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Unlocking energy access with blended finance

A learning review from case studies

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Section 1

Executive Summary

OGS is critical for achieving universal energy access, driving inclusive development, and advancing climate goals

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Energy access

OGS is needed to power **400M people** (41% of the new connections needed) between now and 2030

Economic development

OGS can provide electricity for over **40M farms and 37M MSMEs** and the sector supports over **125K jobs** in Africa

Climate goals

Electrifying schools and healthcare facilities with OGS could avoid **~0.9M metric tons of CO_2** equivalent (MTCO2e) per year and **support climate adaption**

Source: Dalberg analysis, 2024

Recent global challenges have intensified pressure on the OGS sector, compounding existing commercial barriers to serve low-income communities

Persistent Barriers

22% of households **can afford Tier 1 OGS products**

57% **higher cost** to serve FCV & remote areas

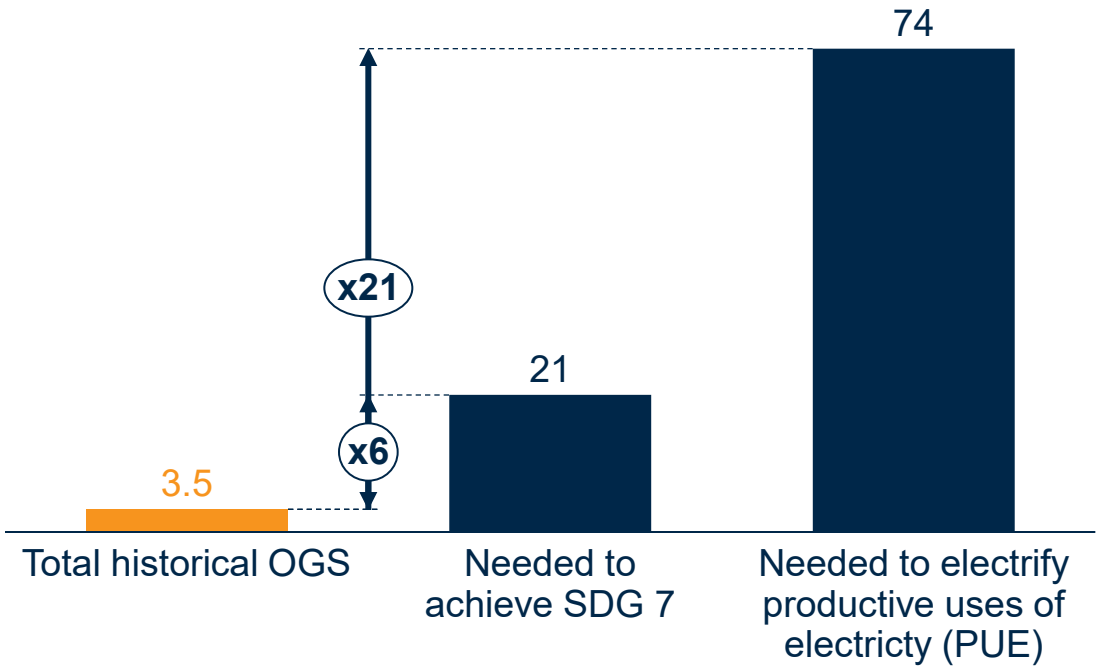
Recent Global Challenges

- **Currency fluctuation**
- **Soaring inflation**
- **High interest rates**

Source: Dalberg analysis, 2025

Achieving universal energy access will require $21 billion capital, 6x the amount of capital that has been committed to date

Comparison of total historical investment and funding and future needs (USD billions)



- Energy access **funding remains critically insufficient**
- **Investments are declining,** especially for early-stage solutions
- **Scalable subsidies are needed** to close persistent affordability gaps

Source: Dalberg analysis 2024, 2024 Off-Grid Solar Market Trends Report

Blended finance is essential to closing the gap, but deals are too small, bespoke, and often miss the hardest-to-reach communities

Blended Finance is essential to closing the gap…

Blended finance can mobilize large volumes of commercial capital, including from the private sector

- Some estimates suggest $1 of catalytic capital can leverage $8 worth of private capital

A few standout deals in the OGS sector have achieved high leverage

- Nithio's Facility for Adaptation Inclusion and Resilience has reported leverage of **5:1**
- Green 4 Access First Loss facility expects to **exceed 18:1**

…but deals are too small, bespoke, and often miss the hardest-to-reach communities

Most OGS deals have underperformed on leverage

- The median leverage ratio (commercial to concessional) across 51 deals is **1.9:1**

Private sector mobilization is lagging

- On average, **only 37%** of commercial capital mobilized in OGS blended finance deals comes from private investors

Source: Dalberg analysis 2025

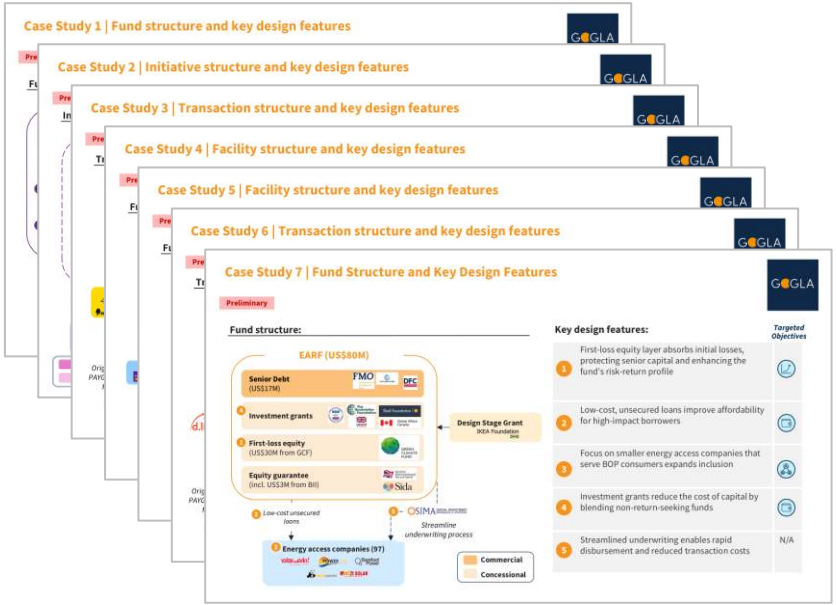
We assessed 8 OGS blended finance models in depth to understand what capital was used, how it was structured, and what problems it was designed to solve

Models assessed

1. **Mirova** - Gigaton Empowerment Fund
2. **Acumen** – Hardest-to-Reach Initiative
3. **Sun King Citi** - Securitization
4. **GreenMax Capital Advisors** - Green 4 Access (G4A) First-Loss Facility
5. **Nithio - Facility for Adaptation Inclusion & Resilience (FAIR)**
6. **AFC –** BRIGHTER Life Kenya (BLK) 1 securitization
7. **TCX Fund**
8. **SIMA** – Energy Access Relief Fund (EARF)*

* Informational interview conducted; case study not published for confidentiality reasons

Analysis of model structures (extracts)



New vehicles should mobilize more capital, direct it where commercial capital alone won't go, better align with the financing needs of OGS businesses, and be more efficient

Key objectives for blended finance vehicle design in the OGS sector

Mobilize greater volumes of capital

Go where commercial capital alone won't go

Align financing to the realities of off-grid solar businesses

Improve efficiency of blended finance

Recent case studies provide lessons to inform how stakeholders can structure blended finance mechanisms for OGS to better achieve key objectives

Objectives	Best practices from recent case studies	Example design features
1	**Anchor concessional capital with trusted sources and secure concessional tranches first**	• Anchor concessional capital with trusted sources (e.g., DFI or philanthropic capital) • Secure guarantees / first-loss before dimensioning non-grant capital
2	**Link financing to harder-to-serve customers more effectively through more targeted structures**	• Segment facilities (e.g., for new markets and first-time users vs. less risky categories) • Use impact-linked incentives to reward inclusive reach
3	**Design financing approaches that reflect the operational and financial needs of OGS businesses**	• Local currency financing • Longer tenors • Concessional pricing for particular segments
4	**Improve returns and reduce costs to funds through shared infrastructure**	• Warehousing facilities • Standardized tools
5	**Lower transaction costs**	• Standardised legal frameworks • Greater transparency of actual risks

