



THE GLOBAL ENGINEERING CONFERENCE ON SUSTAINABLE
DEVELOPMENT AND WORLD FEDERATION OF ENGINEERING
ORGANISATIONS EXECUTIVE COMMITTEE MEETINGS.

15th - 18th October 2024, Kigali, Rwanda

Theme: Engineering Innovations for a Sustainable Future

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The Financing Plan for Ruzizi 3 Hydropower Project



REL
Ruzizi III Energy Limited



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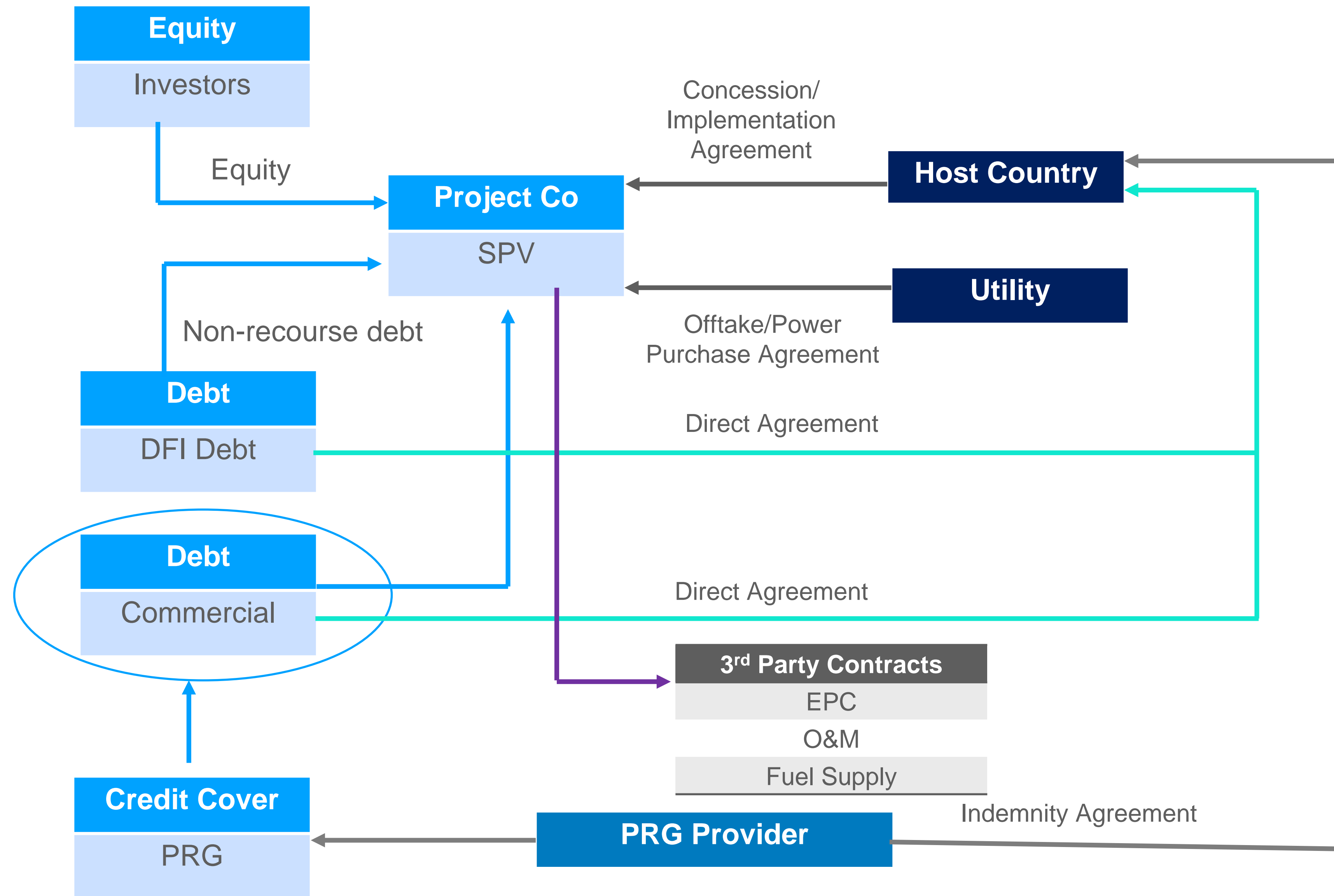
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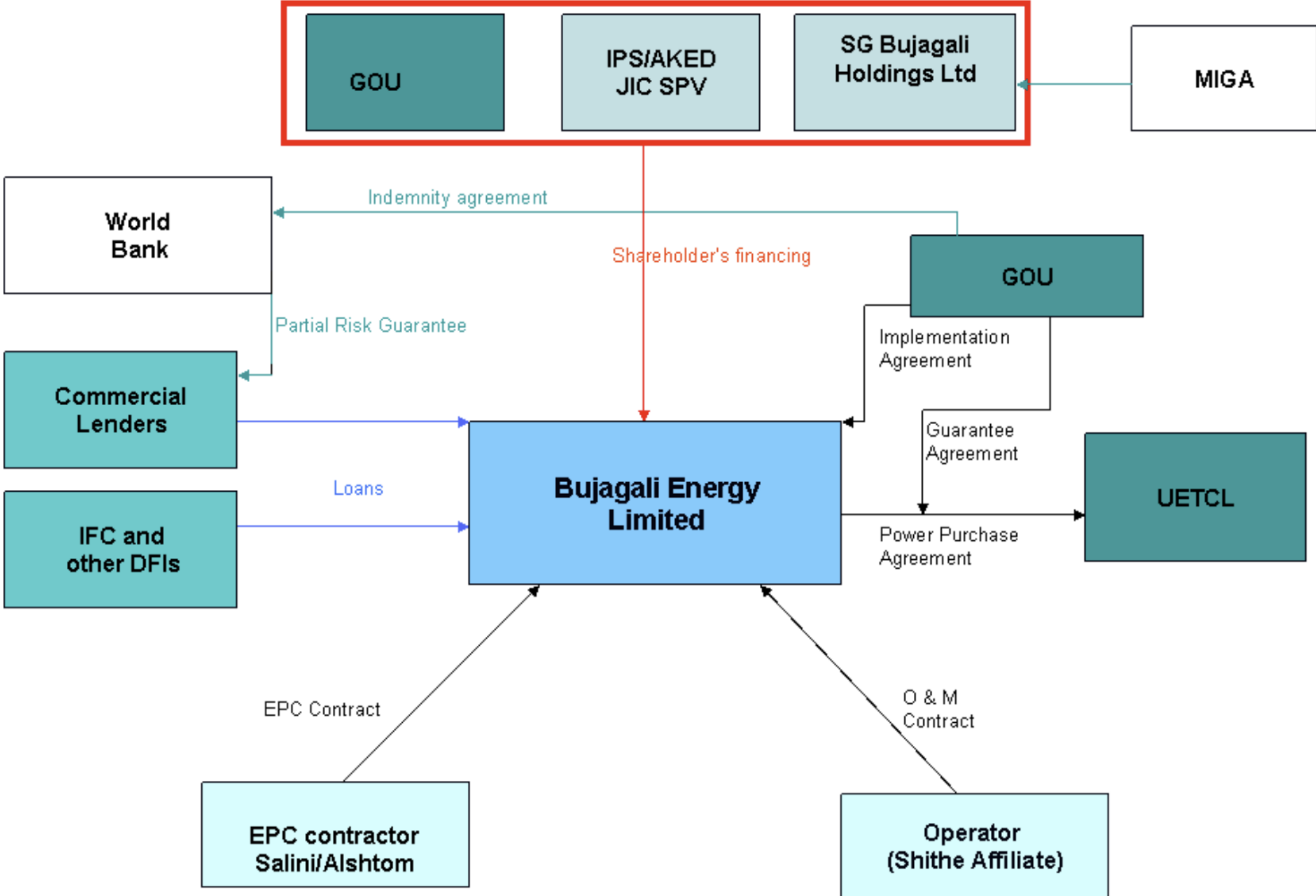


Traditional Project Finance Structure.



