



Introduction to CCG's Financial Modelling Tools and Application in Zambia



"The views expressed in this material do not necessarily reflect the UK government's official policies."

University Partnership:



Session 5 May 22, 2026

Agenda

1. Introduction to CCG's Financial Modelling Tools:
2. Zambia Application: *Developing a Financing Roadmap for the Integrated Resource Plan (IRP)*
3. Audience Q&A



1. Introduction to CCG's Financial Modelling Tools



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The Data-to-Deal (D2D) framework connects transition planning to financing realities to enable delivery

The Data-to-Deal (D2D) framework builds on concrete experience across emerging and developing economies and draws on contributions from a broad network of 60 international experts. It brings together 7 core components required to develop technically robust transition plans and translate them into implementable, financeable strategies with broad-based institutional support. In practice, the central challenge lies in the final step connecting these plans to financing realities – including access to capital, cost of financing, and the feasibility of delivery over time.

Planning

- 1 Securing High-Level Support
- 2 Building Institutional Capacity
- 3 Aligning the Development Vision
- 4 Undertaking Deliberative Modelling
- 5 Engaging Inclusively with Stakeholders
- 6 Enhancing the Enabling Environment
- 7 Developing Financing Strategies

Delivery

3 Finance modelling tools to operationalise the finance dimension, addressing the three constraints faced by EMDEs



FinTrack helps countries understand what climate finance is available to them, the terms, and how accessible it is



FinCoRE helps countries to assess how policy and market changes can impact financing costs



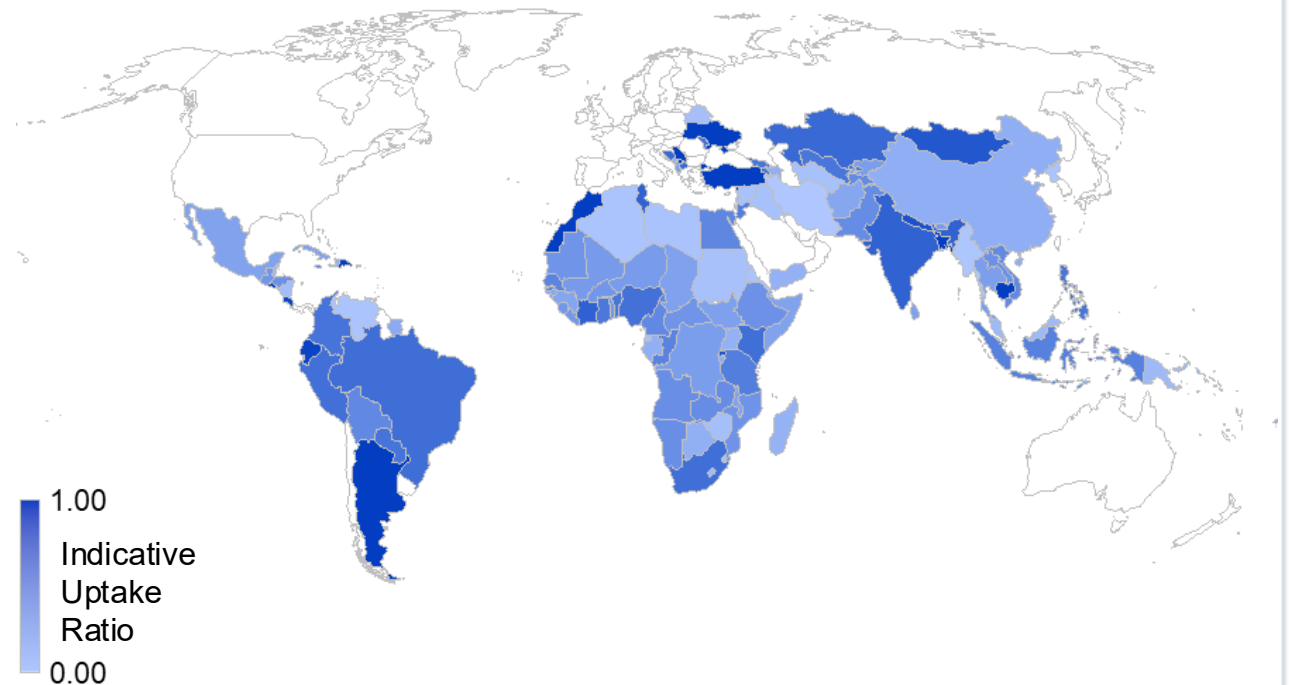
MINFin helps countries identify finance gaps at the sector and technology level and assess strategies to close them

Many LMICs, are taking up just a fraction of the climate funds for which they are eligible



- Many LMICs access only a fraction of available climate finance
- FinTrack brings **30+ finance facilities into one dashboard**, showing availability and current utilisation by country
- Enables users to **filter opportunities by project and fund characteristics** (e.g. sector, stage, mitigation/adaptation) to **inform financing decisions and support advocacy on capital available for transition projects**

