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November 20 - 21 Novembre
Banjul - The Gambia

Improving Access Through Regional Electricity Infrastructure Projects

Strategies for Access to Electricity

Fatouma Toure Ibrahima
Senior Financial Specialist and Task Team Leader
The World Bank





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Outline

- How is the world doing on access?
- The World Bank support to energy development in Africa and to the WAPP
- Challenges to power pools and the World Bank support to address them
- The guiding principles of the World Bank's Energy Sector Work
- The World Bank Group's instruments and integrated approach for transformation



How is the world doing on access?

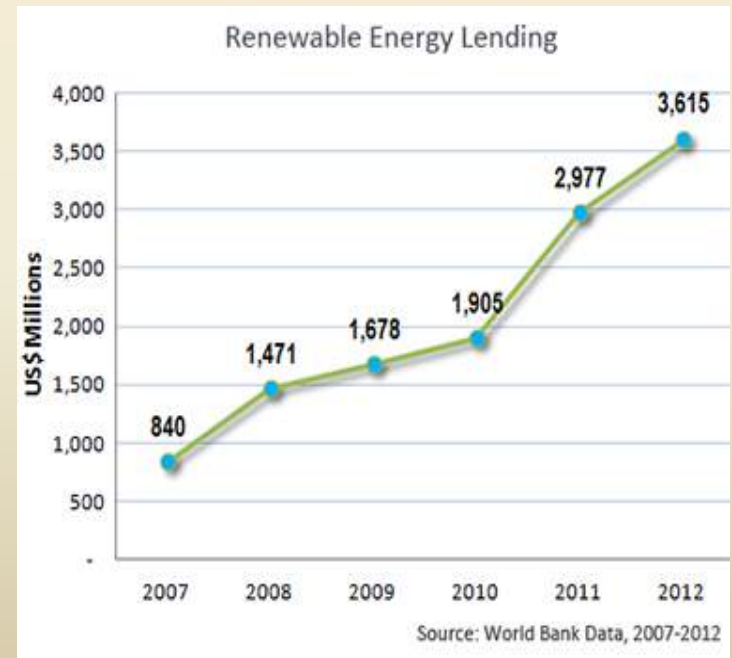
- 1.2 billion people lives without access to electricity
- 2.8 billion people still relies on solid fuel such as wood, charcoal, dung, and coal for cooking and heating.
- About 80% of those without access to modern energy live in rural areas.
- Although 1.7 billion people gained access to electricity between 1990 - 2010, this is only slightly ahead of population growth of 1.6 billion over the same period.





The World Bank support in the energy sector

- Since 2008, the Bank Group has provided \$45.3 billion for energy projects
- \$11.6 billion was for renewable energy projects and programs
- Energy efficiency, and transmission and distribution accounted for nearly one-third of energy financing





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The World Bank support in the energy sector in Africa in FY13

- 60 projects in 29 countries
- Portfolio of \$US 9.7 billion
- The lending is divided among projects and programs in several sub-sectors including:
 - Electricity generation
 - Transmission
 - Distribution
 - Energy efficiency
 - Regional interconnection
- Regional projects accounting for \$US 2.3 billion



