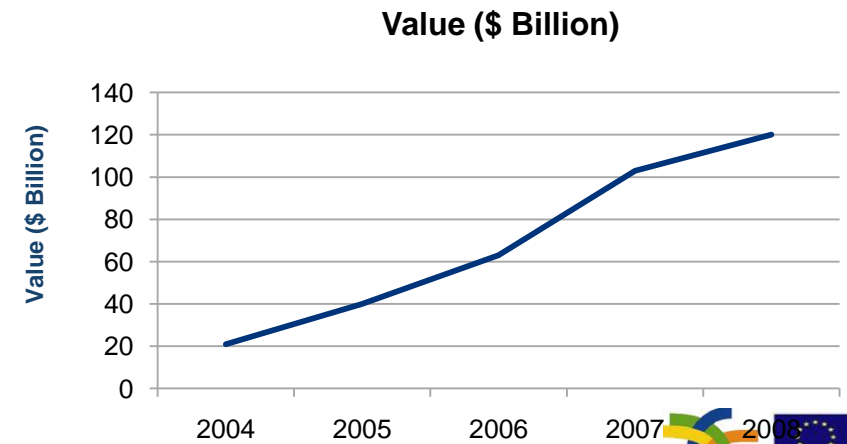
Deals in Solar and Wind (2007-2008)

- Wind power accounted for 42.0 percent of the value of renewable energy deals in 2008
- Solar power projects accounted for 32.0 percent with Germany being the largest solar power market/per capita
- The value of solar power deals more than quadrupled in value and in number of deals in 2008
- **Key Driving Factors**
 - High renewable energy targets have been set in the United States, Europe and Australia to increase the use of renewable energies in the energy mix
 - This will require a higher percentage of renewable energy in the energy mix

Key Factors Driving Global Renewable Energy Deals



Global Investment in RE (World), 2004-2008



Sources: REN21, Renewables Global Status Report 2009 Update

In 2008, there were more renewable energy deals, but the average deal value decreased by 45%...

Key Messages

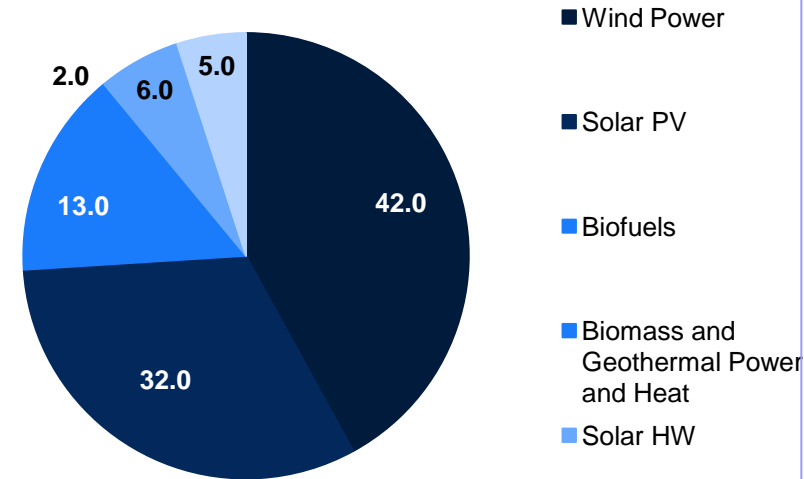
“The total deal value doubled between 2006 and 2008, to \$120.00 billion”

“Africa and the Middle East accounted for only 2 percent of new third party energy investment globally”

Global Investment into the Renewable Energy Sector (2007-2008)

- In 2008, the total number of renewable energy deals increased by 13% while the total deal value doubled between 2006 and 2008
 - However, the average deal value fell 45% from \$210 million in 2007 to \$115 million in 2008
- The impact of tighter sources of credit, uncertainty over climate change and regulator policies and falling carbon prices in the US are the main reasons for the falling deal values
- New third party energy investment into Africa and the Middle East in 2008 was only 2 per cent of the total third party new energy investment
- Key disclosed venture capital and private equity deals in clean energy in Sub-Saharan Africa were made by:
 - Denham Capital Management into BioTherm Energy Pty Ltd (South Africa)
 - Credit Agricole SA in South Africa
 - Linklaters in South Africa

Total deal value of renewable energy deals percentage share by technology (World), 2008



Sources: PWC, REN21, Frost & Sullivan

- Globally, wind power accounted for the largest number of deals and share of total deal value in 2008
- 42% of total renewable energy deals were concluded in the wind power market
 - The highest wind deal in 2008 was for a value of \$163 million

Various key drivers are helping expand RE generation assets worldwide...

