

African Utility Week



Clean Power
Africa



The largest global meeting place
from African Utilities

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Cape Town, South Africa



Africa GreenCo:

CATALYSING REGIONAL POWER MARKETS

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- Founder & CEO
- Africa GreenCo
- United Kingdom

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Regional RE Development Context

- Sub-Saharan Africa by 2040:

2x

Population
growth

5x

Increase in
GDP

70%

Urbanisation

70%

Grid access up from
25% in SADC

4x

Power Consumption to
1600 TWh pa

- More than **\$800bn** in capital needed
 - *\$490bn for new generating capacity*
 - *\$350bn for transmission and distribution*
 - Value unlocked by regional approach:
 - *\$40 billion in capital savings from integrated planning*
 - *African consumer savings of \$10bn pa through lower LCOE*
- (source McKinsey & Company Brighter Africa Report)

Positive Developments in Network

Unprecedented focus on the value of a regional approach and renewable energy focus for African power



Sustainable Development Goals adopted: SDG 7 calls for doubling of clean energy



PIDA Financial Structuring Plan calls for new models of partnership between business, government and donors



Sustainable Energy for All initiative calls for doubling of RE generation



Africa Development Bank launches New Deal for Energy in Africa targeting utility creditworthiness



ACEC promotes regional approach to developing renewable energy



AREI is set to achieve at least 10 GW of additional RE generation capacity by 2020



Paris COP21 catalyses new, long term international climate change agenda



SAPP launches Project Acceleration Unit with \$20m to support 10-15 SAPP priority power projects

What is Africa GreenCo?

**Intermediary &
Creditworthy
Offtaker and
Aggregator**

AND

**Power Pool
Participant
(Trader & Broker)**

- *Reduce transaction time, costs*
- *Improved project finance terms*
- *Increase financial capacity for utilities and sovereigns*
- *Access point for better risk management*
- *Attract viable investments in the power sector on the strength of a multi-buyer model*

- *Grow competition in markets*
- *Facilitate growth off cross-border and inter-regional power trading*
- *Increase market liquidity*
- *Reduce default and outage risk*
- *Inter-regional usage optimisation*

Example: PTC India

A Power Trading Company (PTC) was established with the following objectives:

Creating a Power Market in India and the neighboring countries to optimally utilize the resources available to generate power and encourage private investments into the power sector

- Equity participation by Power Grid Corporation of India Ltd (POWERGRID), NTPC, Power Finance Corporation (PFC) and others
- Concerned State Governments/State Electricity Boards (SEB's) to also be co-opted, if found feasible
- The purchase of power from the identified private projects and resell it to the identified State Electricity Boards / regional utilities
- If feasible, PTC to supply power directly to a cluster, like licensees and industrial establishments
- Enable mega-projects to negotiate with one buyer only to eliminate mega-projects risk regarding payments; Such security to substantially bring down the tariff from such projects
- Attract viable investments in the power sector on the strength of a multi-buyer model

Example: PTC India

For becoming an effective intermediary between project developers and utilities, PTC had to:

- Prove its credibility
- Increase its net worth
- Devise payment security mechanism (diversification of risks)
- Become effective aggregator
- Convince all stake holders and the financial institutions about the efficacy of its intermediation model
- Creation of a market wherein the players could have switched power from a defaulting party to any other willing buyer any where in the Country
- Attract viable investments in the power sector on the strength of a multi-buyer model

What will Africa GreenCo Do?

1. Act as a **credit enhancement intermediary** for power projects
 - *PPAs with generators and back-to-back PSAs with off-takers*
 - *Standing between generators and off-takers (mostly utilities)*
2. Participate in the **regional power pool** market as a counterparty
 - *Contracted project off-taker*
 - *Off-taker back-up*
 - *Single point PPA counterparty for multi off-taker projects or multi projects to off-taker (aggregation)*
 - *Power Trader*
3. Reduce the risk of **off-taker default**
 - *Keep supplier whole*
 - *Switch to other off-takers when necessary*
 - *Diversifying risk amongst multiple players*
4. Build a **portfolio** of projects
 - *Achieve scale*
 - *De-risk through diversification of project and oftakers*
 - *Regional impact and benefit*

What are AGC's Objectives?