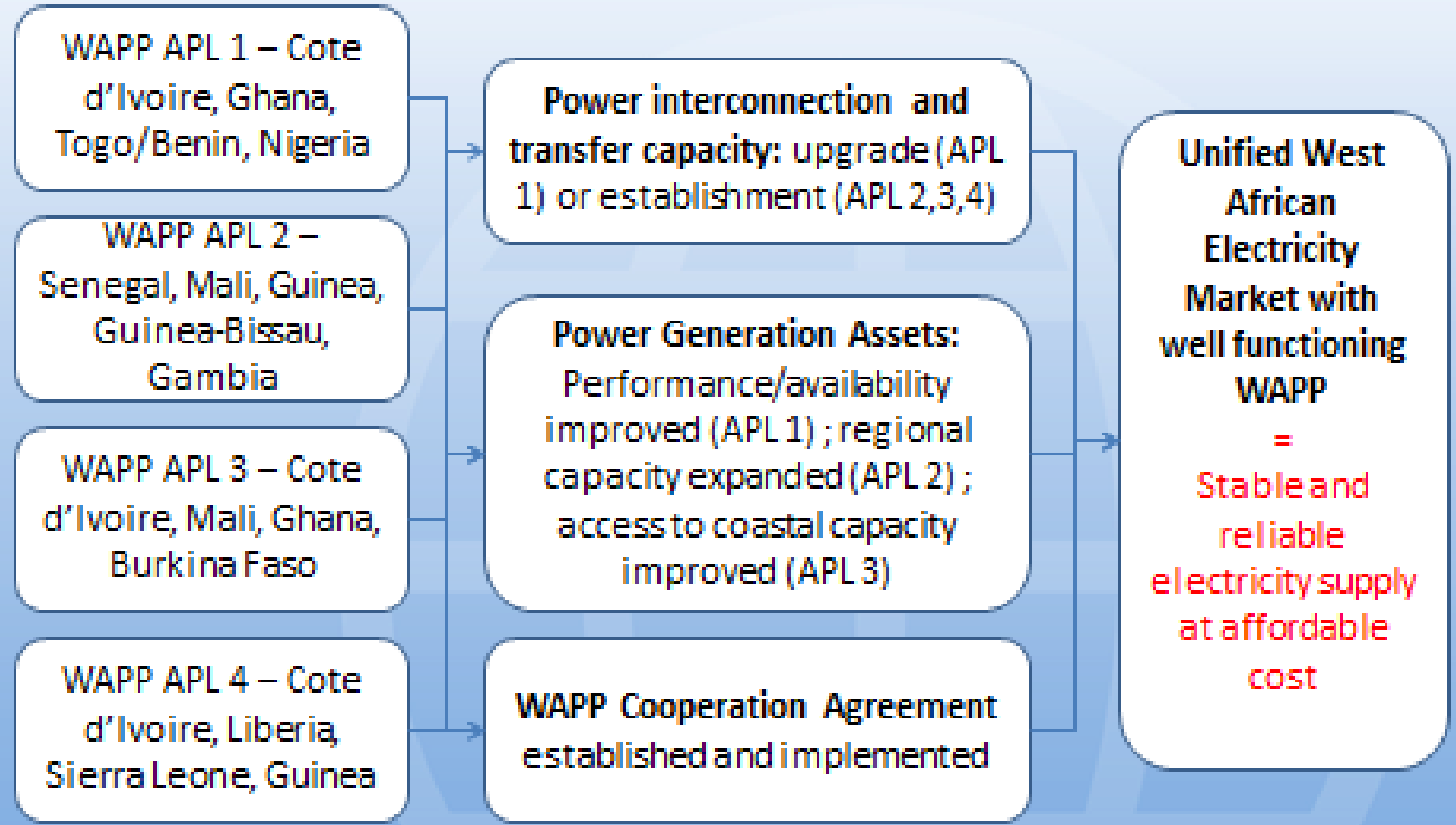


World Bank Support to WAPP: Roadmap

WAPP APL

Benefits

Long term goal





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World Bank Regional Portfolio in WAPP

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Project	Status	Total cost (US \$m)	WB Funding (US \$m)	Partners
APL1 – Phase 1 (Costal Transmission Backbone): Benin, Cote d’Ivoire, Ghana, Nigeria and Togo	T-line completed	84.5	40	Koweit Fund/EIB
APL1 – Phase 2 (Costal Transmission Backbone): Benin, Cote d’Ivoire, Ghana, Nigeria and Togo	Ongoing	75	60	AfDB
APL1 – Phase 3 (Adjarala HEP)	Board Approval FY14	400	120	AfDB/EIB/ BOAD
APL2 – Phase 1 (OMVS Felou HEP)	Works being completed	241	160	EIB/SOGEM
APL3 – Phase 1 (Burkina Faso-Ghana Transmission Hub)	Bid documents completed	111	41.9	AFD
APL3 – Phase 2 (Cote d’Ivoire-Mali Transmission Hub)	Funding under discussion	135	60	India/BOAD
APL4 – Phase 1 (CLSG)-C d’I-Liberia-Sierra Leone- Guinea	Board Approval	400	150	AfDB/EIB



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Why regional approaches?