Key Messages

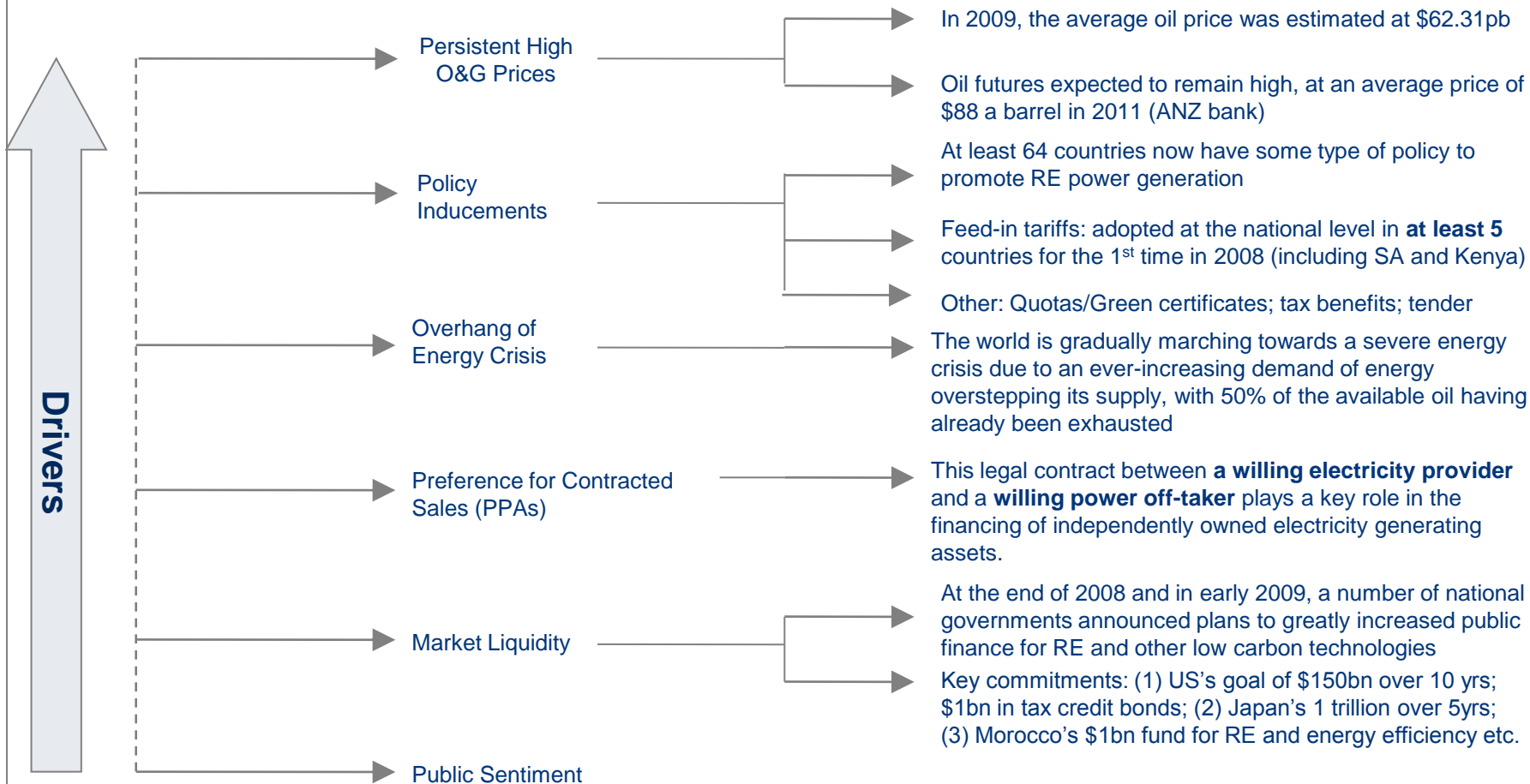
“Oil futures expected to remain high, at an average price of \$88 a barrel in 2011”

“Feed-in tariffs: adopted at the national level in at least 5 countries for the 1st time in 2008 (including SA and Kenya)”

“A number of national governments announced plans to greatly increased public finance for RE and other low carbon technologies”

Key Factors Driving Global Renewable Energy Deals

Key Factors Driving Global Renewable Energy Deals



Eight wind power projects feature in the top ten global renewable energy deals in 2008...