1. Reduce balance sheet pressure for sovereigns and utilities

- Reduce contingent liabilities against PPA commitments
- Create fiscal space for structural changes / grid improvements
- Support more efficient power markets with resulting price benefits

2. A new power pool member that helps stimulate power market growth

- Simplify project transaction process
- Create scope for investments to upgrade transmission and inter-connectivity
- Catalyze more active power trading markets

3. Unlock capital for renewable energy projects

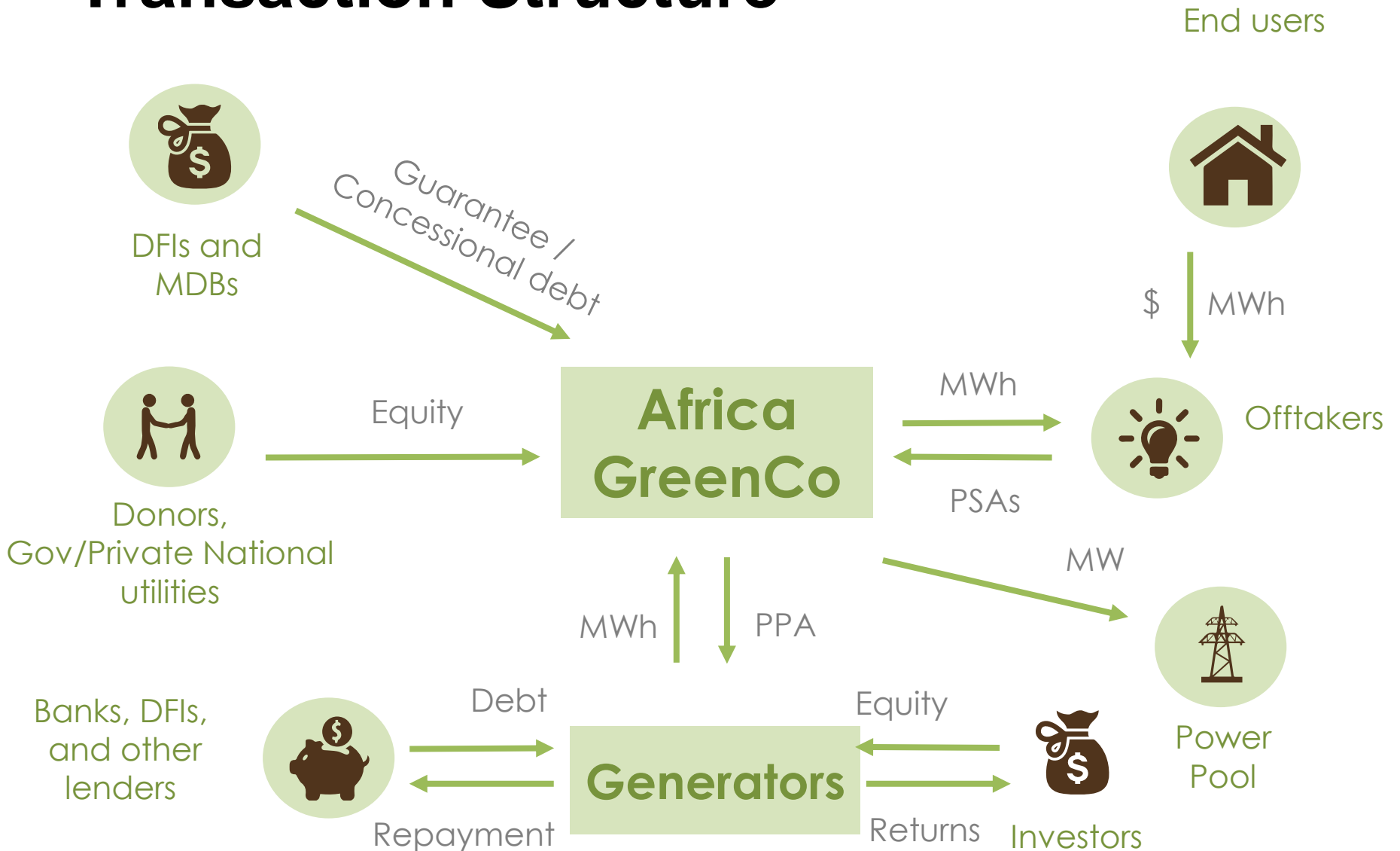
- Reduce IPP/generation projects transaction costs and time
- Improve the risk profile of IPPs for investors to:
 - Increase debt and equity liquidity
 - Attract new investors to the sector
 - Reduce debt margins and equity return requirements
 - Increase the tenor of debt
 - Get more projects bankable and built
 - Pass through financing cost impacts to end user tariffs
- Act as a platform for new financial products/initiatives