- Reduce cost of producing power*
- Build climate resilience*
- Provide engine of growth*
- Precursor of wider economic integration*
- Enhance private sector participation*



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**Power Trade holds the Key to transformative
Impact in Africa. Yet, traded power
represents barely 10% of consumption**



Challenges to power pools

- ❑ Energy security more of a concern
- ❑ Diverse emerging game-changers : contrasting priorities
- ❑ Transmission bottlenecks due to political instability and distressed sectors
- ❑ Weak financial viability of public utilities and lack of market frameworks for electricity which reduce opportunities for private sector involvement
- ❑ Preparing complex and investment-ready projects is expensive and time-consuming.
- ❑ Transmission remains a 'public' affair and donors have key role to play
- ❑ Some regional institutions need to strengthen capacity to drive integration
- ❑ Implementations issues
 - ❑ Procurement and implementation issues for large, technically complex operations, particularly in fragile states;
 - ❑ Individual country factors affecting implementation (political or security disruptions, parliamentary approval, slow procurement management processes)
 - ❑ Longer than average project implementation periods



Lessons Learnt from Power Pools

- ❑ **3 Prerequisite for development of Power Pools:**
 - ✓ Surplus generation capacity
 - ✓ Political will to cooperate with neighbors
 - ✓ Adequate physical infrastructure (e.g. interconnections)

- ❑ **Committed champion at high level** critical to start and continue integration

- ❑ **Need more realistic expectations:** Regional power markets take long time to develop

- ❑ **One size does not fit all:** design, approach and phasing of regional integration must be tailored to reality on the ground (relations between countries; political economy within countries; national and regional capacity) with room for adjustments as conditions change



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WB's Support to Address Challenges

- **Support national power sector development** through TA and financing to create more favorable conditions for bankable projects and project implementation
- Seeking **project preparation advance** to pave the road and conditions for project implementation
- **Support power sector reforms that unlock** large and clean generation potential in power pools
- Keep **supporting regional organizations** for improved regional planning, coordination, technical and regulatory capacity through TA and investment financing
- **Increase collaboration with other partners (AFDB, EIB, Bi-laterals, IFC and MIGA)** on credit enhancement and risk mitigation



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Energy Engine for growth

Rapid urbanization

Increasing demand

High and volatile oil prices

Energy markets evolving rapidly

Transformation

Regional solutions

TRANSFORMATION

Winning the fight against poverty * Winning the war on darkness

Power Trade holds the Key to transformative Impact in Africa. Yet, traded power represents barely 10% of consumption

Under business as usual by all, universal access to electricity in Africa will be within a long horizon

Regional vision

Integrated approach vital for transformation

Regional integration

MULTI-STAKEHOLDER APPROACH

Leverage private resources

Scale of financing requires concerted efforts

Pace of technology change is dynamic

High energy cost

Energy choices have significant environmental impacts

Financial sustainability of power utilities poses serious challenges

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The World Bank's Energy Sector *Directions Paper*

- Our objective in the energy sector aligns closely with the new WBG corporate objectives of ending poverty and boosting shared prosperity underpinned by sustainability.
- **Support client countries in securing the affordable, reliable, and sustainable energy supply needed to end poverty and build shared prosperity.**
- Equity across space and time as core value
- Closely aligned with SE4ALL initiative



Five guiding principles

1. Engage holistically to catalyze **transformation** of energy sector in the context of long-term system-wide planning, and apply a framework for assessing climate impacts of projects in that context
2. Emphasize **improvements** in financial, operational, and institutional environment
3. Seek market **solutions** and help foster private sector participation and investment
4. Embrace a multi-stakeholder, **inclusive approach** to energy development
5. **Tailor approach** to individual country circumstances



Long-term System-wide Planning

- Move away from narrow focus on project level technology choice to delivery of cost-effective results system-wide
- Country engagement to be under-pinned by planning approach with all options on the table:
 - Long term horizon
 - System-wide optimization
 - Supply/demand integration
 - Regional vision



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The World Bank's "classic" instruments

- Investment operations
 - focus on the long-term - 5 to 10 years
 - finance goods, works and services that support economic and social development projects
 - encompass a broad range of sectors
- Development policy operations
 - typically run from one to three years
 - provide quick-disbursing external financing to support government policy and institutional reforms
 - focus more on structural, financial sector and social policy reforms - improving, for example, the management of public resources, the functioning of the judiciary or promoting good governance.