Key Messages

“9 of the top ten renewable energy deals in 2008 were in Europe”

“Eight wind power projects feature in the top ten global renewable energy deals in 2008”

Top Ten Renewable Energy Deals (World), 2008

- The top ten renewable energy deals in 2008 were in Europe, of these deals, 8 were for wind power projects
- Most of the wind projects were bought by large European power utilities, investment funds or international technology groups
- Two standout wind deals in 2008 were:
 - The sale of a 25% stake in EDP Renováveis to Portuguese power group, EDP
 - UK-based utility, Scottish and Southern Energy (SSE), acquiring Irish-based renewable energy company, Airtricity Inc)

No.	Value of Transaction (\$ million)	Target Name	Target Nation	Acquirer Name	Technology	Type of Purchase
1	2,762	EDP Renováveis SA (25%)	Portugal	Market Purchase	Wind	Operational
2	2,143	Airtricity Inc	UK	Scottish and Southern Energy plc	Wind	Operational
3	1,903	FirstLight Power Enterprises	US	GDF-Suez SA	Hydro	Operational
4	1,437	Babcock & Brown Wind Partners; Babcock & Brown Limited	Portugal	Magnum Capital Industrial Partners	Wind	Operational
5	1,232	Babcock & Brown Wind Partners; Babcock & Brown Limited	Spain	Formento de Construcciones y Contratas SA	Wind	Operational
6	889	ersol Solar Energy AG	Germany	The Bosch Group	Solar	Operational
7	769	REpower Systems AG (29.9%)	Germany	Suzlon Energy Ltd	Wind	Technology
8	496	Greater Gabbard Offshore Winds Limited/ Scottish and Southern Energy plc	UK	npower renewable / RWE Innogy	Wind	Technology
9	436	Ertan Hydropower Development Co Ltd	China	Sichuan Chuantou Energy Co Ltd	Hydro	Operational
10	411	Nordex AG (20%)	Germany	Ventus Venture Fund GmbH & Co	Wind	Operational

European utilities and global investment companies are the main acquirers of wind projects...

Key Messages

“European utilities and global investment companies are the main acquirers of wind projects”

“In 2008, financial investors and project infrastructure companies accounted for 28% of total RE deal value”

“The need to meet mandatory CO2 emissions targets as set by the European authorities is the key driver for the utilities”

Acquirers of wind projects

- Power utility companies accounted for 32% of total deal value
- Financial investors and project infrastructure companies were the second largest buyers of projects, acquiring 28% of total deal value
- Recently the focus of European utilities has been on emerging economies
- In 2007 European utilities purchased hydro assets in South America and deals were made with alternative energy companies for bio-diesel and ethanol assets

Total deal value of renewable energy deals percentage share by technology, Global (2008)

Acquirer Type	Value (\$ million)	% Value (2008)
Utility	8,461	32
Finance/Infrastructure	7,578	28
Other	5,558	20
Alternative Energy	4,170	16
Diversified	1,093	4
Total	26,858	100

- European utilities such as GDF Suez have already made enquiries with local project developers in South Africa about the prospects of buying into the wind power projects and purchasing the CDM credits that could be generated from the projects
- The key driver for the utilities in buying into these projects is the need to meet mandatory CO2 emissions targets as set by the European authorities

Section 4:
Key RE Project Considerations and Risks

If properly addressed, the below key considerations would significantly enhance the overall value of bankable RE projects...