Design Principles

Feasibility and structuring process driven by seven key priorities:

- Financially sustainable
- Scalable
- Regional
- Incorporating blended capital
- Complementing and collaborating with existing initiatives
- Benefiting utilities and sovereigns
- Benefiting project developers and investors

Transaction Structure



Impact Across the Value Chain

- Quantifying the viability and impact of AGC at every level:



IMPACT

Increased bankability Improved liquidity Lower costs	Increased bankability Competitive offtake price	Pooled default risk Reduced contracting time and complexity	Improved cross border coordination Lower transaction costs Creditworthiness	Lower cost More access to power More reliable power supply
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MODEL OUTPUTS

<i>Lower cost of debt and equity</i>	<i>Reduction in PPA cost Impact on cost of capital</i>	<i>Margin on power sales Default Risk management Other return options (CO2, IPP stake)</i>	<i>Reduced balance sheet pressure Lower transaction costs</i>	<i>Impact on cost of electricity Increased availability of power</i>
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Target Markets

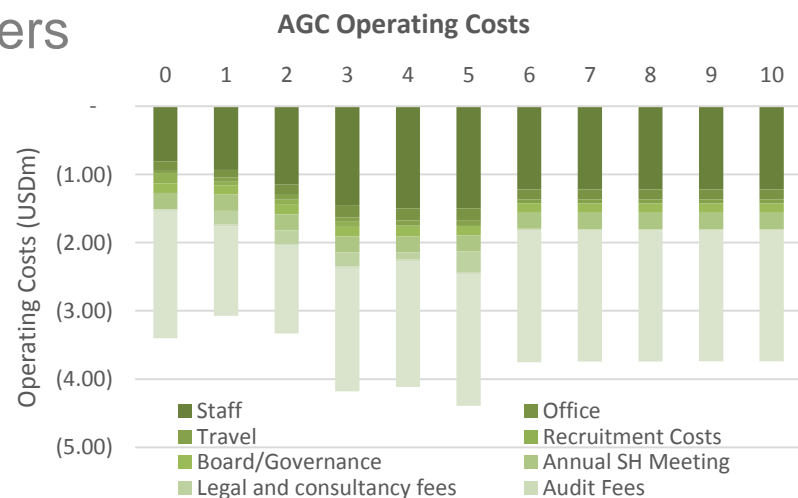
- Coordinate/integrate with power pools
- Have viable options for cross border trade
- Support momentum for and fit of RE with grid
- Support markets with IPP ambitions
- Modelled on hypothetical SAPP portfolio:
 - *Zambia starting point*
 - *Expand to cover projects in*
 - *Botswana, Mozambique, Namibia, Malawi (other SADC countries)*
 - *Balance of solar, biomass, hydro and wind*
 - *Projects between 5 and 100 MW*

Operating Model

- 4 potential revenue streams:
 - *Margin on PPA/PSA*
 - *Power trading*
 - *Investing balance sheet*
 - *[Carbon finance]*



- Revenues and costs in line with peers
 - *Transaction execution*
 - *Business development*
 - *Power trading companies*
 - *Insurance/guarantee entities*