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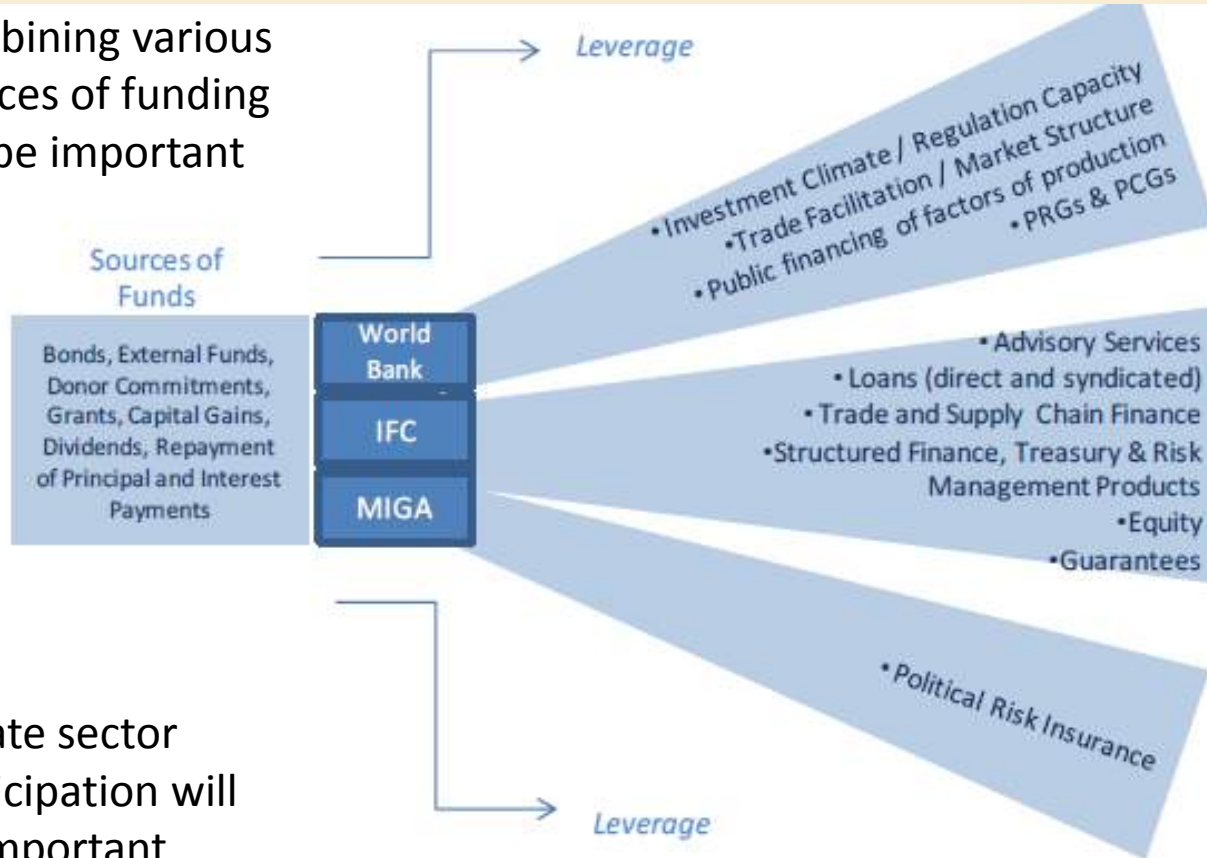
The “new” Program for Results (PforR)

- Instrument approved on January 24, 2012.
- PforR is an innovative that links the disbursement of funds directly to the delivery of defined results.
- It helps improve the design and implementation of development programs and achieve lasting results by strengthening institutions and building capacity.
- It also helps strengthen partnerships with government, development partners and other stakeholders by providing a platform to collaborate in larger country programs.