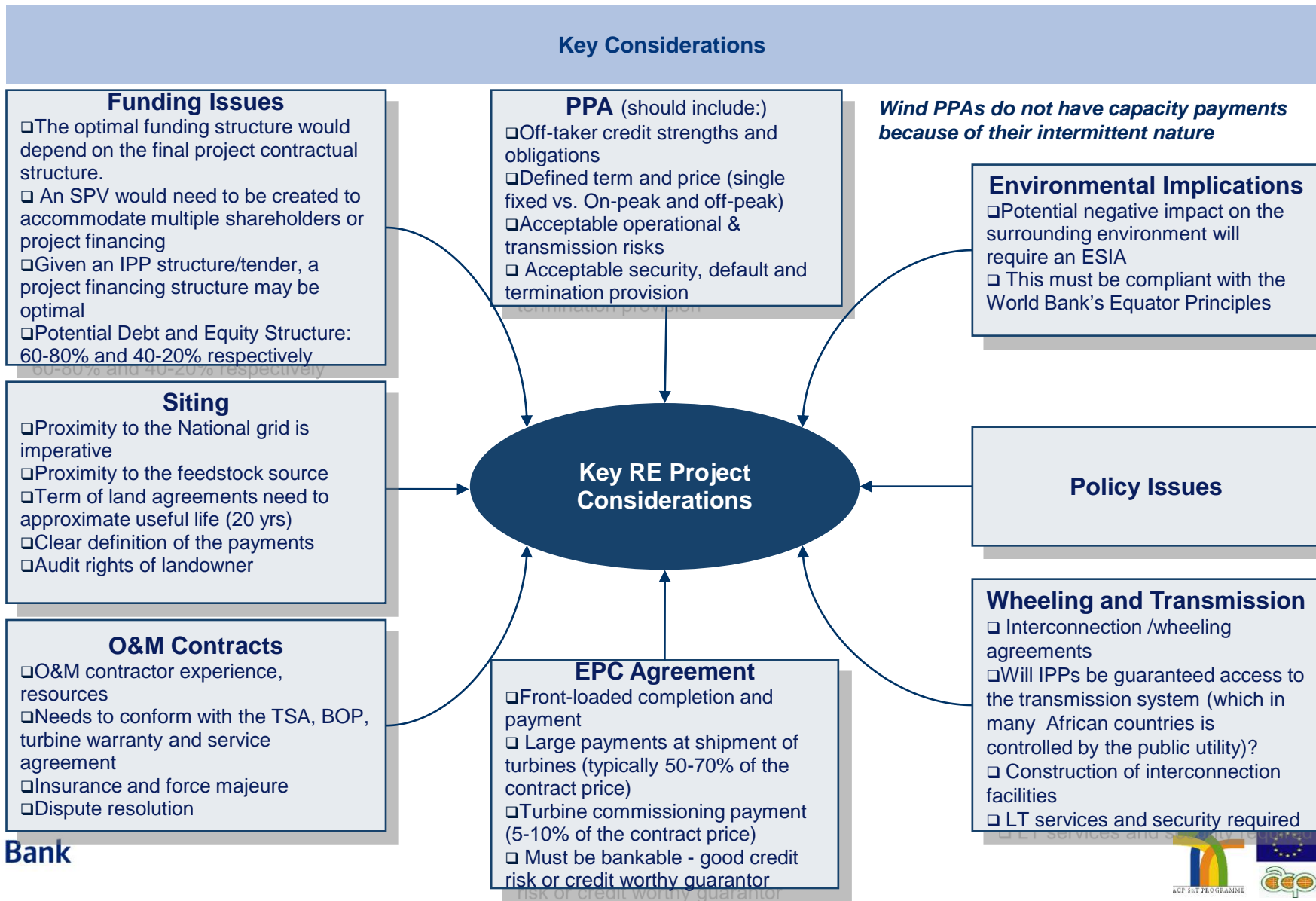
Key Messages

“An off-taker with high credit quality needs to be tied into the IPP”

“Regulatory issues are likely to slow down the involvement of the private sector in the RE space”

“Potential Debt and Equity Structure: 60-80% and 40-20% respectively”

“Contracts such as O&M, wheeling, EPC and BOP would need to be properly negotiated”



Sponsor, construction and operating risks can typically be mitigated by a proper credit assessment of experienced sponsors, fixed EPC contracts and performance/O&M guarantees respectively...

Key Messages

“Sponsors or lenders typically accept risks related to long tenor of return”

“Fixed EPC contracts are typically used to control construction risks”

“Performance and O&M guarantees are tools that help control potential operating risks”

Identified RE Project Risks and their Mitigants (1/3)