1 Anchor concessional capital with trusted sources and secure concessional tranches first

Layering in de-risking tools from the start *such as first-loss capital or guarantees, and* ***securing anchor investments from trusted actors****, can raise investor confidence*

Citi – Sun King Securitization

- DFIs participated in the senior tranche early, which helped build investor confidence and attract commercial banks
- Junior subordinated tranche provides credit enhancement for senior tranche, absorbing initial losses to enhance senior investor risk-return alignment

2 Link financing to harder-to-serve customers more effectively through more targeted structures

*It is possible to better reach harder-to-serve customers by **segmenting facilities** (e.g., for new markets and first-time users vs. less risky categories), and/or **using impact-linked incentives to reward inclusive reach***

Acumen H2R

Hardest-to-Reach

Two distinct facilities target different risk profiles and stages of company evolution:

- **Catalyze** targets early-stage investees with flexible grant funding, equity, debt and technical assistance
- **Amplify** uses impact-indexed loans and accounts receivable facilities to help OGS companies scale up across countries and reach first-time users

3 Design financing approaches that reflect the operational and financial needs of OGS businesses

*Offering **local currency financing, longer tenors, and/or concessional pricing (specified for particular segments)** can better align with the operational realities of OGS businesses*

AFC – BRIGHTER Life Kenya (BLK) 1

- An FX hedge enabled BLK 1 to disburse financing in local currency, despite raising capital in USD, thereby reducing FX risk for d.light and its customers

Mirova – Gigaton Fund

- Gigaton offers SME loans of up to 11 years, with flexible repayment structures to match business cash flows

4 Improve returns and reduce costs to funds through shared infrastructure

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It is possible to reduce fund costs by ***building shared infrastructure like warehousing facilities*** *that multiple actors can use*

mirova
Investing in sustainability
Gigaton

Mirova – Gigaton Fund

- The absence of warehousing* pre-launch delayed capital deployment and weakened early pipeline momentum

***warehousing facility:** a temporary funding mechanism that can fund pipeline development, early-stage due diligence, and pre-launch investments, enabling funds to deploy capital immediately upon launch

5 Lower transaction costs

Standardised legal frameworks *and* ***greater transparency*** *of actual risks and business models can* ***reduce transaction costs***

Nithio - Facility for Adaptation, Inclusion and Resilience (FAIR)

- FAIR uses Nithio's AI-powered risk engine to assess borrower portfolios, enabling better credit decisions and improving visibility for senior investors

Donors, DFI/MDBs, Investors and Entreprises can collaborate to enhance the reach and impact of blended finance for off-grid solar

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Donors

Provide concessional capital (e.g. through junior equity or guarantees) focused on reaching the hardest-to-reach customer groups

DFI/MDBs

Increase the share of junior debt/equity offered, and invest early to incentivize private investors

Investors

Design financing structures that match different investor risk profiles and unlock capital for underserved market segments

Enterprises

Strengthen impact and financial attractiveness by sharing performance data, demonstrating inclusive outcomes, and building internal systems that support scale and efficiency

Collaborate to build larger, better, and more connected vehicles: develop shared tools and infrastructure, enhance transparency by sharing more data, develop co-investment structures

Section 2

The State of Blended Finance in the OGS Sector

OGS is critical for achieving universal energy access, driving inclusive development, and advancing climate goals

Energy access

OGS is needed to power **400M people** (41% of the new connections needed) between now and 2030

Economic development

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Climate goals

Electrifying schools and healthcare facilities with OGS could avoid **~0.9M metric tons of CO_2** equivalent (MTCO2e) per year and **support climate adaption**

Source: Dalberg analysis, 2024

Recent global challenges have intensified pressure on the OGS sector, compounding existing commercial barriers to serving low-income communities

The OGS sector faces ongoing barriers to reaching low-income, remote communities …

22% of off-grid households; **can afford Tier 1 OGS products**, with 78% facing affordability challenges

57% **more expensive** to serve Fragile, Conflict-affected, and Violent (FCV) or remote regions

… with recent global challenges further straining the OGS sector

Currency fluctuation[1]
Up to **300%**[2] currency devaluation

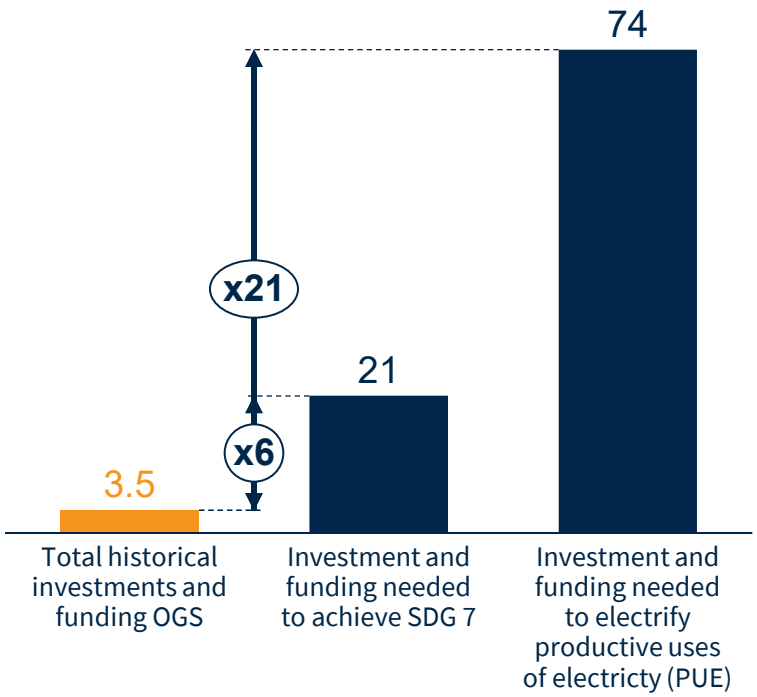
Soaring inflation
16% inflation in Sub-Saharan Africa, in 2023

High interest rates
Up to 23%[3] interest rates set by the central banks to combat inflation

Source: Dalberg analysis, 2025. Notes 1. Affordable assumes 5% of a household's income is spent on lighting and electricity. 2. Affordable at a stretch assumes 10% of monthly income is spent. 2. Including currency devaluation, depreciation and inconvertibility challenges.3. The Kenyan shilling and the Nigerian naira depreciated against the dollar by 41% and 289%, respectively, from January 2022 to January 2024. 4. In 2023, South Africa raised interest rates to 8.25%, a 14-year high, and Nigeria raised rates to 22.75%

Achieving universal energy access will require $21 billion capital, 6x the amount of capital that has been committed to date

Comparison of total historical investment and funding and future needs (USD billions)



- **Funding remains scarce and critically insufficient** to reach energy access targets
  - Achieving SDG7 will require a six-fold increase in funding
  - Electrifying PUE will require a x21 increase in investments and funding
- **Investment in OGS has slowed down**
  - Total investment in OGS declined to USD 425 million in 2023, after reaching a remarkable USD 746 million in 2022
- **An increase in OGS mergers & acquisitions indicate a trend toward consolidation and increased efficiency**
  - There have been at least 6 OGS sector M&A transactions since 2022
  - Through consolidation, larger companies can strengthen their competitive edge, streamline operations, cut operating costs
- **Scalable subsidies are needed to close persistent affordability gaps**
  - A $9B affordability gap remains; while $900M in results-based financing (RBFs) is promising, scalable subsidies are urgently needed to unlock broader market access

Source: Dalberg analysis 2024, 2024 Off-Grid Solar Market Trends Report

Blended finance mechanisms are therefore crucial to mobilize more capital and direct it toward areas where it can have outsized impact

What is blended finance?