Uptake Ratios for Indicative Allocations by Country



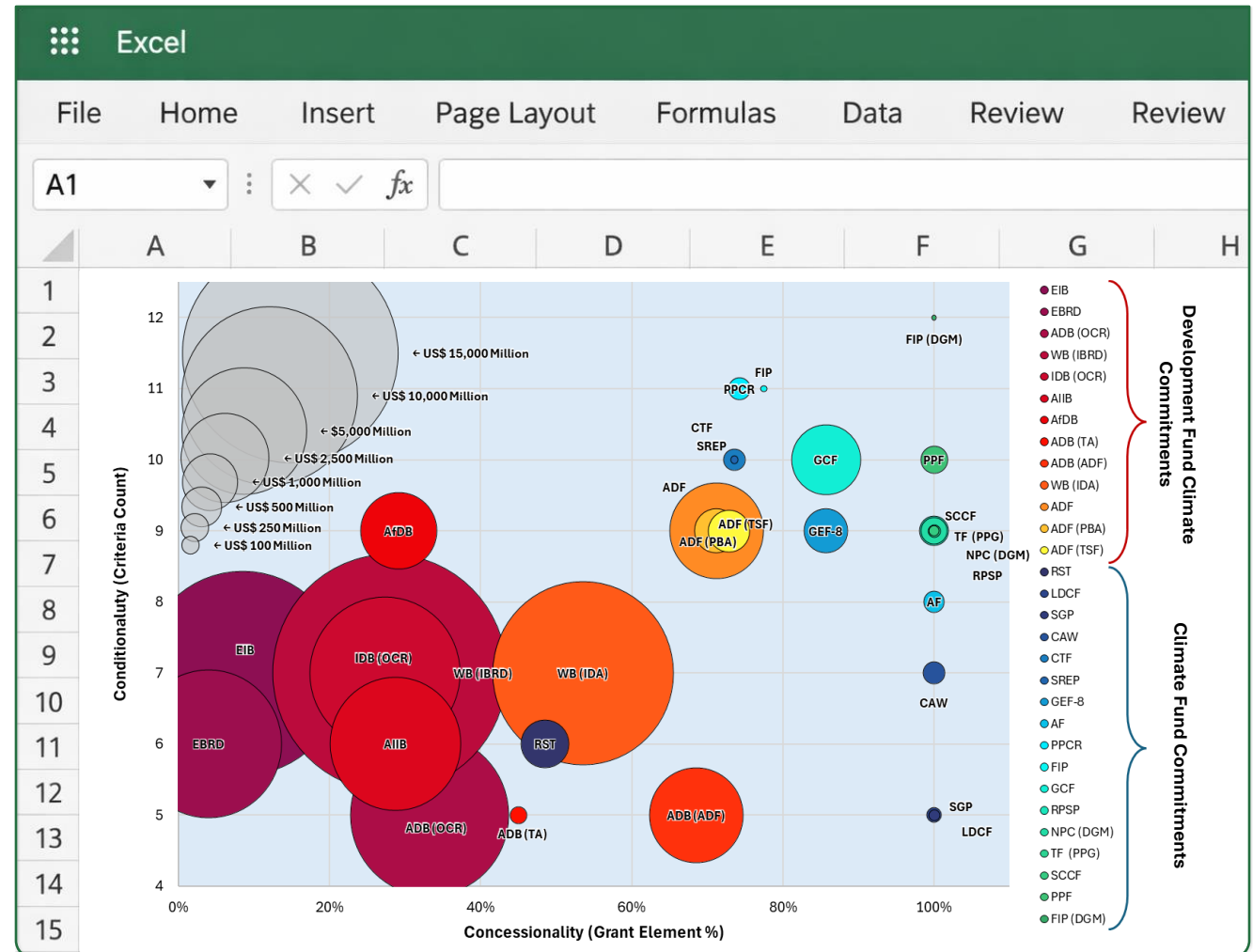
Source: [Collier and Foster \(2025\)](#)

FinTrack helps countries understand what climate finance is available to them, the terms, and how accessible it is



FinTrack compares financing options across four dimensions:

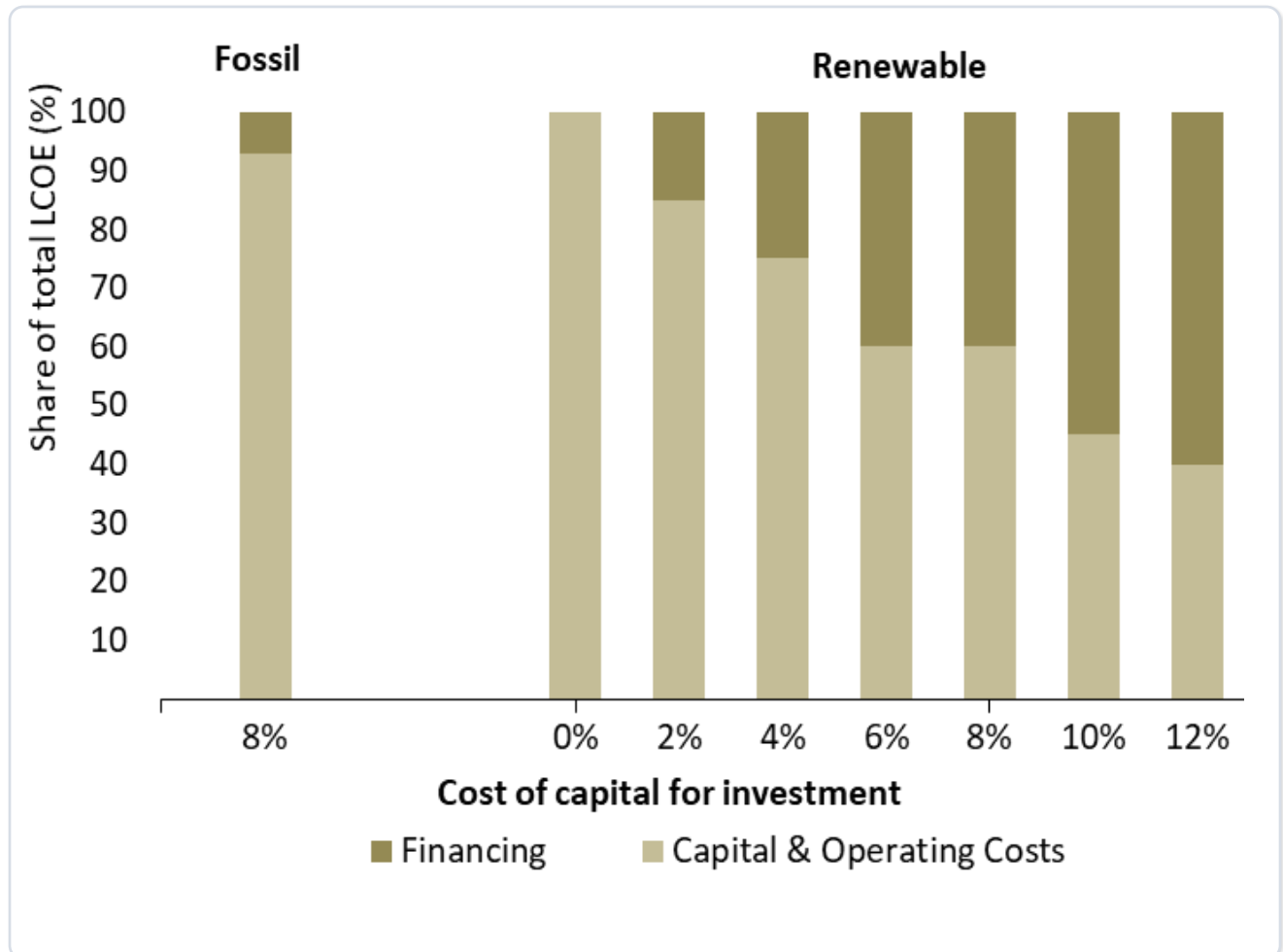
1. **Accessibility:** Extent to which countries have historically accessed available funds
2. **Concessionality:** Degree to which financing terms are more favourable than market rates
3. **Complexity:** Number of criteria and requirements to access funding
4. **Scale:** Potential volume of funding available