	Risk to be controlled	Method of Controlling	Party Accepting the Risk
Project Sponsors	<ul style="list-style-type: none"> ❑ Large level of investment/long tenor of return ❑ Workable alliance, synergies, well defined JV agreement ❑ Additional equity may be required ❑ IPO to fund investment raises level of risk 	<ul style="list-style-type: none"> ❑ Experienced operational capability ❑ Industry knowledge ❑ Proper credit assessment of sponsors ❑ Understand differences between ‘strategic’ and ‘financial investors ❑ Inclusion of equipment manufacturer 	<ul style="list-style-type: none"> ❑ Sponsors/lenders
Construction	<ul style="list-style-type: none"> ❑ Cost overruns ❑ Equipment delivery/transportation delays ❑ Price adjustments for changes in raw materials costs 	<ul style="list-style-type: none"> ❑ Fixed EPC contract (turnkey) ❑ Bifurcation ❑ Completion guarantee ❑ Progress reports ❑ Master turbine sales agreement (TSA) 	<ul style="list-style-type: none"> ❑ Equipment supplier ❑ Sponsor
Operating	<ul style="list-style-type: none"> ❑ Plant performance unsatisfactory ❑ Engineers’ reviews ❑ Force majeure ❑ Equipment default 	<ul style="list-style-type: none"> ❑ Performance guarantee/Warranty ❑ O&M agreement ❑ Warranties (availability etc.) 	<ul style="list-style-type: none"> ❑ Plant operator ❑ Sponsor ❑ Equipment supplier

Market, resource and transportation risks are typically accepted by the off-taker, the input supplier or the sponsor respectively...

Key Messages

“LT off-take agreements are required to avoid any output risk”

“Fuel supply contracts are key mitigants to potential resource risks”

“Transport alternatives as well as LT transport contracts would reduce an transportation risks”

Identified RE Project Risks and their Mitigants (2/3)			
	Risk to be controlled	Method of Controlling	Party Accepting the Risk
Market/ Output	<ul style="list-style-type: none"> ❑ Demand ❑ Competition ❑ Pricing ❑ Credit risk of off-taker ❑ Interconnection 	<ul style="list-style-type: none"> ❑ Off-take agreement ❑ Hedge merchant sales ❑ Good credit skills 	<ul style="list-style-type: none"> ❑ Power off-taker ❑ Hedge provider ❑ Bank
Resource	<ul style="list-style-type: none"> ❑ Resource costs increase ❑ Contingency reserves ❑ Very quality before and throughput construction ❑ Fixed pricing ❑ Credit of supplier 	<ul style="list-style-type: none"> ❑ Fuel supply contract/term ❑ Good credit skills 	<ul style="list-style-type: none"> ❑ Input supplier ❑ Sponsor ❑ Bank
Transportation	<ul style="list-style-type: none"> ❑ Blockages ❑ Strikes ❑ Slowdowns ❑ Cost escalations 	<ul style="list-style-type: none"> ❑ Analyse transport alternatives ❑ LT transport contracts ❑ Pricing terms 	<ul style="list-style-type: none"> ❑ Sponsor



Banks and other International financial institutions (IFIs) typically accept potential RE projects' financial risks...

Key Messages

“Environmental audit must be performed”

“Financial risks are typically mitigated through proper structuring and interest rate hedges”