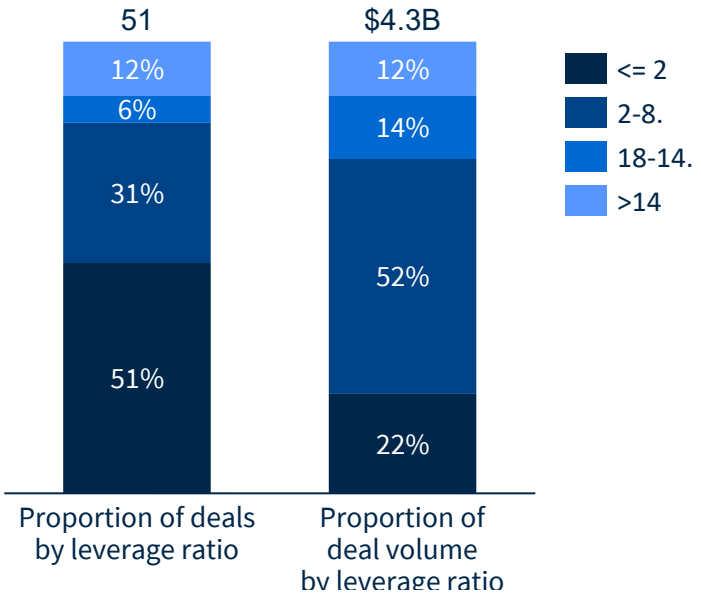
- Blended finance is a **structuring approach** to investment which enables organizations with different objectives to invest alongside each other, while achieving their own objectives (financial, impact or other)
- Definitions across the investing ecosystem **vary**, particularly based on the importance placed on mobilizing **private capital specifically**
- This report adopts a broader framing to reflect the diversity of models in the space

How can it support the OGS sector?

- **Improve affordability of capital for OGS companies**
  - Blended finance can reduce cost of capital for OGS companies by blending concessional and commercial capital, and lower FX risk through integrating local currency instruments
- **Increase leverage of concessional capital to mobilize greater volumes of commercial capital**
  - Blended finance can improve risk-return profiles of OGS investments, by using concessional capital to absorb early losses or provide loss guarantees
- **Expand inclusion of finance to reach the hardest-to-reach markets and customer groups**
  - Blended finance can be structured to intentionally direct investment toward last-mile, fragile, and low-income settings to advance universal access
- **Replicate and scale successful blended finance models**
  - Efficiency improvements and standardization can lower transaction costs and make models repeatable and scalable for sector transformation

While some mechanisms have mobilized large volumes of commercial capital, average leverage ratios remain modest across the sector

Distribution of leverage ratios for Blended Finance OGS deals (2006-2024)[1,2]



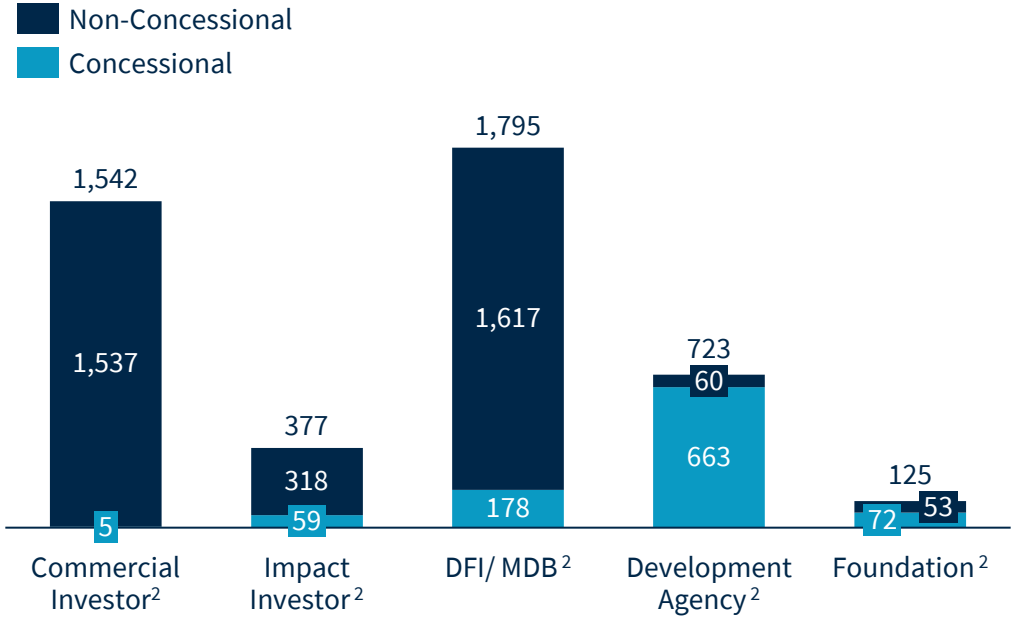
Leverage Ratio = *The amount of commercial capital mobilized by each dollar of concessional capital*[3]

- Blended finance can **mobilize large volumes** of commercial capital, including from the private sector
  - Some estimates suggest $1 of catalytic capital can leverage $8 worth of private capital[4]
- A few standout deals in the OGS sector have **achieved high leverage**
  - Nithio's Facility for Adaptation Inclusion and Resilience has reported leverage of **over 7:1**
  - Green 4 Access First Loss facility expects to exceed 18:1
- However, most OGS deals have **underperformed on leverage** and private sector mobilization
  - The median leverage ratio across 51 deals[2] is **1.9:1**
  - On average, **only 37%** of commercial capital mobilized in OGS blended finance deals comes from private investors
- This underperformance likely reflects a **combination of structural and market barriers** to commercial investment
  - OGS continues to be perceived as high-risk, with insufficient concessional capital to offset the risk
  - Returns are often modest, especially in the context of rising rates

Sources: Convergence Market Data, Historical Deals Database as of March 2025., IFC (2023) Blended Finance for Climate Investments in India. Notes: 1. Leverage ratios only calculated for deals in the Convergence database tagged as off-grid energy and for which investments disclosed by investors are >65% of the total deal amount, 2.Leverage ratios are calculated as non-concessional capital divided by concessional capital, where concessional capital includes concessional debt, equity, mezzanine finance, guarantees, and investment-stage grants, but excludes design-stage grants and technical assistance grants. 3. Commercial capital is capital that is deployed with the expectation of a market-rate financial return, and concessional capital is capital provided at below-market interest rates, 4. Private capital is capital originating from private sector entities with expectation of market-rate financial returns, 4. Catalytic capital is capital that is intentionally structured to mobilize additional investment that would not otherwise occur, it can be concessional or flexible in structure, and often absorbs higher risk or accepts lower returns

Blended finance for OGS is heavily reliant on DFIs and commercial investors, with limited participation from philanthropic and private impact-driven actors

Sources of finance for OGS Blended Finance deals (2006-2023)[1]
USD millions



- There has been some success bringing in **commercial investors**
- Despite being the largest contributors, DFIs/MDBs are primarily acting as **non-concessional investors**
  - Their dual mandate - to achieve development impact while preserving financial sustainability - often limits their risk appetite
  - As a result, they often rely on others to supply the de-risking needed to mobilize private investment
- **Development agencies are the largest source of concessional** funding, playing a crucial catalytic role
  - Their focused development mandate enables them to absorb higher risk and accept below-market or zero returns
- Foundations **remain under-engaged** despite their potential to provide concessional capital and fill critical risk gaps

Sources: Convergence Market Data, Historical Deals Database as of March 2025, Notes: 1. Excludes capital committed as guarantees and insurance mechanisms. 2. Commercial Investors: Private sector entities such as financial institutions, asset managers, corporations, and institutional investors., Multilateral Development Banks (MDBs) & Development Finance Institutions (DFIs): Publicly backed development-focused financial institutions. Development Agencies: Bilateral and multilateral donors or pooled funding vehicles. Impact Investors: Investors aiming to generate both financial returns and measurable social or environmental impact. Foundations: Philanthropic organizations and non-profits with development or impact-focused missions.