Other parts of the World Bank Group

Combining various sources of funding will be important



Private sector participation will be important

IFC provides debt and equity financing for private enterprise

MIGA provides political risk insurance



Trust Funds

Trust funds administered by the Bank:

- Complement the WBG's operations
- Allow scaling up of activities, notably in fragile and crisis-affected situations
- Enable the Bank to provide assistance when its own ability to lend is limited
- Provide immediate assistance in response to natural disasters and other emergencies
- Pilot innovations that are later mainstreamed into the Bank's operations.



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Trust Funds



Energy Access

- Sustainable Energy for All Technical Assistance Program
- Urban Poor Energy Access
- Support for Household Cooking and Off-Grid Electricity Access
- Africa Renewable Energy and Access Program (AFREA)



Clean Energy

- Energy and Climate Adaptation
- Global Geothermal Development Plan
- Low Carbon Development
- Renewable Energy Mapping
- Renewable Energy Training Program
- Smart Grids and Grid Integration



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Energy Efficient Cities Initiative (EECI)
Tool for Rapid Assessment of City Energy (TRACE)
City Energy Efficiency Transformation Initiative
Energy Efficiency Case Studies Database

Energy Assessments and Strategy Program (EASP)
The Model for Electricity Technology Assessment (META)
Energy Subsidy Reform and Delivery