Our 250 MW Bujagali Project in Uganda is a good example

Contractual Structure



MEASURABLE RESULTS

- **\$902m** mobilized between 2007- 2012 for the construction
- **4.5** year construction time.
- Private sector involvement with robust governance from **non-recourse debt** is credited with ensuring the result
- Project has maintained a + 99% availability since 2012
- Project was refinanced in 2018, with an amount of \$403m maturing in 2032 (led by IFC and AfDB)



THE CHALLENGE OF RUZIZI 3 HYDROPOWER PROJECT (RWANDA, BURUNDI, DRC)

- **HOW SHOULD THE PROJECT BE IMPLEMENTED?**

- Governments took a joint decision in 2010, that the most appropriate format for undertaking this project was through a public-private partnership.
- Private sector capacity was deemed appropriate and supported by development partners (WB, AFDB, EU/EIB)

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- **WHAT HAPPENED NEXT?**

- A 2 step international competitive tender process was executed by the 3 Contracting States through EGL
- After prequalifying 3 potential investor/developers, IPS Consortium was eventually awarded preferred bidder

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- **OUTCOME OF COMMERCIAL NEGOTIATION PROCESS**

- During the process of negotiations of the project agreements (2012-2019), various complexities and opportunities emerged for the Contracting States to improve the **RUZIZI 3 Hydropower Project** solution.

THE CHALLENGE OF RUZIZI 3 HYDROPOWER PROJECT (RWANDA, BURUNDI, DRC)

- **WHAT WERE THESE IMPROVEMENTS?**

1. **Design Optimization:**

- Private sector identified that the project design could be optimized by a slight move upstream, resulting into (a) lower geological risk (b) increased reservoir (increasing capacity 147 MW to 206 MW) , improving cascade operation and (c) increasing plant factor and lowering cost of energy