To meet universal energy goals, blended finance must therefore be complemented by other forms of capital

Preliminary

Blended finance alone is not sufficient to meet SDG goals…

USD $21.3B is needed to enable OGS to play its critical role in achieving SDG7 by 2030 – this represents a 6x increase in funding and includes an estimated $9B affordability gap to be addressed through subsidies

Blended finance investments often skew toward lower-risk markets and investments

- Low Income countries attract just $0.37 of private capital for every $1 of public financing, compared to $1.06 in lower-middle-income countries (LMICs)*
- Blended finance often prioritizes higher-return, lower-impact areas over critical areas like climate adaptation and local enterprise support

… it needs to be complemented by other forms of capital

Direct public investment and subsidies are essential to address structural gaps where private capital won't flow, such as in low-income markets or low-return areas like climate adaptation

Public finance can be used to actively shape markets, build pipelines, and fund SDG- and NDC-aligned projects.

- Portfolio-based risk sharing and conditional public-private partnerships can align commercial and developmental goals

* Overall SDG goals – not OGS specific

Sources: UN DESA, "Blended finance is not working", January 2025

Section 3

Successful Models and Lessons Learned

To maximise the impact of blended finance in the OGS sector, more capital must be directed to the places and companies that need it most, through solutions that are better aligned to the realities of OGS businesses and more efficiently delivered

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Mobilize greater volumes of capital

- Public and philanthropic capital alone is **insufficient** to reach the **~$21B needed to achieve universal energy access**
- However, commercial investors often view OGS markets as **too risky or unfamiliar** to engage at scale
- By **mobilising greater volumes of concessional capital** to absorb early losses or provide loss guarantees, blended finance can **improve risk-return profiles** and **crowd in commercial capital to the OGS sector**

Go where commercial capital alone won't go

- Capital naturally flows toward larger, more mature, urban, and lower-risk markets, **leaving rural and vulnerable populations underserved**
- Blended finance can be structured to **direct investment intentionally** toward last-mile, fragile, and low-income settings to advance equity and universal access

Align financing to the realities of off-grid solar businesses

- OGS companies operate in **challenging markets** with low-income customer base that pay in local currencies
- These companies often face high-cost debt, typically in foreign currency, creating FX mismatches and solvency risks
- Blended finance can be **structured to better match the operating realities of OGS businesses**, by offering local currency financing, longer tenors and targeted concessional pricing

Lower transaction costs of blended financing

- **High transaction costs** from bespoke structuring, legal negotiations, and due diligence slow down deployment and make small or early-stage deals commercially unviable
- **Fund operating and transaction costs can be reduced** through use of standardized templates, greater data transparency, and development of shared infrastructure like warehousing facilities

Several successful fund models have emerged in recent years, each intentionally designed to respond to priority objectives

WIP

Model	Mandate	Objectives			
		Mobilize more capital	*Go where commercial capital alone won't go*	*Align to OGS business needs*	*Lower transaction costs*
Gigaton Empowerment Fund	Accelerate the clean energy transition in Sub-Saharan Africa and South-East Asia by deploying private debt to clean energy projects & companies				
Hardest-to-Reach Initiative	Scale OGS distribution into Africa's underserved markets by providing creative financial solutions to both early stage and scaling OGS companies				
Sun King Citi Securitization	Expand access to affordable, green solar home systems for Kenyan households by providing Sun King with off-balance sheet, local currency financing				
Green 4 Access First-Loss Facility	Enable local currency financing for Productive Use of Energy Appliances and Equipment including e-mobility by partnering with local financial institutions				
Facility for Adaptation Inclusion & Resilience	Respond to the imminent need for investment in companies that sell household energy products to increase connectivity, improve livelihoods, and build climate resilience by providing a range of debt instruments				
BLK 1 Securitization	Support d.light's expansion by providing off-balance sheet, local currency financing through a receivables-backed securitization structure				
Energy Access Relief Fund	Address urgent liquidity challenges faced by energy access companies as a result of the COVID-19 pandemic by providing low-cost, flexible loans				
TCX	Mitigate currency risk for international and local borrowers by providing long-term, local currency hedging solutions in frontier markets				

Priority objective

The different fund models often combine multiple types of blended finance structures, each playing a different role in mobilizing capital and supporting the OGS sector

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Types of blended finance structures

Concessional capital	Guarantees/ Risk Insurance	Technical Assistance Funds	Design-Stage Grants	Results-based Finance
Public or philanthropic investors provide funds on below-market terms within the capital structure to lower the overall cost of capital or to provide an additional layer of protection to private investors	Public or philanthropic investors provide credit enhancement through guarantees or insurance on below-market terms	Transaction is associated with a grant-funded technical assistance facility that can be utilized pre- or post-investment to strengthen commercial viability and developmental impact	Transaction design or preparation is grant funded (including project preparation or design-stage grants)	Funding is tied to the achievement of pre-agreed outcomes, with disbursements made only when specific, measurable results such as improved health or education are delivered
Structure: Commercial Debt / Equity; Concessional Capital	Structure: Guarantee / Insurance; Debt / Equity	Structure: Debt / Equity; TA Facility	Structure: Prep / Design Grant; Debt / Equity	Structure: Debt / Equity; Outcome Funders
Reduces cost of capital and attracts private investment to high-impact projects	Mitigates perceived or actual risk to crowd in private investors	Strengthens investee capacity and improves project bankability	Covers high upfront design costs that deter early-stage investment	Enhances the financial sustainability of impact projects by compensating positive outcomes

Sources: Convergence Blended Finance Primer, Temasek Trust: How Blended Finance can Create Meaningful Change

Recent case studies provide lessons to inform how stakeholders can structure blended finance mechanisms for OGS to better achieve key objectives

Objectives	Best practices from recent case studies	Example design features
1	**Anchor concessional capital with trusted sources and secure concessional tranches first**	• Anchor concessional capital with trusted sources (e.g., DFI or philanthropic capital) • Secure guarantees / first-loss before dimensioning non-grant capital
2	**Link financing to harder-to-serve customers more effectively through more targeted structures**	• Segment facilities (e.g., for new markets and first-time users vs. less risky categories) • Use impact-linked incentives to reward inclusive reach
3	**Design financing approaches that reflect the operational and financial needs of OGS businesses**	• Local currency financing • Longer tenors • Concessional pricing for particular segments
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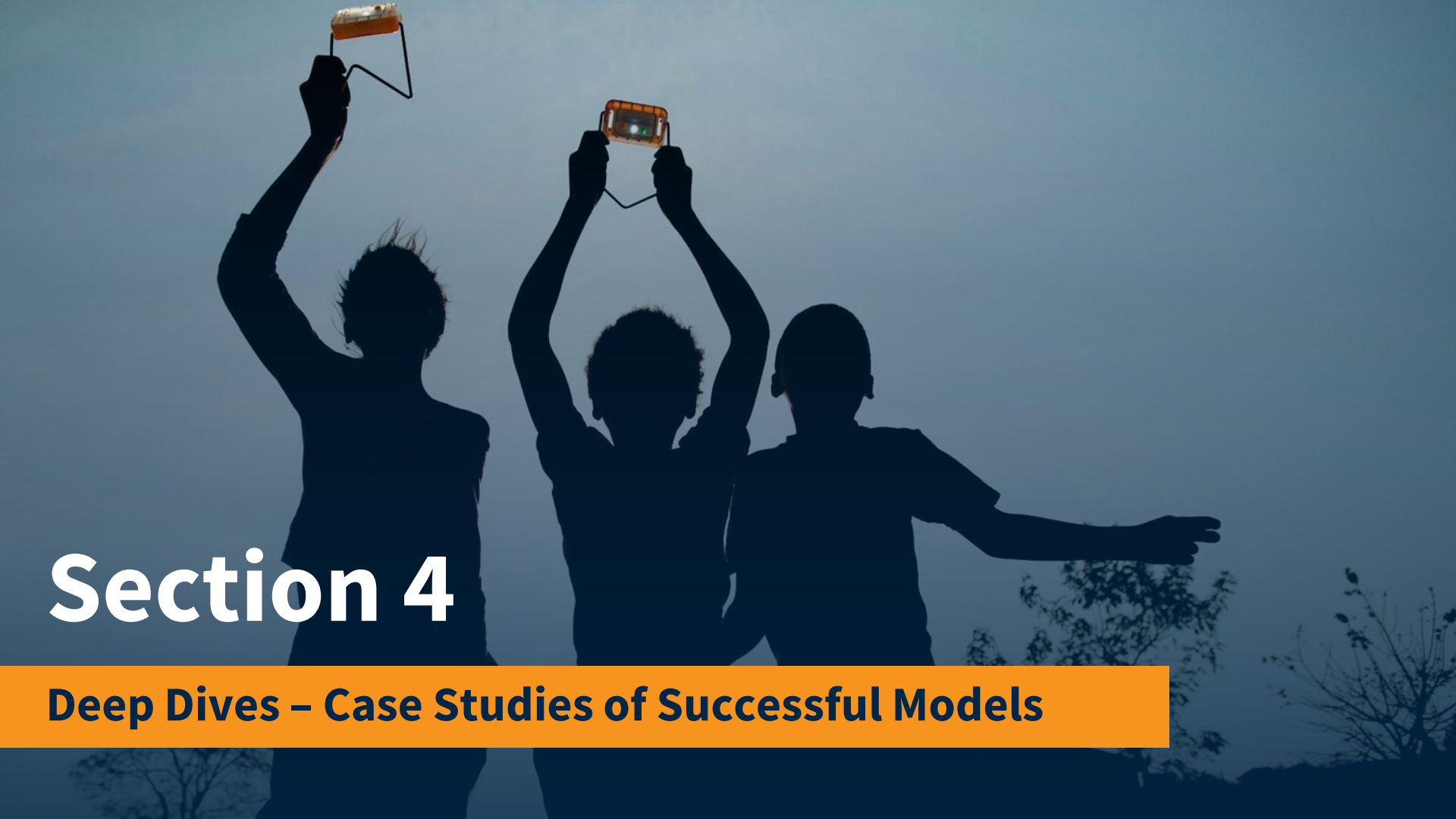