The cost of capital for energy technologies is a key driver of absolute and relative development cost



- Clean technologies are **highly sensitive to cost of capital**, which drives a large share of total project costs
- **FinCoRE covers 176 countries**, with strong representation of developing economies
- Enables users to **assess how policy and market changes impact financing costs**, and provides robust inputs for energy system modelling and investment planning



Source: [Hatton et al. \(2025\)](#). Historical and future projected costs of capital for ten energy technologies across 176 countries, Nature.

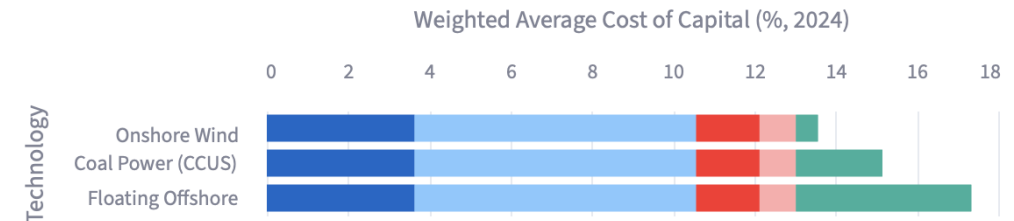
FinCoRE helps countries understand the cost of capital across technologies, over time and across countries



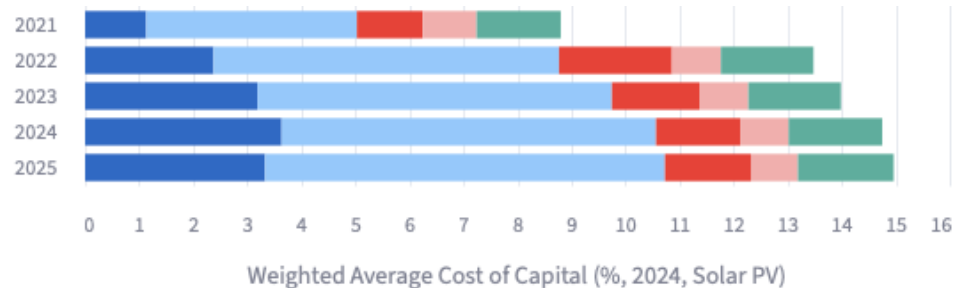
- FinCoRE analyses cost of capital across **three key dimensions**: Spatial, Technological and Temporal.
- Enables users to assess how policy and market changes can impact financing costs