**Gender | Social Inclusion
in the Energy Sector**



**Results-Based Approaches
for Energy Sector Development**

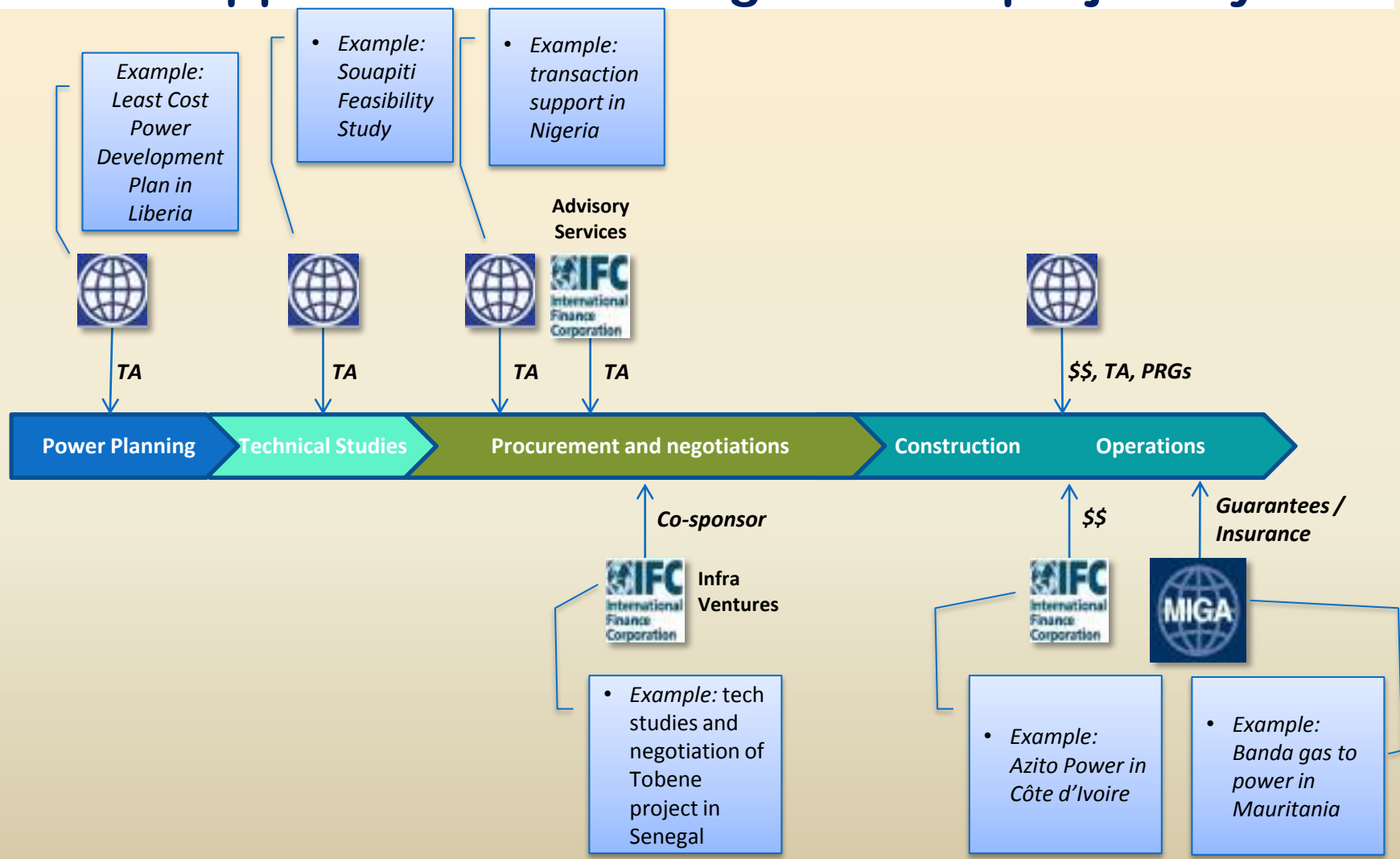


WBG support at various stages of the project cycle