Section 4

Deep Dives – Case Studies of Successful Models

Case Study 1 | Mirova Gigaton Fund

Mandate	**Mirova Gigaton Fund aims to accelerate the clean energy transition** in Sub-Saharan Africa, South-East Asia and Latin America by providing **private debt deployment** to distributed clean energy and other innovative climate projects and companies

Objectives:

Mobilize more capital

- Mobilize conventional private investors by reducing risk through **first-loss capital**

Go where commercial capital alone won't go

- **Advance gender inclusion by embedding a** gender lens across the investment process, including screening and assessing investees against the 2X Criteria[1], and setting portfolio-level targets for women-led companies

Align to needs of OGS business

- **Support access to capital for SME borrowers** by enabling investments that might otherwise be considered too risky, with longer loan terms

Improve efficiency

- *Not a priority objective for Gigaton Fund*

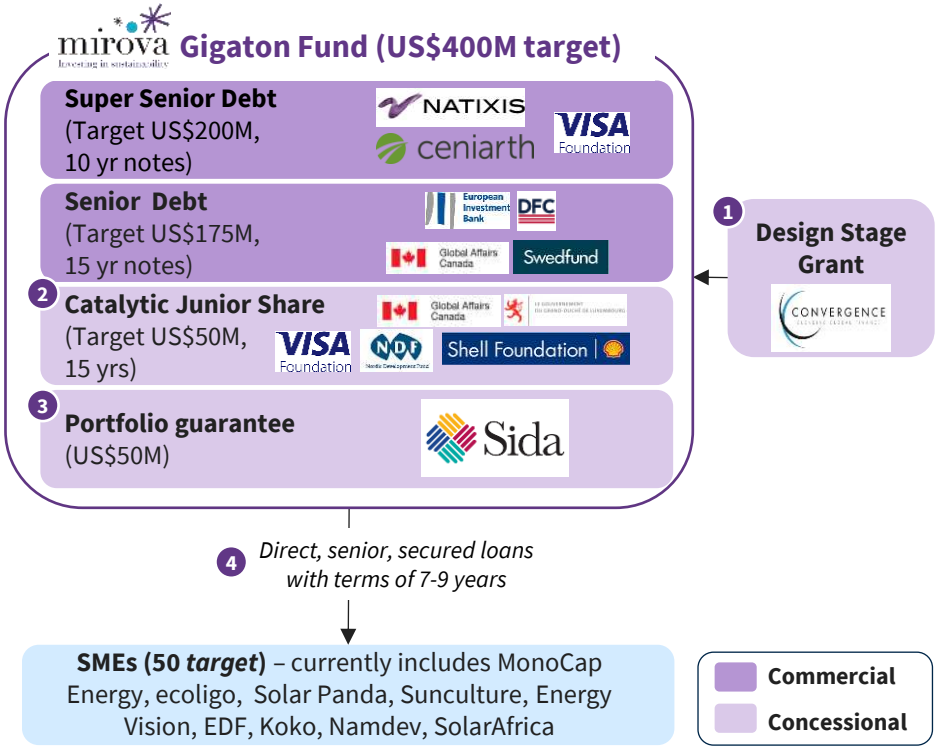
Fund details:

Fund vintage	• 2023
Fund size	• Target US$400M
Fund tenor	• 15 years
Ticket size	• Average US$10M
Stakeholders	• **Fund manager**: Mirova (ex-Sunfunder) • **Investors and capital providers:** Natixis, Ceniarth, DFC, Swedfund, Visa Foundation, EIB, Global Affairs Canada, Nordic Development Fund, Sida, Shell Foundation
Financial toolkit	• Super senior debt, senior debt (mezzanine), catalytic junior shares, portfolio guarantee
Target geographies	• Sub-Saharan Africa (60%), South-East Asia (30%), Latin America (10%)
Target technologies	• Commercial and industrial (30%), e-mobility (15%), telco ESCO (15%), mini-grid (10%), agri-solar (7.5%), other (7.5%)

1. A global standard that recognizes businesses advancing women through ownership, leadership, employment, or gender-focused products and services), 2. 'Other' includes other clean energy, energy efficiency and non-energy climate finance (e.g., climate-smart food and water projects)

Case Study 1 | Fund structure and key design features

Fund structure:



Key design features:

		Targeted Objectives
1	Design Stage Grant from Convergence funded Gigaton to i) integrate a **gender lens into** fund development and deployment, ii) conduct **marketing and dissemination activities** to find investors, and iii) support **fund development in Asia**	
2	Junior equity layer **absorbs initial losses**, protecting senior investors and enhancing risk-return alignment	
3	Partial guarantee (via Sida) **mitigates credit risk** for the junior tranche	
4	Loan terms of **up to 11 years**, with amortization aligned to OGS SME cash flows	

Case Study 1 | Challenges addressed - The design features address challenges related to fund development capacity gaps, investor risk appetites, and capital affordability

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Design feature	Challenge addressed
1 The **design stage grant** supported **critical early activities** including integrating a gender lens, and conducting investor outreach, particularly in Asia	Fund managers sometimes face **capacity gaps** related to fund structuring, integrating impact frameworks, and investor engagement, impacting development and launch
2 Gigaton Fund includes a **junior equity first loss tranche** which **absorbs any initial losses** to protect senior investors and improve the fund's **risk-return profile**	**Conventional commercial investors** often perceive the OGS sector as **too high-risk**, and are reluctant to enter without credit enhancement
3 SIDA provides a **partial portfolio guarantee** providing risk mitigation for the junior tranche	Even concessional investors have **risk-return requirements** and may be unwilling to provide support without risk-sharing mechanisms
4 Gigaton Fund offers **loan terms of up to 11 years**, with some amortization, making loan terms aligned with SME cashflow timelines	Developers struggle to find capital **aligned with their timelines** (often 10+ year payback periods), as some lenders are unable to provide longer tenors to support project financing needs

Case Study 1 | Fund outlook - Mirova Gigaton Fund has had mixed success in capital raising, but is on track to meet its impact targets

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Capital Raising & Deployment Performance