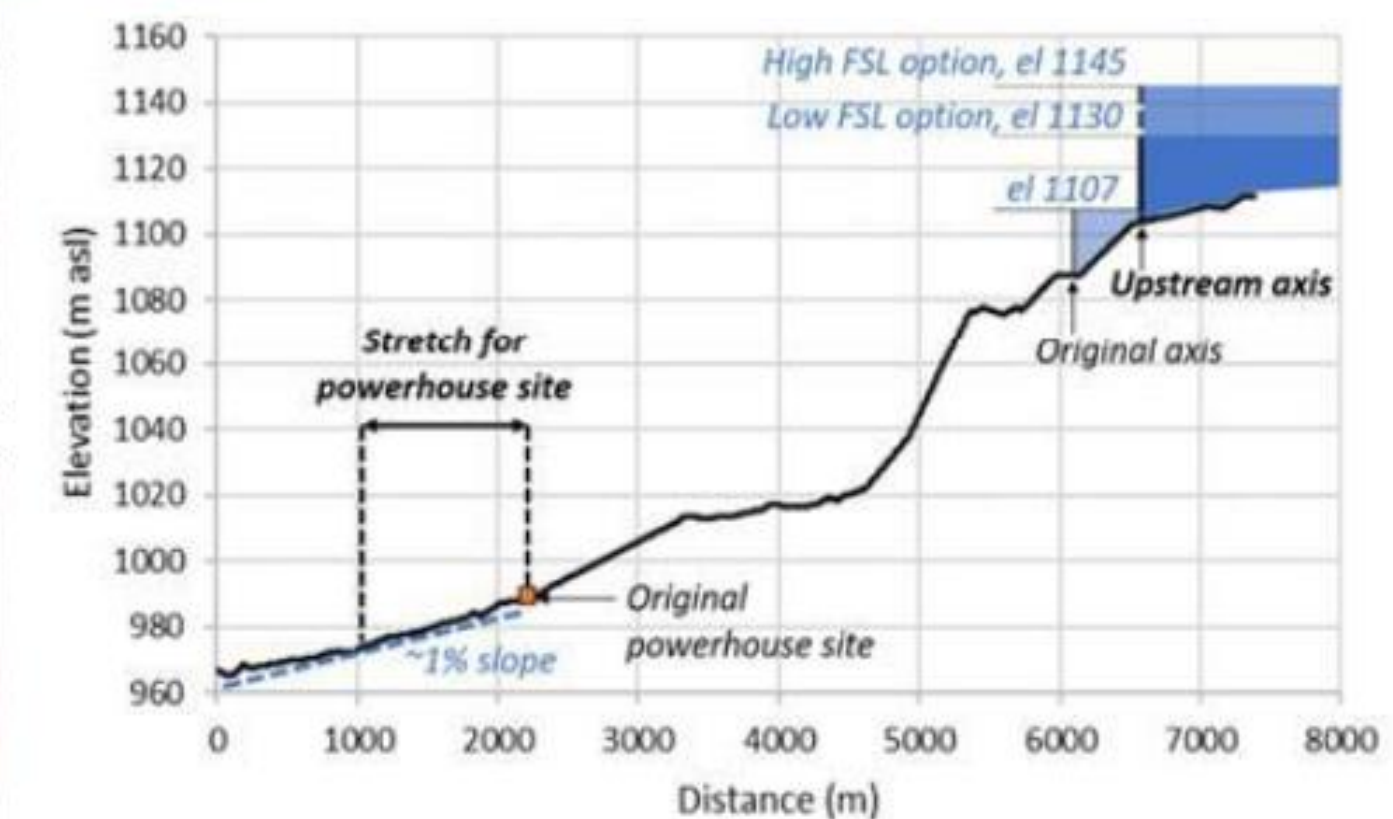
2. **Funding Optimization:**

- Engaging with donor partners, the Contracting States also identified the potential to mobilize much more blended financing arrangement with concessional debt/grants while retaining a PPP structure.
- The target of this structure would be to ensure that the cost of energy is as low as possible while still entrenching private sector capacity to develop this complex project