Technological: Comparisons across technologies

Coal Power (CCUS) × Floating Offshore × Onshore Wind ×

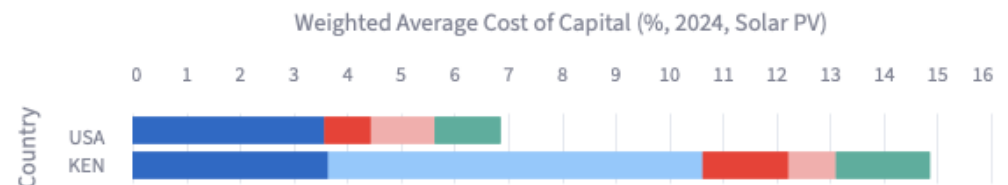


Temporal: Historical and projected estimates over time



Spatial: Comparisons across countries

United States × Kenya ×



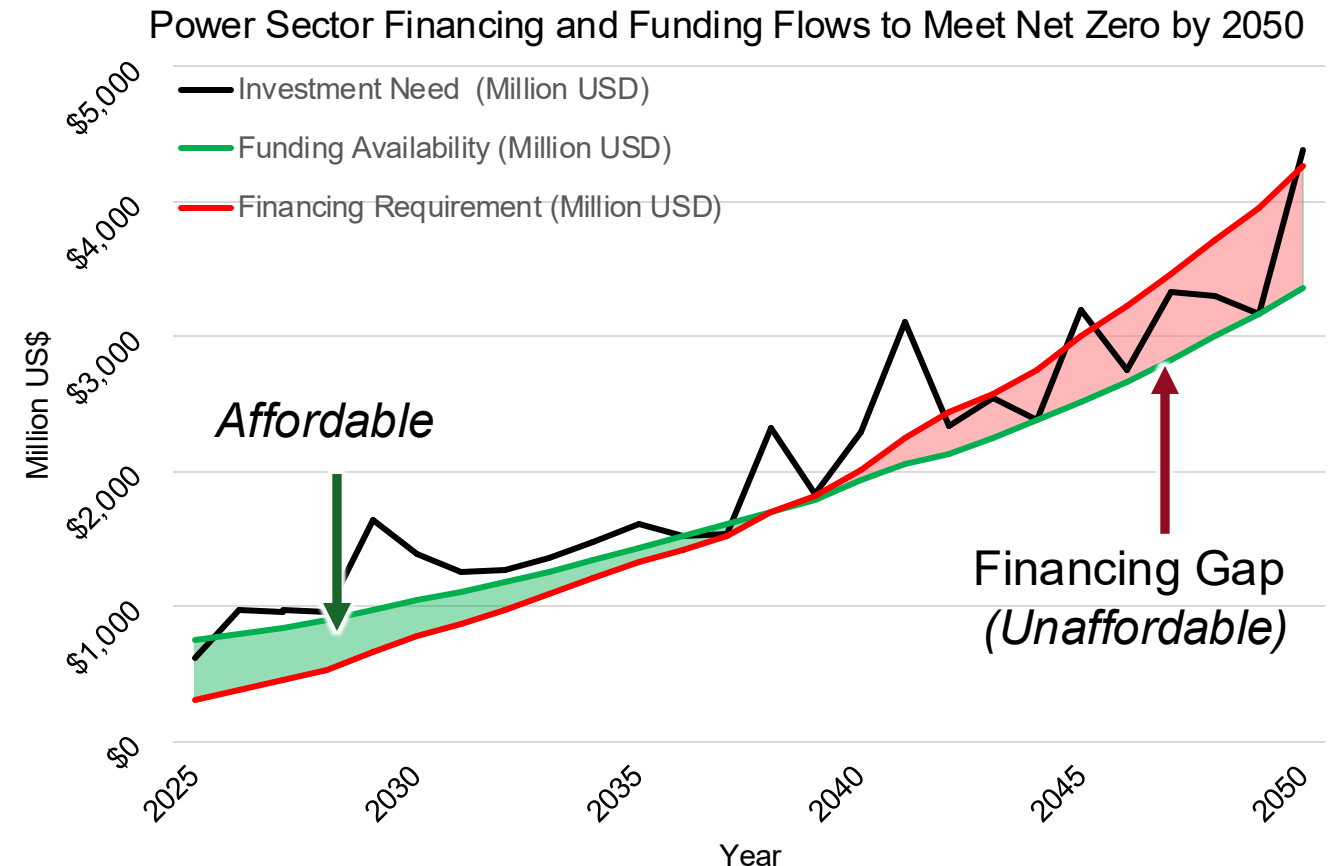
MINFin projects finance gaps associated with transition plans



Black line: The model ingests an existing transition investment plan providing year on year capital requirements.

Red line: Based on locally available and technology-specific costs of finance, the model projects the annual repayment of finance that would be required

Green line: Based on local conditions (including tariff trajectories, public expenditure, international grants and other sources), MinFin projects available cashflow for finance repayment.



Source: [Luscombe et al. \(2025\)](#) – MINFin Model

Note: All numbers are illustrative

MINFin translates investment needs into financing requirements



Red line: MINFin converts the investment needs of the transition plan into **annual financing obligations over time**.

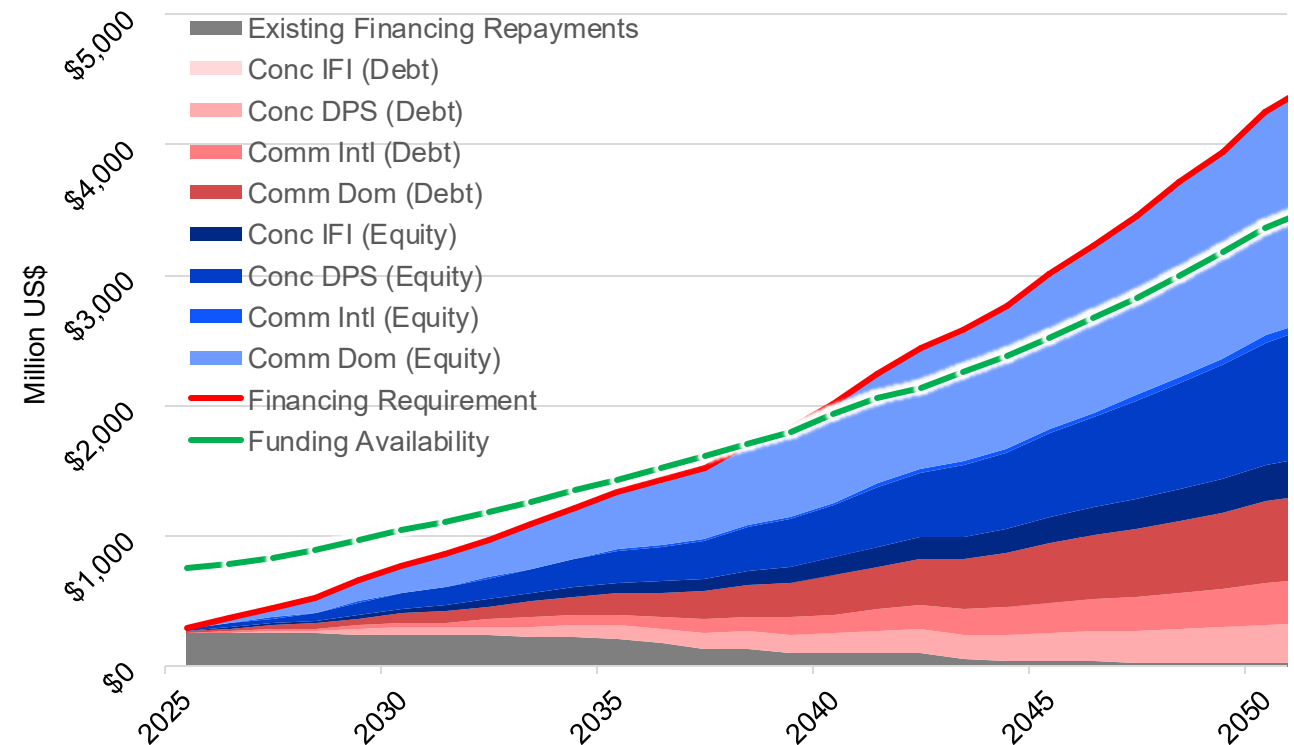
New infrastructure financing:

Investment in new assets is assigned technology-specific financing structures.