- Gigaton Fund has had some success in capital raising against its targets between the different tranches:
  - **Catalytic junior share: US$50M** raised, with success based on strong impact alignment
  - **Senior debt: US$210M** raised**,** driven by Mirova's track record and long-term relationships, its broad geographic and sector scope and narrow clean energy mandate, and the level of risk protection from the catalytic junior share and portfolio guarantee
  - **Super senior debt: US$70M** raised, with some impact due to less competitive senior rates following a rise in market rates from mid-2022

    Leverage ratio achieved (i.e. commercial to concessional)**:** 5.8:1[1]
- Gigaton has disbursed **over US$100M,** with **over US$130M committed**
  - Country instability and currency volatility made initial pipeline deployment challenging, especially in SSA

    Align with OGS business needs: Loans offered typically for up to 11 years

    Impact: On track to meet target of 10+ women-led and/or owned portfolio companies

Impact Outcomes

- As of H2 2025, Gigaton deployment is **on track with the fund's impact targets:**
  - **4.6M** will get energy access for the first time
  - Of the 4.6M first-time energy users, **50%** will be women
  - **8M t of CO_2 emission** avoided
  - **Up to 60K** jobs created directly/indirectly by the fund's activities

1. Leverage ratio calculated as total commercial capital raised/ total concessional capital raised, excluding guarantees. Concessional capital is defined by Convergence as funding from public or philanthropic sources that has low or no return expectations, or is willing to take on outsized risk. It is used in blended finance transactions to improve the risk-return profile and attract commercial capital that would not otherwise participate.

Case Study 1 | Lessons learned - The fund offers a set of best practices and lessons learned to inform future facilities aiming to mobilize private investment at scale

Key objective	Lesson Learned
Mobilize more capital	• **Floating interest rates can help attract a broader range of private investors** – Gigaton's fixed term rates were competitive in a low-rate environment, but meant less flexibility during a rising rate environment to meet some institutional investors' return expectations, while remaining attractive for other private investors focused on impact and the relatively low risk structure
Go where commercial capital alone won't go	• **Providing grants can support fund mangers in creating and implementing investment approaches that intentionally target underserved populations, including women** – The design stage grant enabled Gigaton to develop a gender lens investing framework, but there was a lack of funding for technical assistance provided to investees to improve their action on gender
Align to needs of OGS business	• **Mirova experienced robust demand from off-grid solar companies for competitive debt financing**, including at smaller ticket sizes than Gigaton can provide
Improve efficiency	• **A warehousing facility can enable timely deployment and reduce early-stage capital constraints, although they may require blended finance to address perceived risk** – Warehousing facilities can enable funds to deploy capital pre-launch and thereby reduce operational costs and reliance on junior capital, by acting as a temporary funding mechanism for pipeline development, early-stage due diligence and pre-launch investments – However, Mirova found that potential warehousing providers viewed the OGS sector's risk profile as challenging, suggesting warehousing solutions may themselves require blended finance to de-risk

Case Study 2 | Acumen's Hardest-to-Reach (H2R) Initiative

Objective	**Acumen's Hardest-to-Reach (H2R)** aims to scale OGS distribution into Africa's underserved markets by providing a holistic solution to OGS companies in some of the world's most challenging countries

Objectives:

Go where commercial capital alone won't go & Align to needs of OGS businesses

- **Extend finance to 17 Sub-Saharan African most challenging markets**[1] through two unique investment facilities, which enable tailored solutions to expand energy access to underserved communities
- **Incentivize companies to retain focus on underserved customers** through the use of impact-linked loans

Mobilize more capital

- Mobilize private investors by reducing risk **through inclusion of first-loss capital**

Improve efficiency

- **Demonstrate proof of concept** for investment approaches targeting hardest-to-reach markets

Initiative details:

	H2R Catalyze[2]	***H2R Amplify***[2]
Launch date	• 2024 (1st full year)	• 2025 (pre-launch)
Size	• Target US$50M+[3]	• Target US$200M
Tenor	• 10 years	• 10 years
Ticket size	• Up to US$5M	• US$3M-20M
Funder profiles	• Institutional funders, development agencies, Climate & Energy access investment platforms, HNWIs/ family offices	• **Risk-bearing:** Catalytic investors, dedicated climate fund, impact-oriented investors **Commercial:** Institutional investors, DFIs, impact-oriented private investors
Financial toolkit	• Catalytic capital deployed as tailored funding solutions	• Tiered tranches deployed as impact-indexed loans
Target geographies	• Sub-Saharan Africa, 17 countries selected based on lowest electrification rates and highest poverty rates[1]	
Target tech	• Off-grid solar (e.g., SHS, mini-grids, emerging technologies)	

1. Benin, Burundi, Burkina Faso, Chad, the Democratic Republic of Congo, Guinea, Guinea Bissau, Lesotho, Liberia, Malawi, Mozambique, Niger, Sierra Leone, Somalia, Togo, Uganda, and Zambia.

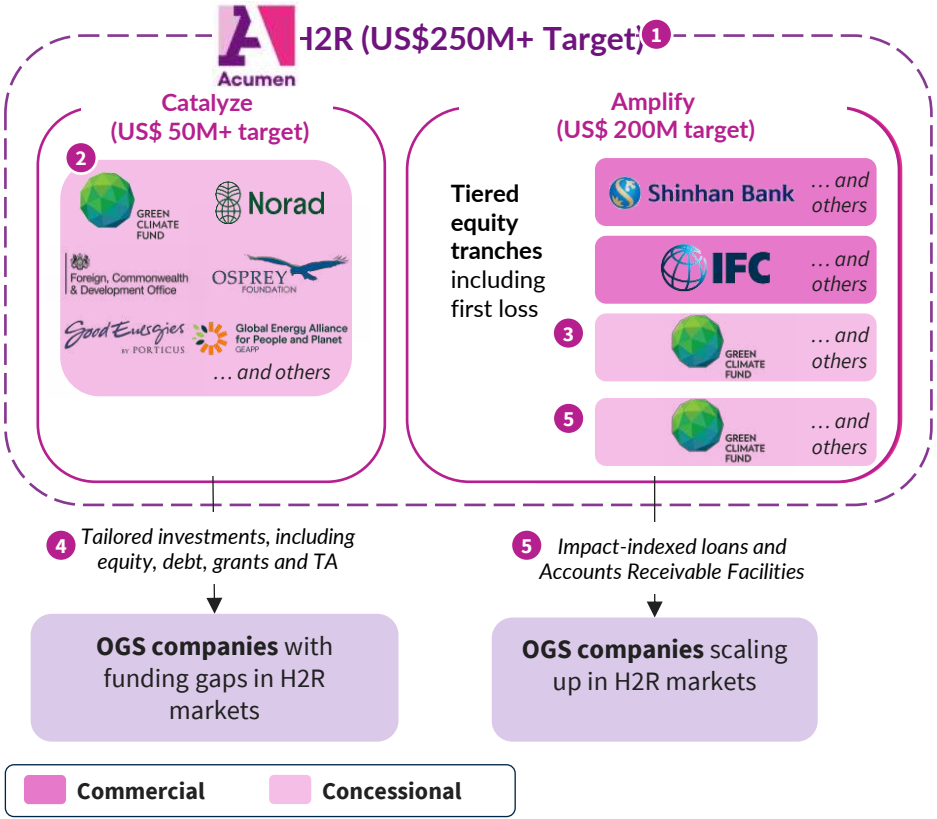
2. Formerly H2R Development Facility & H2R Expansion Fund

3. Catalyze overachieved its initial $50M fundraising target and is raising further funds due to the significant need that it sees for

Case Study 2 | Initiative structure and key design features

Preliminary

Initiative structure:



Key design features:

		Targeted Objectives
1	H2R is split into **two independent financing mechanisms**, addressing **different capital gaps** in the sector and aligning with **varying investor risk appetites**	
2	H2R Catalyze is **funded with catalytic capital** enabling **customized approaches** that can unlock deeper and broader impact, with positive return expectations	
3	Junior equity layer **absorbs initial losses**, protecting senior investors and enhancing risk-return alignment	
4	Catalyze provides **tailored investments** based on **company needs,** including equity, debt, grants and technical assistance	
5	H2R Amplify **provides impact-indexed loans** with **grant-funded interest subsidies**, reducing rates from market levels to a lower rate, based on companies' delivery against KPIs, including energy access to first-time users	