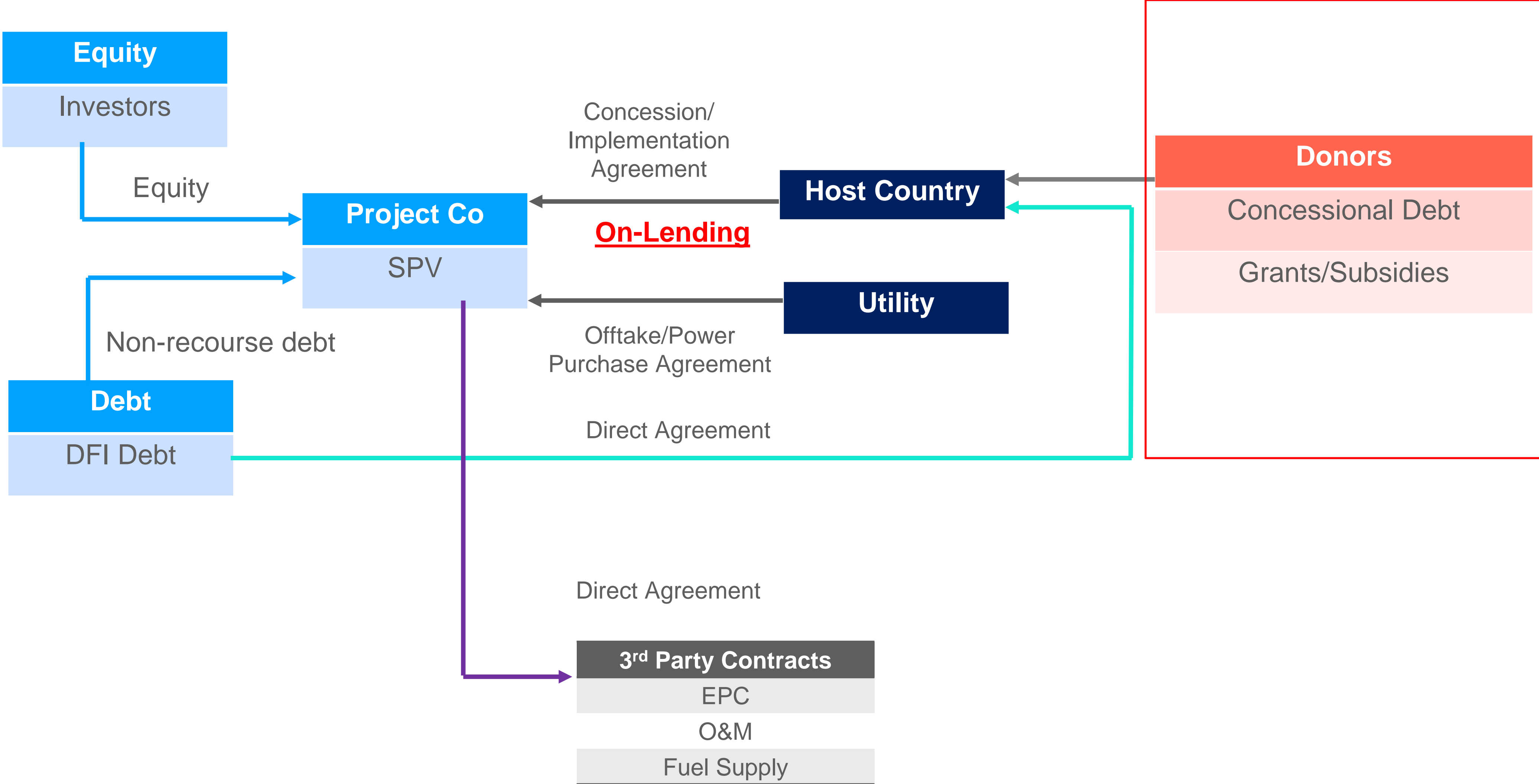
THESE FEATURES WERE NEGOTIATED INTO THE PROJECT AGREEMENTS SIGNED IN 2019 BY REL AND THE 3 CONTRACTING STATES.

Private Sector Engineering (2019 to date)