Existing financial commitments: The model also accounts for repayments associated with existing infrastructure, which continue to impose obligations during the transition.

Different sources of capital can be represented, including **domestic and international** finance from both **commercial and concessional** providers.

Composition of Financing for the Net Zero Transition



Note: All numbers are illustrative

MINFin estimates funding available to service financing requirements



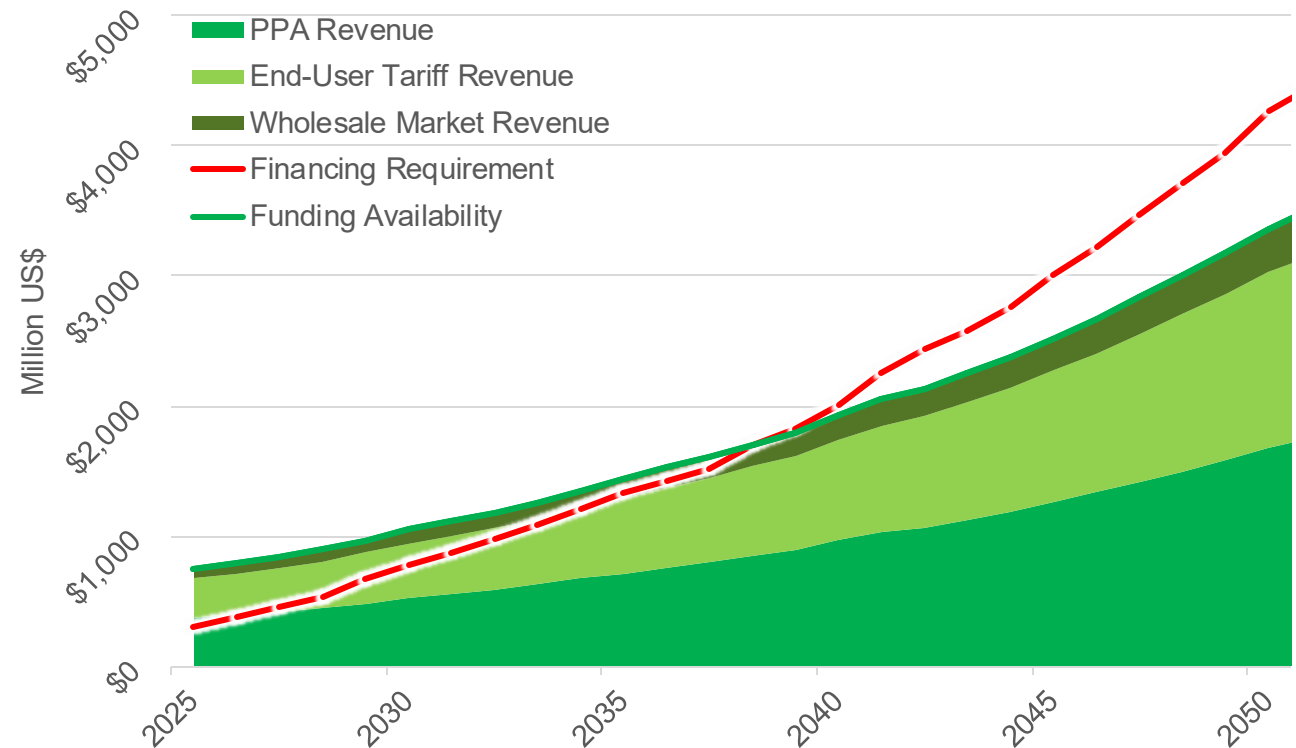
Green line: MINFin estimates the **cash revenues generated across the power sector that can be used to service financing obligations.**

Revenues arise from **electricity sold through PPAs, wholesale markets, and end-user tariffs.**

Operating costs, taxes, and power purchase expenses are deducted to determine net cashflows available for financing repayment.

The model can also incorporate **grants, capital injections, or carbon credit revenues** as supplementary sources of funding.

Sources of Funding for the Net Zero Transition



Note: All numbers are illustrative

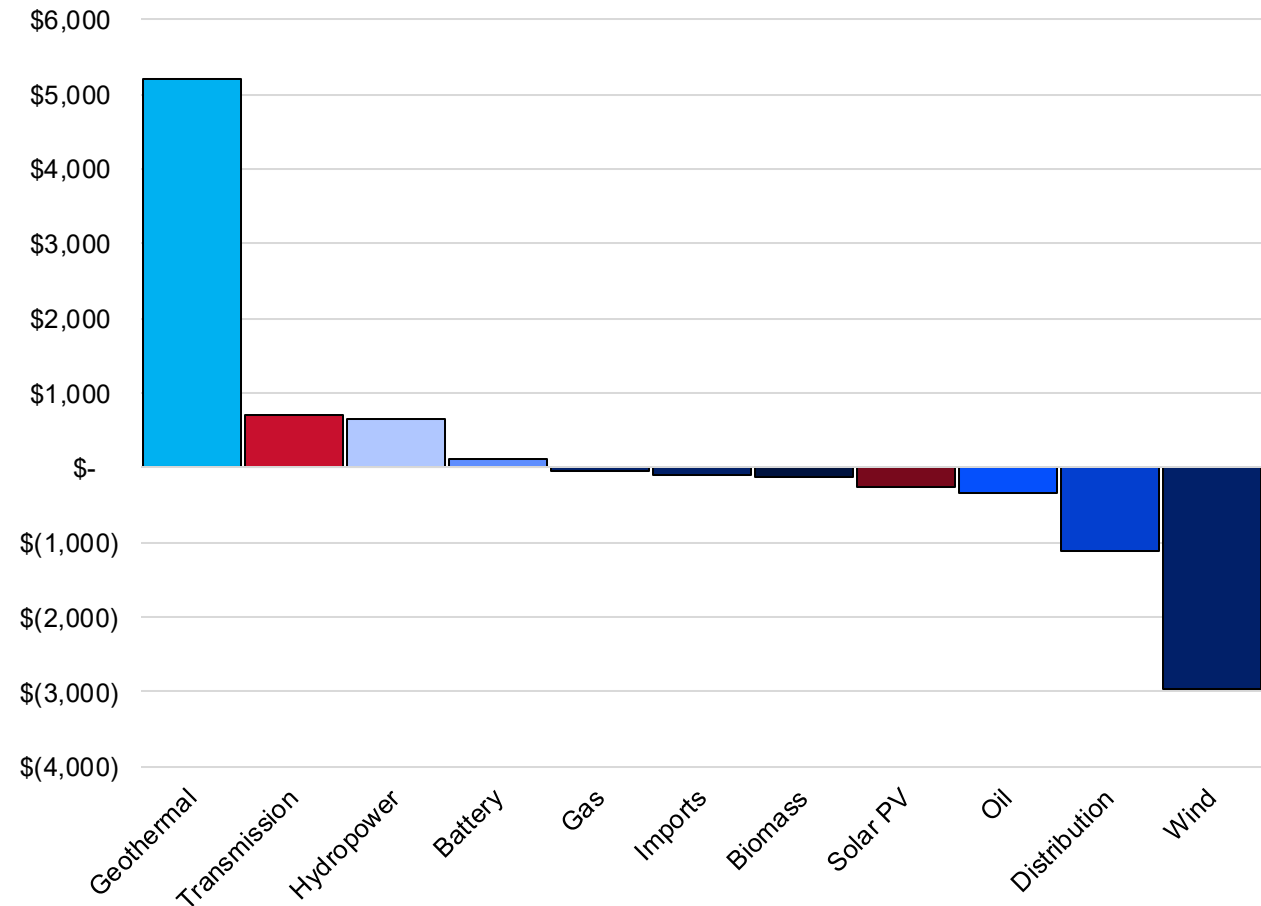
MINFin assesses technology-level bankability