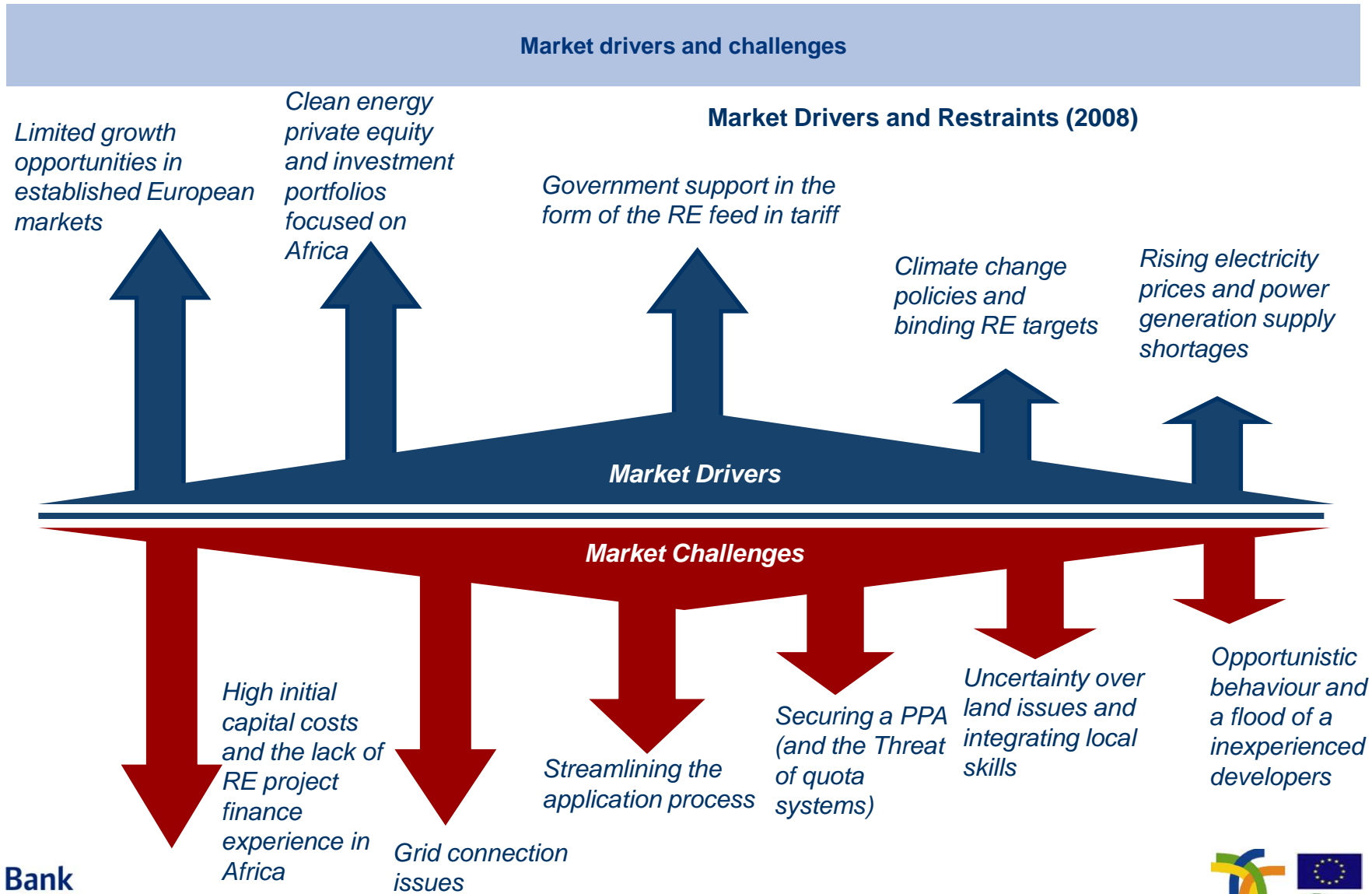
“Political risk can never be discounted and must be mitigated through political insurance”

Identified RE Project Risks and their Mitigants (3/3)			
	Risk to be controlled	Method of Controlling	Party Accepting the Risk
Disposal	<ul style="list-style-type: none"> Special care Disposal site closes 	<ul style="list-style-type: none"> LT contracts 	<ul style="list-style-type: none"> Sponsor
Environmental	<ul style="list-style-type: none"> Emissions New Laws Disasters 	<ul style="list-style-type: none"> Technology and testing Environmental audit Claw-back agreement 	<ul style="list-style-type: none"> Sponsor
Financial	<ul style="list-style-type: none"> Interest rate swings Violation of terms 	<ul style="list-style-type: none"> Proper structuring Interest rate hedge 	<ul style="list-style-type: none"> Bank or IFIs
Political	<ul style="list-style-type: none"> War and civil strife Confiscation, expropriation, nationalisation Foreign exchange 	<ul style="list-style-type: none"> Political insurance Currency hedge 	<ul style="list-style-type: none"> ECA/Development bank/Private insurer Project consortium composition Bank or IFIs



Section 5:
African RE Market: Drivers and Challenges

Impact of industry drivers and challenges on the renewable energy market in sub-Saharan Africa ...



Section 5:

Case Study: South African Feed-in Tariffs

South Africa REFIT: Announcements & Status...

Key Messages

“REFIT announced in March 2009”

- On 26th March 2009, National Energy Regulator of South Africa (“NERSA”) announced the Regulatory Guidelines for the REFIT, together with the commercial terms of Phase I. In July 2009, terms of Phase II technologies were published for consultation together with a draft PPA for comment (which applies to both schemes). On 29th October 2009, NERSA published the REFIT Phase II.