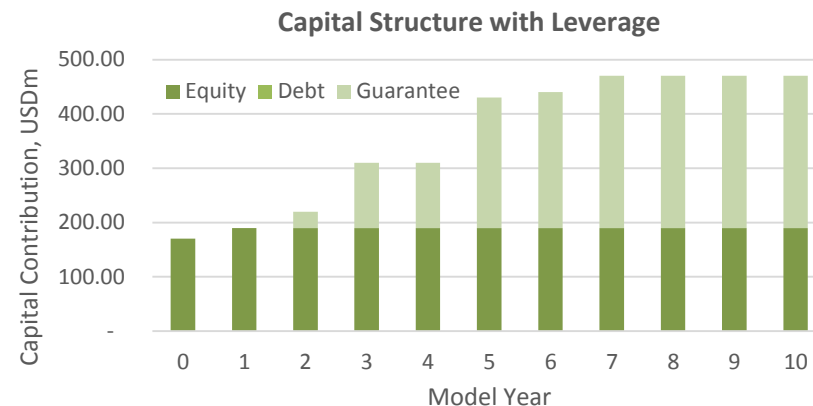
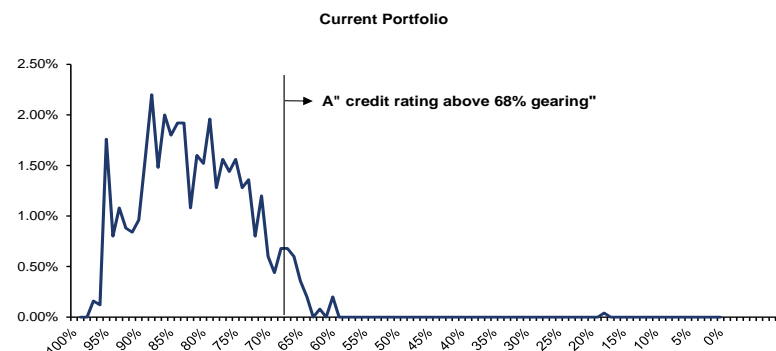
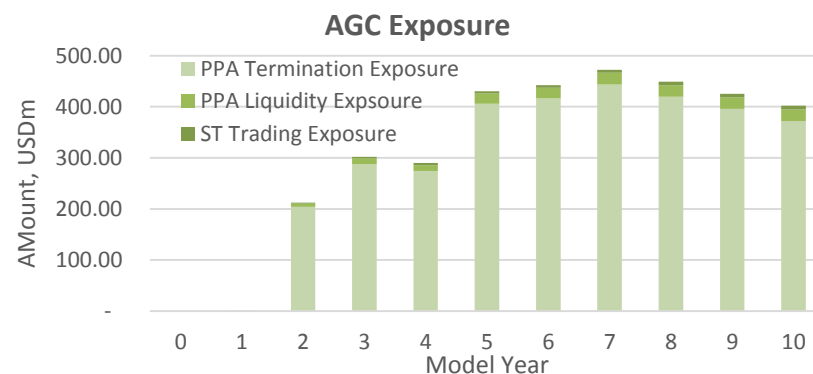


Financing Model

- Total capital required
 - *PPA Liquidity*
 - *Trading Liquidity*
 - *Termination Value payment*

- Credit risk analysis
 - *Long term default rate analysis*
 - *Monte Carlo modelling*
 - *Target Rating – A to AAA*

- Scenarios for financing
 - *Fully paid in equity finance*
 - *50% leverage*
 - *70% leverage*



Impact Potential

- Project-level Impacts

- *Increase tenor of debt*
- *Reduce cost of debt*
- *Catalyse refinancing market*



- Increase IRR
- Increase DSCR
- Unlock additional debt

- Operational Impacts

- *More RE projects developed*
- *More regional power trade*
- *More competitive markets*
- *Aggregation, diversification of risk*



- More installed capacity
- Better energy access
- Fewer outages/more reliability
- Better pricing

- Utility Impacts

- *Lower contingent liabilities*
- *Lower transaction costs*
- *Better PSA terms*



- Stronger balance sheets
- Higher creditworthiness
- Cheaper power costs

Legal Structuring Options

- Legal entity, shareholding and/or membership in the company, will be structured:
 - for sovereign African countries to be members and have ownership;
 - to attract capital from the donor/DFIs and the private sector;
 - to allow different classes of investors with different risk appetites;
 - to minimise political interference in governance and operations;
 - to provide adequate international status and immunity
 - to ensure the business can be operated efficiently