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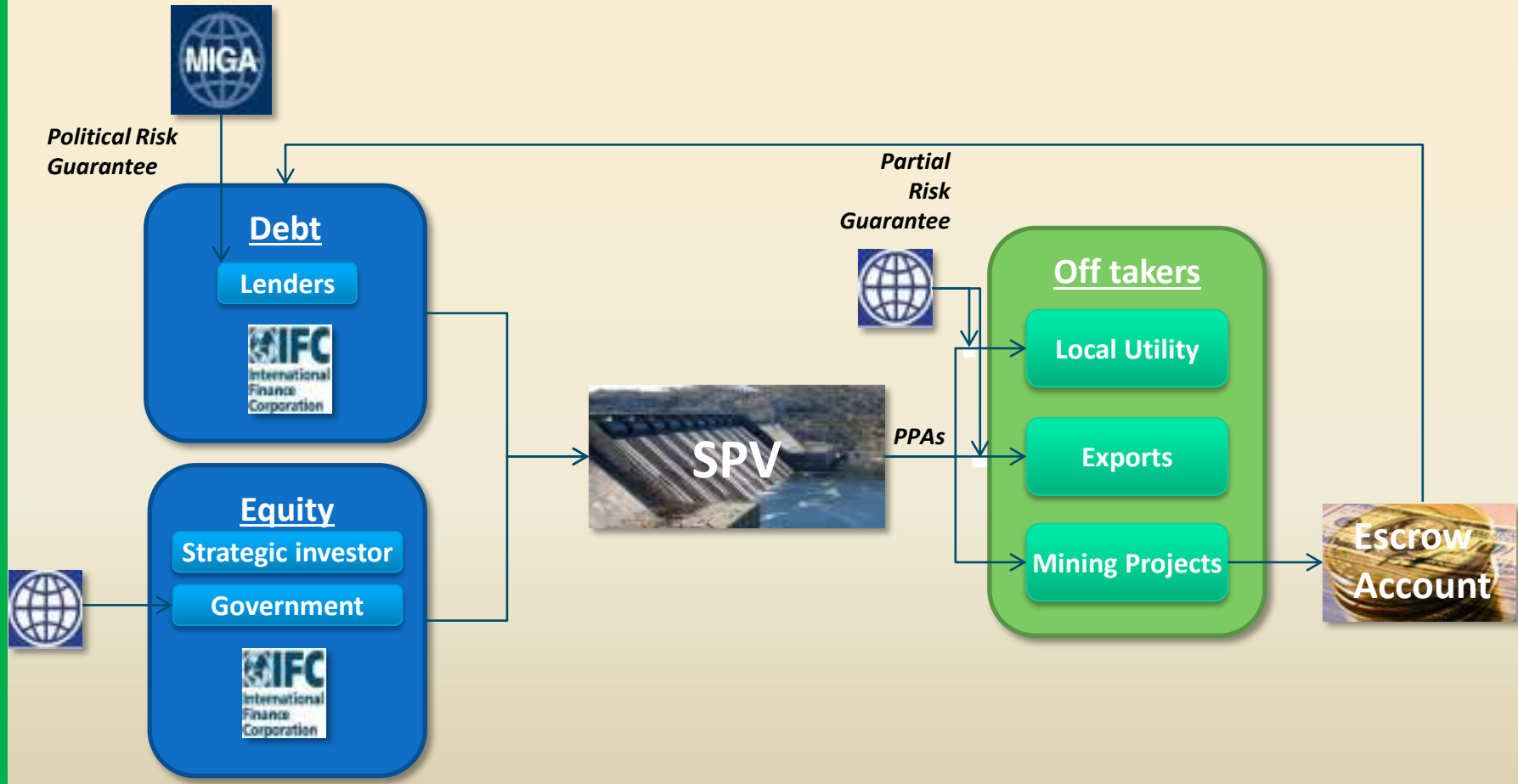
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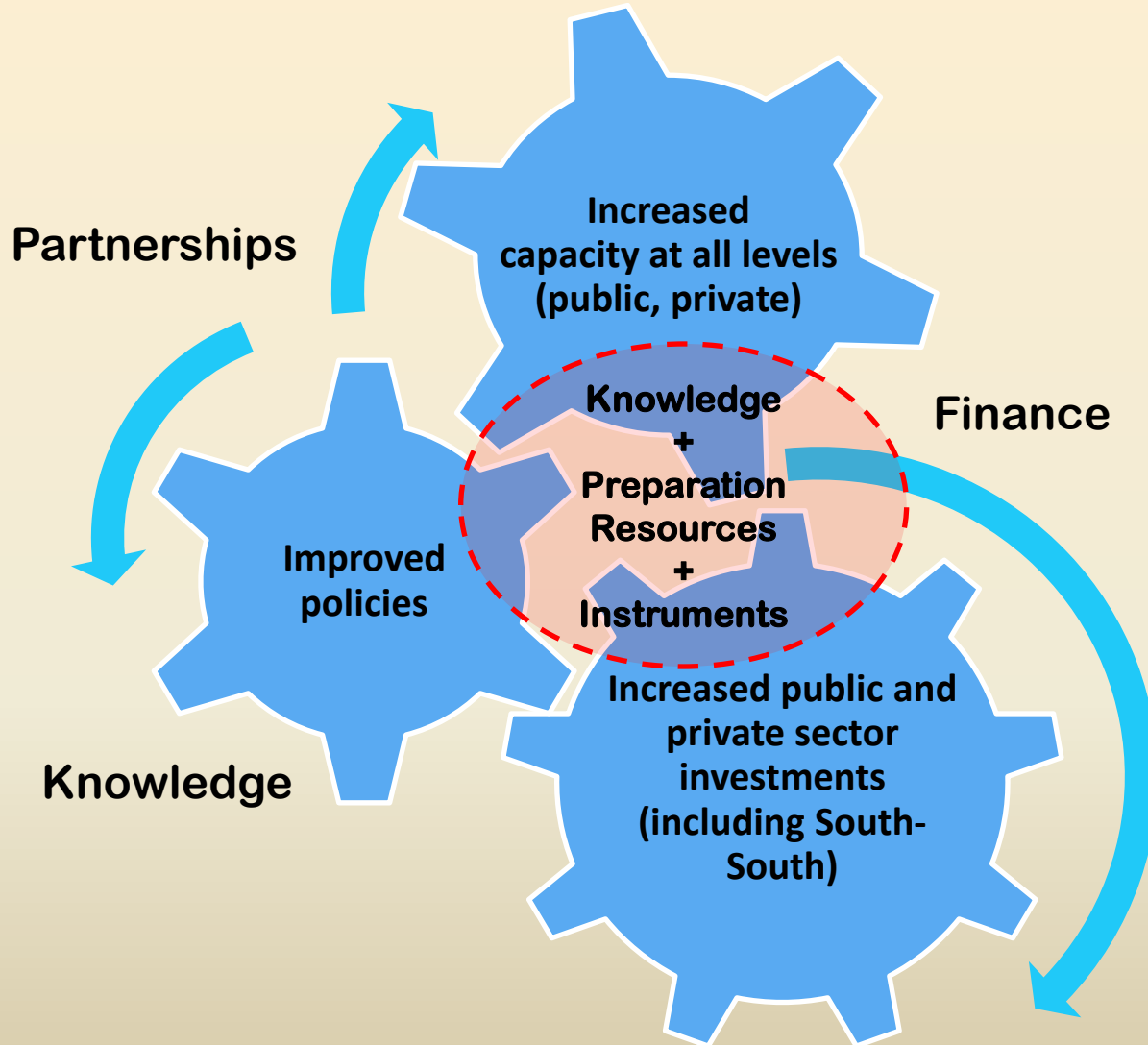
Deploying financing and risk mitigation instruments