- Four technologies were included in the REFIT Phase I – onshore wind, small hydro, CSP and Landfill Gas (“LFG”). The five technologies included in the REFIT Phase II are biomass (solid), biogas, photovoltaic systems (large ground- or roof-mounted), concentrating photovoltaic (“CPV”) (without storage) and CSP central tower

- Qualifying Generators will be entitled to a 20 year Renewable Energy Power Purchase Agreement (“REPPA”). The REPPA will likely be executed with the planned Independent System Operator, whose Single Buyer Office will act as the Renewable Energy Purchasing Agency (“REPA”). They will also be guaranteed access to the Transmission and Distribution system

“As of October 2010, only onshore wind, small hydro, CSP and Landfill Gas have been included in REFIT1”

- Current approved tariffs are as follows:

■ Biomass solid	118 c/kWh		
■ Biogas	96 c/kWh	■ CSP Power Trough (without storage)	210 c/kWh
■ Concentrating Solar	314 c/kWh	■ Small Hydro	94c/kWh
■ CSP Tower (storage of 6 hours p/d)	231 c/kWh	■ Landfill Gas	90c/kWh
■ Photovoltaic (large scale >1MW)	394 c/kWh	■ Onshore Wind	125 c/KWh

- In comparison, Eskom’s current average standard tariff is 41.57 c/kWh (post the NERSA decision of 24th February 2010). Given Eskom’s (revised) ZAR 426 billion current 5 year capex programme from 2010/2015 which amounts to ZAR 693 billion over 7 years (Parliamentary presentation 04/05/2010), Eskom’s average tariffs will be 65.85 c/kWh by 1st April 2012 (NERSA 24/02/2010). Eskom’s presentation expects two additional years of 25% increases and a further 6% increase which would take average wholesale tariffs to 109 c/kWh by 1st April 2015 – context for the renewable tariffs. Two further years of 6% increases take tariffs to 122 c kWh by 2017

“REFIT vary from 94c/KWh to 394c/KWh, significantly higher than Eskom’s average tariff of 41.57c/KWh”

- Standard Bank expects IRP2 (scheduled for November 2010) to increase the MW cap for onshore wind but to reduce the applicable tariff for future rounds



South Africa REFIT: Outstanding Issues and Concerns (1)...

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Key Messages

“In terms of the Procurement process, Selection Criteria are determined by NERSA, but the System Operator will select Qualifying IPPs”

“Still some in-clarity on the interaction between the new Independent System Operator (ISO) and the REPPA (PPA Counterparty)”

“Selection Criteria indicates a total of 875 MW”

- Standard Bank believe the issue by NERSA on 22nd February of the consultation paper on “Rules on Selection Criteria for renewable energy projects under the REFIT Programme” (“Selection Criteria”) is a major step forward (assuming it is approved). Please find attached our comments presented to NERSA’s public hearings upon the Selection Criteria
- Procurement Process
 - Spirit of REFIT – a fixed price arrangement – is that Developers’ projects are accepted on a “first come, first served” / speed to market basis, which is a different process to the SA “hybrid” approach (which is likely to assess technical criteria and financing capability)
 - Selection Criteria outline various weightings through which Projects will be accepted. Scores add up to 100, and are divided into 10 individual criteria. Example. Projects’ ability to raise finance is assigned 10 points; Local Employment 10 points; Construction Period 10 points etc
 - Selection Criteria are determined by NERSA, but the System Operator will select Qualifying IPPs. System Operator not yet identified so likely to be Independent System Operator (per President Zuma State of the Nation Address) in due course and Eskom’s SBO in the near term
 - Still some in-clarity on the interaction between the new Independent System Operator (ISO) and the REPPA (PPA Counterparty), who remains undefined (“the Buyer”), but whom is expected to be ring-fenced within Eskom in the near term
- Number of MWs
 - Selection Criteria indicates Eskom has 100 MW wind; CSP 50 MW (may be owned by Eskom); Wind has 400 MW and non-wind 325 MW), which figures are taken from the Integrated Resource Plan (“IRP”). Total of 875 MW can be seen as “Phase 1” of a process that will grow, probably as soon as IRP 2 (November 2010) which is expected to increase the MWs available for onshore wind
 - No indication in Selection Criteria there can be an overshoot of the 875 MW. Hence an “over subscription” will lead to Projects not getting approved
 - No sub-limits for technologies except for wind, hence wind will be far more competitive than other technologies given MWs under development
 - Has Eskom agreed to connect the targeted MW on a priority or timely basis? Assuming a shorter completion date, will connection take priority over its own projects?
 - Selection Criteria indicates there will also be a Cogeneration Feed In Tariff (“COFIT”) which would be a major step forward, given previous failure of the Pilot National Cogeneration Programme (“PNCP”)

South Africa REFIT: Outstanding Issues and Concerns (2)...