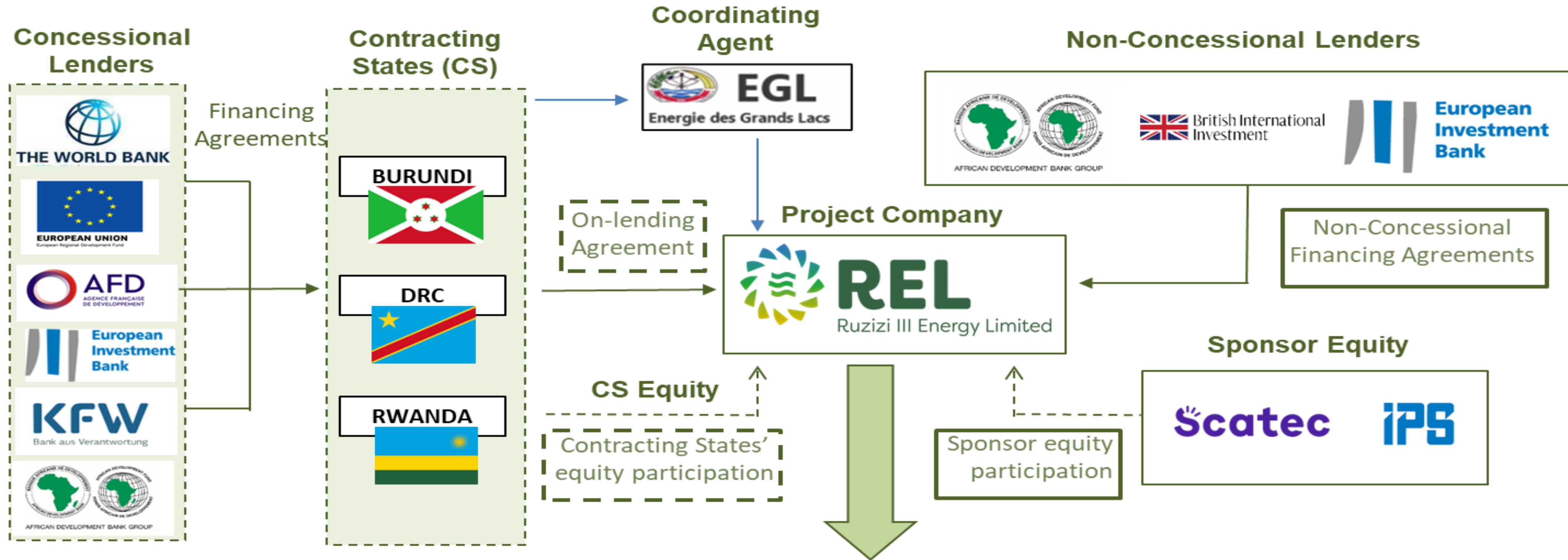
1. Increased reservoir from **1.84 Mm³** to **7.44 Mm³** storage. This enabled daily regulation and peaking ability of up to **8 hrs.**
2. With more than 8 hours of storage capacity, the Project will be able to peak at the same time as Ruzizi I and II, this is a crucial benefit that RIII can bring to the Cascade system.
3. **Increased dead storage capacity hence long life span for the reservoir**
4. Increased output capacity from 147 MW → **206 MW** including **2.9MW** generated thru **10m³/s** ecoflow
5. **Cost/MW installed: MUSD 2.6/MW**
6. Increased energy from 710 GWh → **1,210 GWh/year** -> **~41% increase – enhancing energy security**
7. Lower energy cost, up to **35% of original tariff has been reduced - affordability.**
8. Reduced geological risk – **enhancing dam safety and sustainability aspects**



Blended Finance Structure Introduced.