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Integrated Approach is Vital for Transformation

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Participation of Public and Private Sectors + Appropriate Enabling Resources



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ALL STAKEHOLDERS HAVE A KEY ROLE TO PLAY

Stakeholders	Role
National Governments	Ensure appropriate policy framework in the sector, address investment climate issues and facilitate political understandings needed
Power Utilities	Adopt good practice and governance to improve performance, achieve financial viability and establish creditworthiness
Regional institutions (RECs, Power Pools, AUC, entities such as OMVG)	Lead Project Selection and development process, seek and forge partnerships with public and private entities to finance and execute projects
Multilateral institutions and Bilateral partners	Provide technical assistance resources for knowledge and capacity building, facilitate political understandings and partnerships and credit enhancement/financial leverage
Other global players	Assist in creating political support and confidence building, secure investors and underwrite risk perception issues



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World Bank Regional Portfolio in SAPP

Project	Status	Total cost (US \$m)	WB Funding (US \$m)	Partners
Botswana- Morupule B	Under construction (4 units, 150MW each)	1,500	136 ml. IBRD loan+ 235 ml. PCG	AfDB/ ICBC/ Sinosure
Inga-Zambia Interconnector	Major contracts signed	655	578 (including AF2)	IDA/SNEL/ EIB/CEC



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World Bank Regional Portfolio in SAPP (*continue*)

Project	Status	Total cost (US \$m)	WB Funding (US \$m)	Partners
Inga 1&2 Rehabilitation (including T&D components)	Works ongoing	883	580	EIB/AfDB/SNEL
Kafue-Muzuma- Victoria Falls Interconnector (Zambia Backbone)	Negotiations completed	100	60	ZESCO/ EIB/IDA
Mozambique Transmission Backbone	Preparatory studies and activities under way/ nearing completion	2,094 (Phase 1, Stage 1)	150	EIB, Norway, AfD, AfDB.



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World Bank Regional Portfolio in EAPP

Project	Status	Total cost (US \$m)	WB Funding (US \$m)	Partners
Rusumo Falls HPP (Burundi, Rwanda, Tanzania)	Under preparation	300	?	WB/AfDB
Menengai (Kenya)	Under preparation	850	135	AFD, ADB, EIB, GoK/GDC, WB
Tanzania Transmission Backbone	Procurement underway	470	150	WB/AfDB/EIB/JICA/KEDCF
Transmission Sub-component of Kenya Electricity Expansion Project	Contracts awarded	65	65	WB
Ethiopia-Sudan Interconnector	Under construction	80	40	WB



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World Bank Regional Portfolio in EAPP *(continue)*

Project	Status	Total cost (US \$m)	WB Funding (US \$m)	Partners
Ethiopia-Kenya Interconnector	Under preparation (APL 1)	1,200	676	AfDB/AFD/EIB
Tanzania-Kenya Interconnector	Proposed APL 2;	135	TBD	TBD
Tanzania-Rwanda	Proposed APL3	37	TBD	TBD
Tanzania-Uganda	Proposed APL3;	30	TBD	TBD



From installing hardware to facilitating power trade

Country Level

- Reducing obstacles to power import
- Providing incentives to invest in export power in countries that are struggling to meet their own growing demand?
- Capacity to manage transformative generation projects and asset operations and management
- Broader enabling environment for private investment

Regional Level

- Need for simple rules for power trade (e.g. split savings) not over-engineered markets (e.g. power pool day trading)
- Capacity to manage transmission projects and asset operations and management – in-house /outsourced and need for operators
- Institution building at sub-regional level

Financial sustainability of utilities is fundamental: adding MW or interconnecting grids will NOT change outcomes on the ground if the financial equilibrium is not vigorously pursued.