- Four principal legal structure options

		<u>Example</u>
1	Independent International Organization	<i>AFC/Africa50</i>
2	A regional multilateral under UN charter	<i>ATI</i>
3	AU special agency / subsidiary with separate corporate entity	<i>ARC</i>
4	National company with potential for regional expansion via an intergovernmental agreement.	<i>AGF</i>

Investor Base: Tranching

- Tranched structure: blended finance approach to capitalisation

Structure	Investor Type	Issues
Capital: “C-Share”	DevCap	<i>Appetite from donors ODA eligibility</i>
Capital: “B-Share”	African Govs	<i>Ratio of contribution Where funding comes from Appetite from governments</i>
Capital: “A-Share”	DFIs & Private Sector	<i>Terms and quantum</i>
Capital: “Callable”	Donors/ DFIs	<i>Appetite from donors Rating implications</i>
Leverage: Initial period	MDBs/ MIGA	<i>Appetite and cost Counter-guarantee or excess-loss/ re-insurance</i>
Leverage: Long-term	Insurance market Institutional Investors	<i>How would this transition unfold?</i>

Investor Base: Tranching Examples

- Tranching common across a range of legal structures:

ARC			AGF		
A-Shares	Premium payments for year	Members	D-Shares	Zero dividend, non-redeemable, limited rights	Donors
B-Shares	Grant	Donors	C-Shares	Redeemable, first-loss Earn 1Y LIBOR	DFIs
C-Shares	First loss paid in capital, 20 year, no return	Private investors	B-Shares	Redeemable, mezzanine Earn 1Y LIBOR	Banks, HNWs, Institutions
D-Shares	Tranche TBD – low, long term return profile		A-Shares	Redeemable, senior <i>Not yet issued</i>	
GuarantCo			AFC		
A-SHARES	Non-repayable commitment	Donors	A-Shares	80% Paid in capital \$1.37bn total equity	Africa Gov'ts Financial Institutions Corporates
Counter Guarantees	Syndicated, 3 yr facility In renegotiation	DFIs Financial Institutions	Bilateral Debt	Floating rate	DFIs (AfDB, DEG, FMO, IsDB, EIB)
Credit and PRI	<i>Conversations ongoing</i>	DFIs Insurance Cos	Senior	\$3bn GMTN program \$750m 5 yr issued 2015	Institutional Investors

Implementation

- Development of concept underway

Feasibility Study



- Establish regional focus and pipeline of projects
- Review technical and other relevant requirements
 - *Transmission*
 - *Interconnection*
 - *Power trading*
- Prepare a credible legal and regulatory structure
 - *Learn from A50, ARC, AFC and ATI*
- Prepare a credible financial structure

Proof Of Concept



- Create Case Study for specific pipeline project
 - *Leverage existing market infrastructure*
 - *Complement parallel initiatives*
- Use first transaction(s) for proof of concept

Scale

- Expand capital base to support portfolio
- Replicate initial transaction, tailoring strategy to new markets

Potential new member of SAPP?

(contextualization for EAPP and WAPP to follow)

- SAPP has evolved to a competitive power market
- Membership is open to electricity **supply enterprises**
- AGC understands the SAPP current supply issues:
 - *Installed capacity*
 - *Drought*
 - *Capital Constraints*
- Via AGC new power generation on a regional basis scale can be achieved - **anchor offtaker for new transmission investments**
- Rather than replacing existing structures, AGC complements them, and can further act as a bridge for deeper energy trade integration
- AGC considering commitment of part of its contracted capacity to the SAPP DAM

Current Support Structure



Grant funding for the feasibility study has been generously provided by The Rockefeller Foundation



The SE4A All Finance Committee Report included Africa GreenCo as a recommended option for scaling up private sector finance for renewable energy projects in the region



Financial advisory from Lion's Head, a specialized financial advisory firm based in London and Nairobi, experienced in designing, structuring innovative finance platforms, especially for power (Africa50, AREF, GIIF, TCIFF)



Legal support on PPA/PSA terms from Sherman and Sterling, a leading international project finance, corporate and commercial law firms, active in Africa for over 50 years



Technical advice from PPA, whose staff are former leaders within SADC utilities and have been involved with the SAPP establishment and operations (governance, regulations, technical constraints, commercial issues, trading etc)