WHAT THIS LOOKS LIKE IN PRACTICE



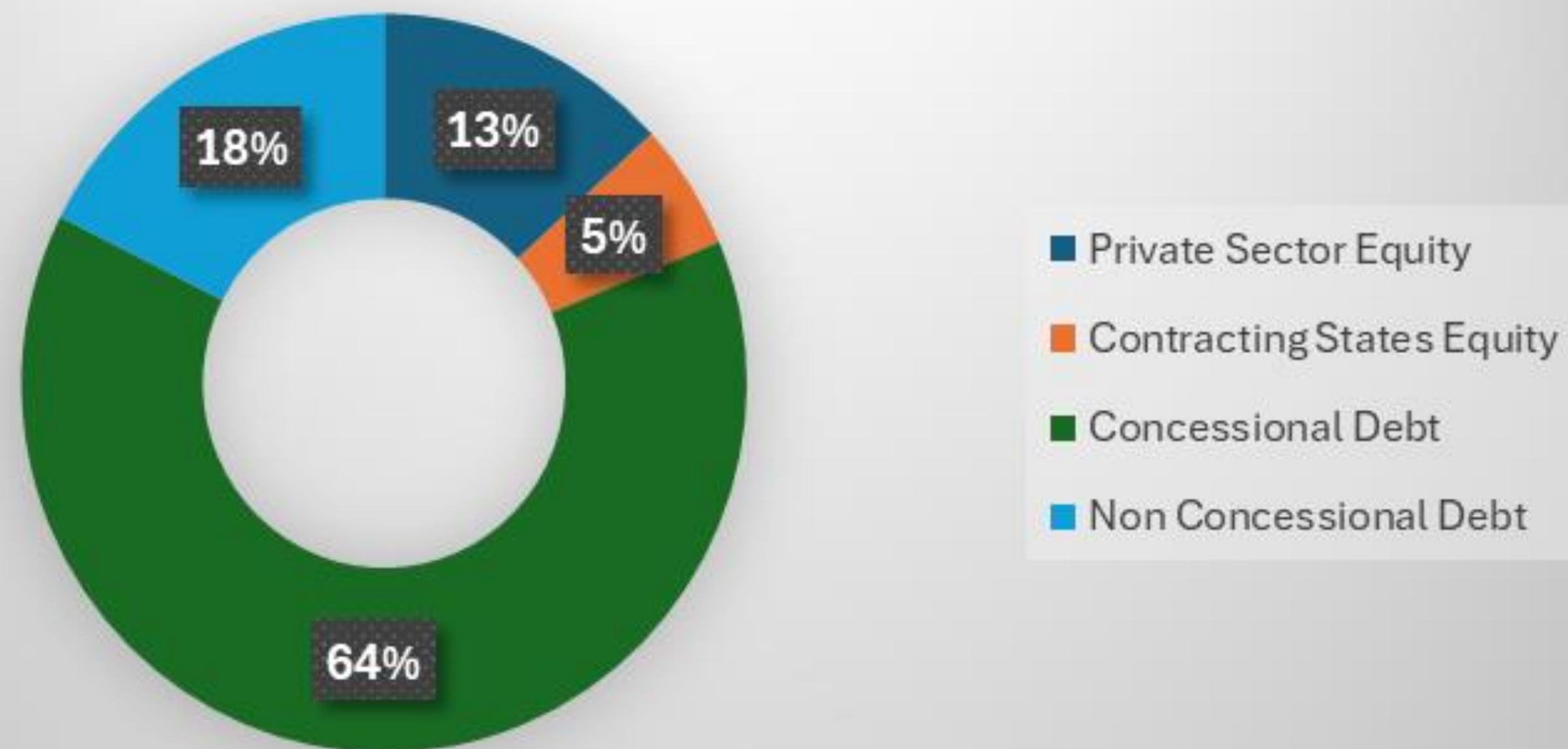
*Note – This excludes financing of transmission lines and interconnecting infrastructure, from Kamanyola, which will need to be funded in parallel

Cash inflows and outflows to and from REL, through construction and operations phases will be organised through a structure of bank accounts as required by the Project Agreements and Lenders.



Ruzizi 3 – Financing Structure:

Ruzizi 3: Blended Financing Structure



• WHAT ARE THE GOALS:

1. Retain traditional project finance efficiencies
- Private sector and non-concessional lenders mobilizing 31% of the financing which is not unsubstantial, i.e. still invested **\$200m +** towards this project
2. Control the tariff and cost of energy
- Access softer financing to safeguard the cost of energy, which from an initial **15-18 cents/KWh** based on the 2011 scheme is now forecast at **7-8 cents/KWh**

Additional Unique Features in Funding Mechanism



- **GREENOVATE**

1. Up to \$50m may be made available from BII through its Greenovate Strategy aims to address, through concessional debt, financing constraints **for high impact infrastructure projects** caused by first-mover disadvantage, lack of precedent or affordability challenges. It is managed in-house at British International Investment.



- **CONVERTIBLE GRANT INSTRUMENT**

1. EIB has made available from the EU-AFRICA Infrastructure Trust Fund an development grant of **EUR 9m** to support the development activities of the project, which will be converted as CS equity at financial close. This grant is a result of the private sector accepting to release the Offtakers from a development cost letter of credit during negotiations. (this is 30% of devex)



- **DEVELOPMENT SUPPORT**

1. Supporting the Sponsor engagement in the project, critical financing has also been made available through Norfund and Norad which has been catalytic towards supporting continued private sector exposure in the project that is now in its 12th year.



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