MINFin evaluates the **financial viability of individual technologies within the power system transition.**

Different technologies generate **very different financing pressures**, reflecting variation in capital costs, revenue structures, and financing conditions.

This helps identify **which technologies may require concessional finance, grants, or policy support** to remain financially viable within the transition plan.

Finance Gap by Technology (2025-2050)



Note: All numbers are illustrative



2. Zambia Application



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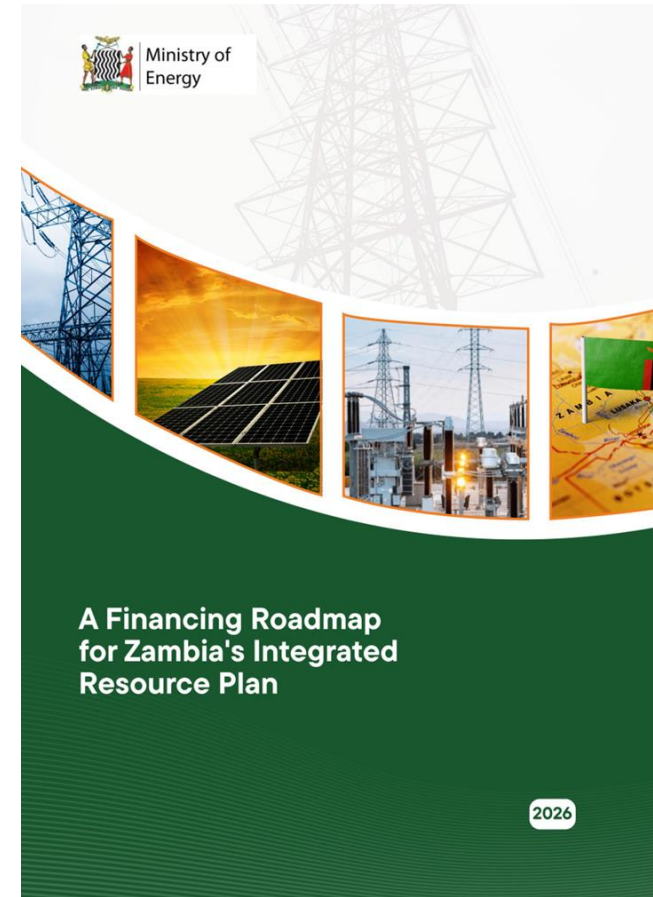
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Application in Zambia | Bridging the gap from planning to bankable delivery with Finance modelling tools

The three finance modelling tools have been applied, as part of the D2D framework, in Zambia.