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Key Messages

“There is still no precedent for a signed, successful PPA in South Africa”

“An updated PPA has not yet been published but is being worked on by the Intra-Ministerial Committee on Energy”

“Selection Criteria indicates Developers are responsible for funding their own grid connections, but performance obligation is less clear”

■ Form of REPPA

- Pivotal. The key contract through which Developers and Lenders will recoup their investment and generate returns. “Behind the Scenes”, REPPA payments need to be recovered through the Cost Recovery Mechanism but this intra-stakeholder arrangement should not “contaminate” the REPPA. Public hearings have been held on the Cost Recovery Mechanism and the rules were promulgated on 22nd February 2010
- There is still no precedent for a signed, successful PPA in South Africa. Given that renewables will largely seek to raise project finance from South African banks (noting the Selection Criteria have preference for underwritten financings), a critical objective will be to ensure the REPPA is bankable. For example, what will be the position towards Grid Connection or Eskom /ISO credit risk?
- Key to ensure the REPPA draws on international precedent and is not a stakeholder / Eskom wish list (viz. DME Peakers, PNCP, MTPPP all of which have not yet reached Financial Close). Comments on the draft REPPA were provided to NERSA at public hearings in August 2009.
- An updated PPA has not yet been published but is being worked on by the Intra-Ministerial Committee on Energy. We understand that National Treasury wish to use REFIT as the basis for a standardised PPA within South Africa and separate legal counsel (1 for Developers/Lenders; 1 for Government/ ISO/Eskom have been appointed and drafts are under advanced preparation)

■ Grid Connection

- A key issue globally, e.g. UK renewables development has been inhibited by the need to expand the grid in remote areas where there is, for example, ample wind but no grid to transmit the power. Developers have rights to a Transmission / Distribution network connection. Selection Criteria indicates Developers are responsible for funding their own grid connections, but performance obligation is less clear given System Operator determines connection costs.
- There is a potential need to strengthen the network in regions like the Northern and Western Capes – renewable projects are globally frequently located in areas where the grid is weaker. Query whether Eskom has the spare resources to review / approve multiple applications and then build multiple, parallel grid connections and strengthen the wider regional grids in parallel to its own network expansion activities (e.g. around Western Province, KZN, the new base load coal plants). What are the implications for the Procurement Process if Eskom cannot build the requested grid connections?
- Who is taking the risk of preparing and approving all necessary transmission EIAs? A plant EIA is different from a grid connection EIA which is different from a network strengthening EIA

South Africa REFIT: The Key REPPA Clauses...

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- Parties
- Sale and Purchase of Renewable Energy
- Deemed Availability
- Change in Law
- Default and Termination
- Schedule [x] (Tariff Schedule)
- Schedule [y] (Credit Support)
- Behind the Scenes:
 - REPPA's reimbursement of REFIT PPA payments per the Cost Recovery Mechanism
- Tender Documents
 - Bid Evaluation Criteria (see Selection Criteria)
 - REFIT programme capacity (MW) (see Selection Criteria)

Debating Points...

- As published, REFIT is an increasingly positive step towards the development of SA Renewables
- Standard Bank confirms it has a high financing appetite for SA Renewables, to the extent transactions manifest along the lines of REFIT, that is long-term ZAR finance at a high “project finance” leverage. We have already taken several proposals through our business committees.
- However, REFIT is not yet a “cooked deal”. There is one pivotal issue of detail to resolve, being the form of REPPA. As to other outstanding issues, it appears the draft Selection Criteria has made good progress concerning the Procurement / Tender Process and the Number of MWs under REFIT “Phase 1”, with the Cost Recovery Mechanism now also in force
- The lack of closed IPPs financed through project finance in South Africa raises challenges for REFIT. Can NERSA and / or Eskom really develop a contractual package that is investor friendly and bankable, noting this is the intent of the regulations? Looking at another sector, PPPs have been proven to be bankable in SA but have been relatively infrequent compared to elsewhere. Will REFIT end up the same?
- Not for the first time, a South African initiative has created an initial positive market impression. It is vital that South Africa maintains momentum on the development to retain credibility and achieve the stated policy targets. We believe this initiative/policy could be replicated in other sub-Saharan African countries which intend to further develop their RE markets.

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