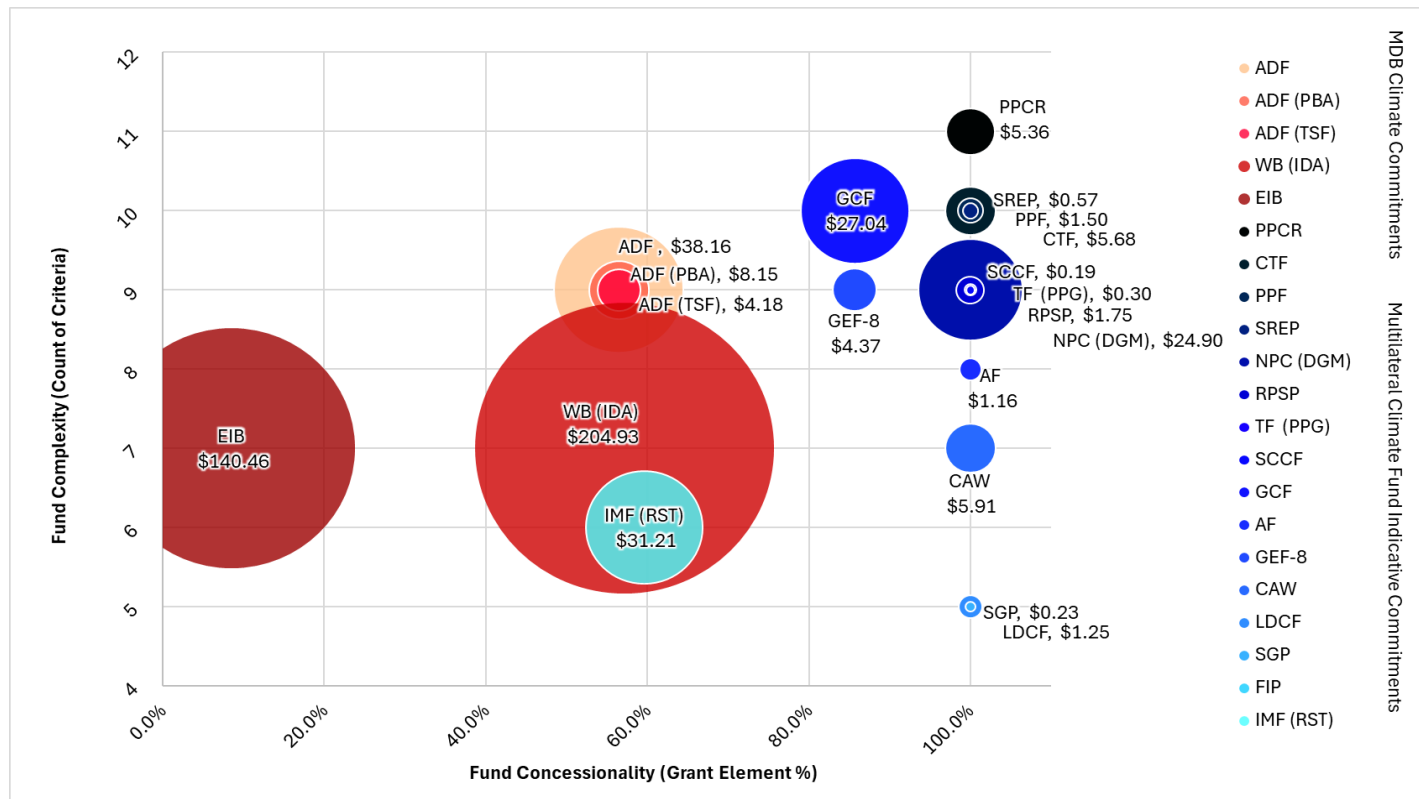
- Zambia's Integrated Resource Plan (IRP), launched in 2024, sets out a least-cost pathway to ensure long-term energy security and climate resilience.
- Delivering this plan requires a step change in investment, with total capital needs estimated at **US\$31bn by 2050**, far exceeding historical financing levels.
- The central question is therefore not the robustness of the plan itself, but whether it can be financed and delivered under real-world conditions, especially in the context of Zambia's ongoing market liberalisation.
- To address this, CCG co-developed an **IRP Financing Roadmap with the Ministry of Energy**, published as an official MoE document in May 2026.



Report accessible at: <https://www.moe.gov.zm/wp-content/uploads/2026/05/Financing-Roadmap-for-Zambia-IRP.pdf>

Zambia | FinTrack identifies ~US\$0.5bn of climate finance available but has been capturing only a third

Annual Volume of Climate Finance Available to Zambia by Concessionality and Criteria Count



Policy Implications

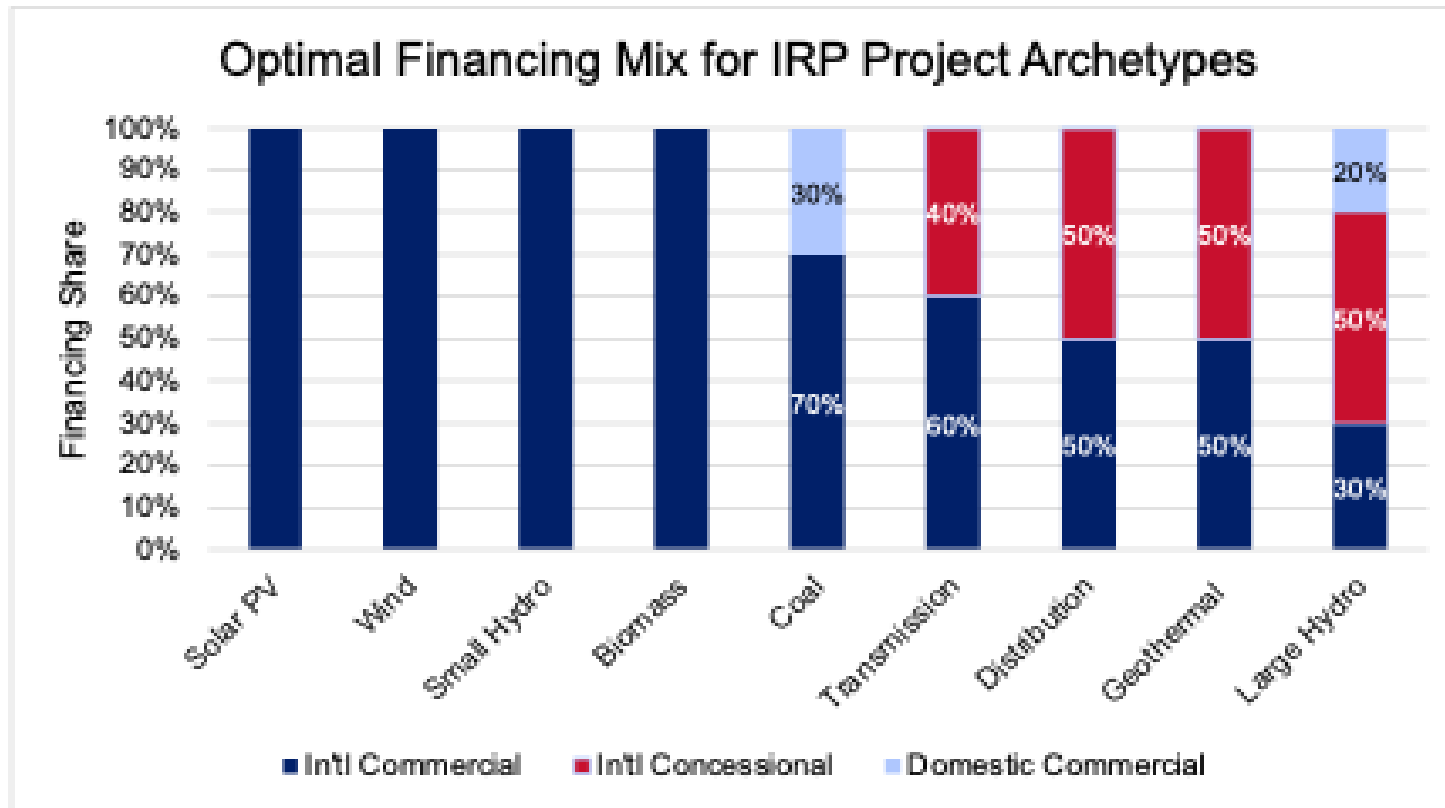
FinTrack analysis can help strengthen fund tracking and matching within the **Climate Finance Unit (CFU)**, recently established within the Ministry of Finance and National Planning, including:

- Monitoring fund availability and eligibility requirements across funds
- Coordinating with MoE to conduct periodic interviews with local developers to assess alignment with eligibility criteria and direct targeted support
- Matching funds with eligible projects in the pipeline, including early-stage project support, to accelerate financial close

Zambia | FinCore application identifies optimisation process yields blending ratios by project typology

Policy Implications

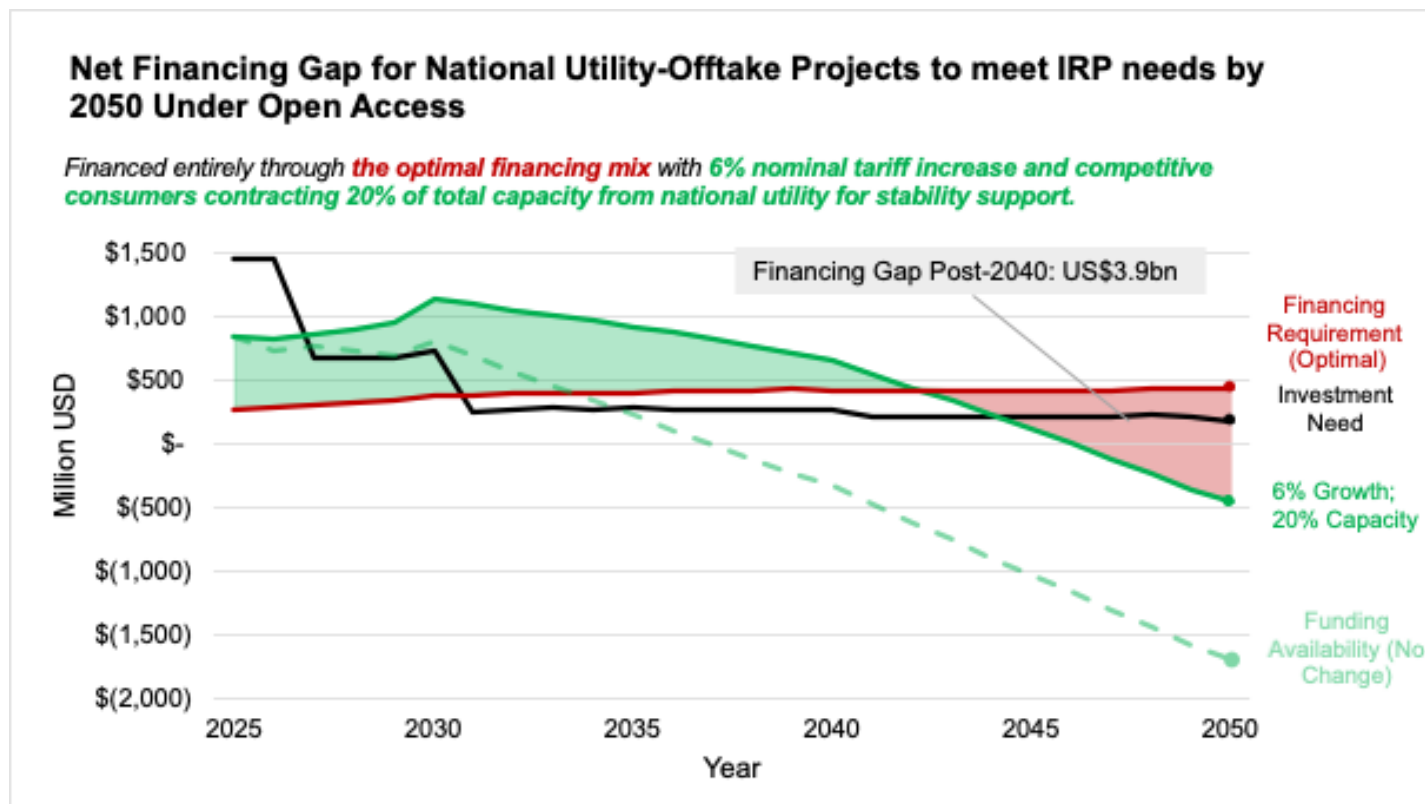
- To meet IRP financing needs, limited concessional (~US\$279m p.a.) and domestic (~US\$77m p.a.) financing envelopes should be strategically allocated to maximise leverage of international commercial capital (~US\$369m p.a. needed), which has greater potential to scale.
- Given Zambia's ongoing market transition, **concessional and domestic resources should be prioritised for projects with the national utility as the off-taker** to reduce FX risk exposure and improve bankability, while direct offtake projects are primarily financed through international commercial capital.



Zambia | MINFin highlights project bankability might entail significant real tariff increases

Policy Implications

- The Open Access transition is expected to reduce the national utility's investment and financing burden, but it may also increasingly constrain and expose its balance sheet to forex risk as larger customers shift toward direct offtake arrangements.
- Regulators should consider **increasing current tariffs by 4-8% per year** (in nominal terms), as well as **increasing current wheeling costs, capacity fees, and other use-of-system costs** to ensure that competitive users who continue to depend on the public network contribute to full-system cost recovery.
- These measures should safeguard sector sustainability without undermining market competitiveness.





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Thank you

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