Case Study 2 | Challenges addressed - The initiative's design features address challenges related to supporting investees in undeserved markets

Preliminary

	Design feature	Challenge addressed
1	H2R is split into **two independent financing mechanisms**, addressing **different capital gaps** in the sector and aligning with **varying investor risk appetites**	Expanding energy access in H2R markets requires support for early-stage and scaling companies, whose **differing capital needs and risk profiles** make it hard to attract investors with a **single approach**
2	Catalyze is **funded with catalytic capital** enabling **customized approaches** that can unlock deeper and broader impact, with positive return expectations	In H2R markets, plugging the financing gap can require approaches that are **too high-risk for most investors** or involve backing companies that are too nascent to attract commercial funding, creating a **critical need for flexible and patient capital**
3	Amplify includes a junior equity tranche which **absorbs any initial losses** to protect senior investors and improve the fund's risk-return profile	**Commercial investors** perceive the OGS sector, particularly the H2R markets, as **too high-risk**, and are reluctant to enter without credit enhancement
4	Catalyze provides **tailored investments** based on **company needs,** including equity, debt, grants and technical assistance	Companies in H2R markets face **structural barriers beyond conventional capital** making it difficult for them to grow or attract investment without tailored support
5	Amplify **provides impact-indexed loans** with **grant-funded interest subsidies**, reducing rates from market levels to a lower rate, based on companies' delivery against KPIs, including energy access to first-time users	Developers **lack sufficient incentive** to expand into the hardest-to-reach, low-income communities which is 57% more expensive to serve

Case Study 2 | Initiative outlook – H2R is on track to achieve its capital raising targets and is expected to support first time energy access for millions of people

Capital Deployment

- To date, H2R Catalyze has committed **US$12M** to **8** companies and exited 1.
- It has also supported companies with **US$1.8M** in TA/ grants— from providing enterprise development support to more market building initiatives like carbon credit projects and developing new receivables structures.

Initial impact results are strong:

- Existing investments have brought energy access to **350,000 people to date** and are forecasted to bring energy access to **2.5 million people in total** from this portfolio alone
- 80% of customers are accessing energy for the first time
- 57% are living below the poverty line
- 5 out of 7 of portfolio companies and 90% of capital committed (in $) is 2X criteria compliant and addressing the gender gap

Impact Outcomes

- **Once fully launched**, **H2R overall** aims to achieve two main impact targets:
  - Electrify ~**70 million** people, at least **75%** for the first time
  - Avoid **4 million** tons of C02

Case study 2 | Lessons learned – H2R offers a set of lessons learned to inform future facilities aiming at supporting investment for underserved markets

GOGLA

Key objective	It's still early days, but these are some lessons learned to date
Go where commercial capital alone won't go & Align to needs of OGS businesses	• **Tailored financial instruments** including **impact-linked debt** can help support expansion into hard-to-reach markets – Impact-linked loans are expected to incentivize companies to expand into hard-to-reach areas • **Concessional capital can provide the flexibility needed to support companies grow in fragile markets** – H2R Catalyze can also provide early-stage companies with wrap-around support needed to grow or more mature companies risk capital to enter nascent, fragile markets • **Local currency solutions can address FX risk for companies operating in underserved markets** – Currency mismatch is a persistent constraint, with investors providing hard currency while revenues are local. H2R Catalyze addressed this in Malawi by combining a non-deliverable hedge with a subsidy to offset hedge costs. However, convertibility remains a barrier in the broader market, highlighting the need for more local currency solutions
Mobilize more capital	• **Concessional capital funds can crowd in significant additional funding and unlock far more impact than stand alone investments** – The provision of first-loss capital has enabled conventional investors to invest in markets they would not usually have considered
Improve efficiency	• If structured properly, **blended structures** can **unlock investor participation but require upfront effort to navigate varied investor expectations** – As each blended finance structure is unique, there is often a learning curve, and it can take time for investors to align around expectations and become familiar with the nuances.

Case Study 3 | Citi-Sun King Kenyan Shilling Securitization Transaction

Mandate	The Sun King–Citi securitization transaction aims to **expand access to clean and reliable solar energy solutions for Kenyan households and businesses** by providing Sun King with local currency financing via **securitization**

Objectives:

Align to OGS business needs

- **Reduce Sun King's exposure to FX risk** by providing funding in local currency (Kenyan Shillings)

Mobilize more capital

- **Mobilize commercial and DFI capital by providing junior loan note** to de-risk senior loan notes, and raise capital through a sustainability framework enabling investors to tap into ESG-focused funding

Go where commercial capital alone won't

- *Not a priority objective for this transaction*

Improve efficiency

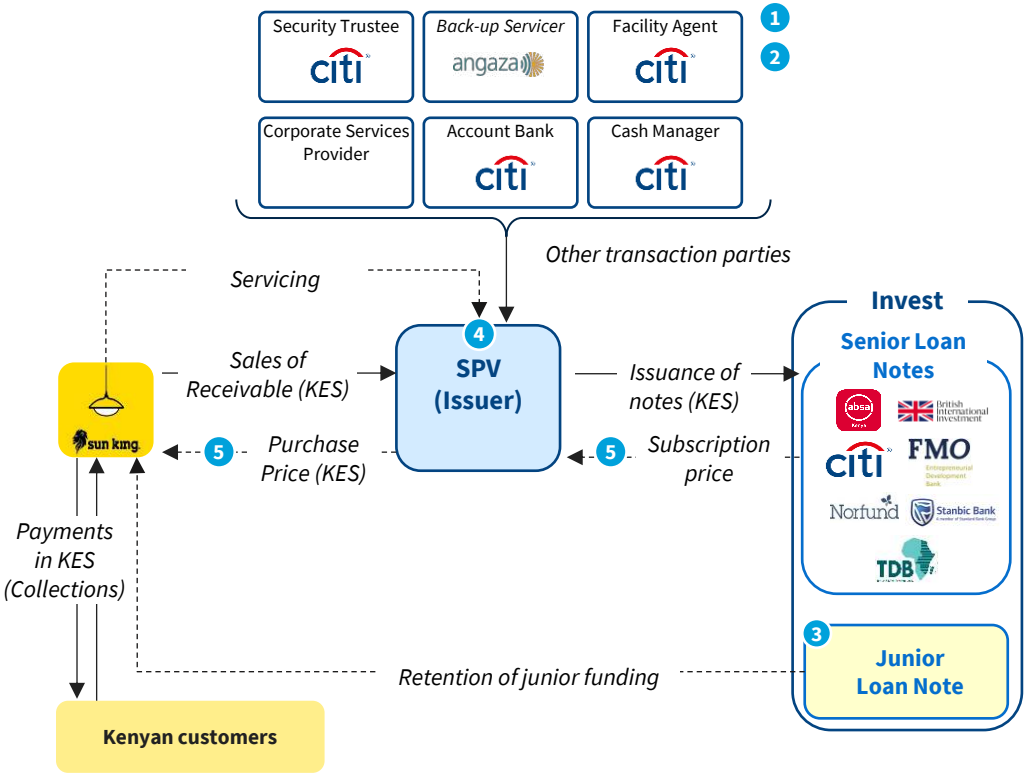
- **Lay groundwork for future securitization deals** by creating and testing a replicable legal framework

Transaction details:

Launch date	• 2023
Transaction size	• KES 17.8 billion (USD 130 million equivalent)
Stakeholders	• **Originator:** Sun King • **Arranger / Lead:** Citi • **Senior loan notes:** Citi, FMO, Norfund, BII, Standard Bank Kenya, ABSA Kenya, TDB • **Junior loan note:** Sun King
Financial toolkit	• Securitization
Target geographies	• Kenya
Target technologies	• OGS solar energy solutions for households and businesses

Case Study 3 | Transaction structure and key design features

Transaction structure:



Key design features:

		Targeted Objectives
1	Citi acted as **Sole Arranger, Lead Placement Agent and Senior Noteholder** on a **syndicated warehouse facility** backed by Kenya OGS receivables originated by Sun King Kenya; this was a **first-of-its-kind** deal, creating a replicable architecture that can serve as a tailorable template for future securitizations	
2	Citi advised the company on its inaugural Sustainable Financing Framework, which was evaluated by Moody's and given an SQS2 rating; this enabled investors to classify the deal as sustainable and tap into **ESG mandated funding**	
3	Junior loan notes provides **credit enhancement** for senior loan notes, absorbing initial losses to enhance senior investor risk-return alignment	
4	SPV established as a **separate legal entity**, enabling the receivables to sit off-balance sheet and contain associated risk, thereby preserving Sun King's capacity to raise additional capital	
5	The **subscription price to the SPV was in KES ,** and passed on as **purchase price in KES to Sun King**, reducing **FX exposure** and allowing Sun King to reinvest in growth without waiting for customer repayments	

Case Study 3 | Challenges addressed - The design features address challenges related to local currency risk, investor risk perception and lack of standardized structures

GOGLA

	Design feature	Challenge addressed
1	Citi acted as **Sole Arranger, Lead Placement Agent and Senior Noteholder** on a **syndicated warehouse facility** backed by Kenya OGS receivables originated by Sun King Kenya; this was a **first-of-its-kind** deal, creating a replicable architecture that can serve as a tailorable template for future securitizations	**Lack of standardized structure**s and legal frameworks **increases transaction costs** and **slows down development** of similar deals
2	Citi advised the company on its inaugural Sustainable Financing Framework, which was evaluated by Moody's and given an SQS2 rating; this enabled investors to classify the deal as sustainable and tap into **ESG mandated funding**	Commercial investors are often hesitant to invest in OGS, but have dedicated ESG pools of funding that must be invested in sustainable projects/ investees
3	Junior loan notes provides **credit enhancement** for senior loan notes, absorbing initial losses to enhance senior investor risk-return alignment	**Commercial investors** perceive the OGS sector as **too high-risk**, and are reluctant to enter without de-risking tools
4	SPV established as a **separate legal entity**, enabling the receivables to sit off-balance sheet and contain associated risk, thereby preserving Sun King's capacity to raise additional capital	Holding customer receivables on balance sheet **limits PAYGO companies' ability to raise capital,** as it **blends consumer credit risk with core business performance**
5	The **subscription price to the SPV was in KES ,** and passed on as **purchase price in KES to Sun King**, reducing **FX exposure** and allowing Sun King to reinvest in growth without waiting for customer repayments	Many investors provide funding in hard currency while companies earn in local currency, **creating FX risk**. Also, **companies relying on customer repayments** face working capital delays, limiting their ability to fund operations and reinvest in growth

Case Study 3 | Transaction outlook and lessons learned – The transaction has raised millions for Sun King and offers lessons for future securitization transactions

GOGLA

Capital Raising and Deployment Performance

- The syndicated **KES 17.8 billion warehouse facility (USD 130 million equivalent)** is backed by a granular portfolio of OGS and other receivables extended to Kenyan borrowers

Impact outcomes

- The SPV has funded solar PAYGO contracts, enabling energy access for **1.2 million** low-income customers in Kenya, including **600,000 women**

Structured for OGS needs: Local currency funding has reduced FX risk for Sun King

Efficiency: The deal has established a replicable legal framework for future securitizations in Kenya and other markets

Key lessons learnt

Align to OGS business needs	• **N/A**
Mobilize more capital	**Early DFI involvement can catalyse commercial participation** • DFIs participated in the senior tranche early, which helped build investor confidence and attract commercial banks **Sustainability ratings can unlock ESG capital from commercial investors** • Using a second-party opinion from Moody's to validate a sustainability framework enabled investors to classify the transaction as "sustainable," and access ESG capital pools
Go where commercial capital alone won't	• N/A
Improve efficiency	**Philanthropic grant capital can help offset one-off costs for creating reusable frameworks and templates** • Significant upfront time and cost were spent on legal setup and due diligence **Investor alignment and flexibility are critical to avoid delay** • Negotiations were delayed by inconsistent arbitration clauses governance asks and approval timelines across investors

Case Study 4 | Green 4 Access first loss facility

Objective	**Green 4 Access aims to enable local currency** financing for Productive Use of Energy Appliances and Equipment including e-mobility by partnering with local financial institutions (FIs)

Objectives:

Align to OGS business needs

- **Reduce FX exposure and cost of capital for** DESCO consumers by providing concessional first-loss capital to local FIs to incentivize local currency lending and enable the pass-through of cost savings

Mobilize more capital

- **Mobilize local private capital** by providing **easily accessible first loss guarantees** to local financial institutions to reduce risk and encourage on-lending

Go where commercial capital alone won't

- *Not a priority objective for G4A*

Increase efficiency

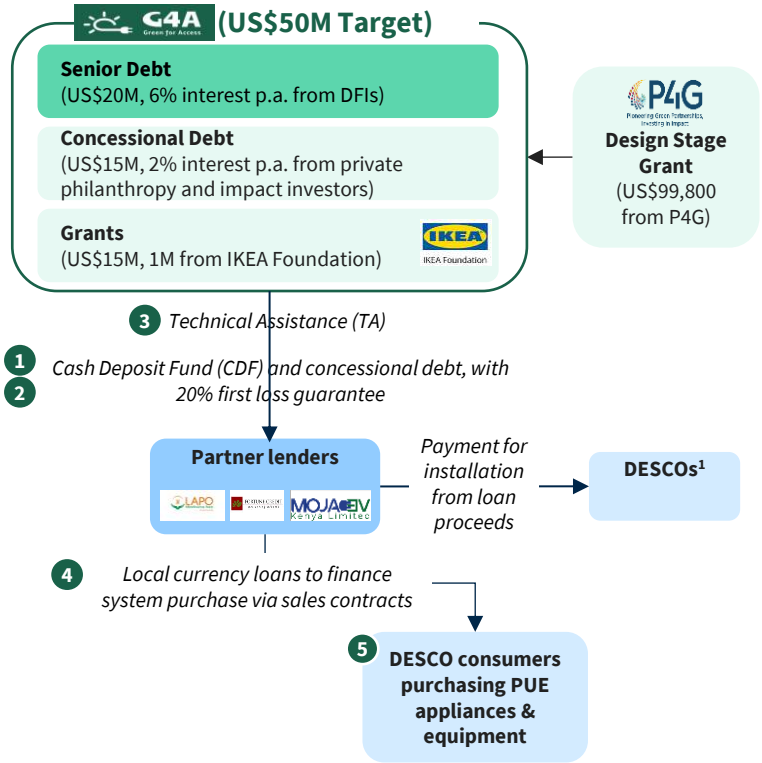
- *Not a priority objective for G4A*

Fund details:

Fund vintage	• Currently in pilot phase
Fund size	• Target US$50M
Fund tenor	• 12 years
Ticket size	• US$250,000-5M
Stakeholders	• **Fund manager**: GreenMax Investment Managers • **Grant providers**: IKEA Foundation (US$1M), P4G (US$99K)
Financial toolkit	• Technical assistance, concessional debt, cash deposits, first-loss protection
Target geographies	• Sub-Saharan Africa: Kenya, Nigeria, Mauritania, Senegal, Mali, Burkina Faso, Ghana, Togo, Benin, Niger, Uganda, Rwanda, Tanzania, Malawi, DRC
Target technologies	• Productive use of energy appliances and equipment: agriculture (30%), solarization of social infrastructure (40%), e-mobility (30%)

Case Study 4 | Facility structure and key design features

Fund structure:



Key design features:

		Targeted Objectives
1	**G4A offers 20% first-loss guarantees,** covering 100% of principal losses on individual loans, up to 20% of a lender's energy access portfolio. Guarantees are **immediately available** upon G4A's claim verification. • For FIs, the guarantee is held as a **CDF** – G4A earns interest on the deposit and charges an annual fee. Verified losses can be **withdrawn directly**. • For MFIs, the guarantee is a **concessional loan.** At maturity, the MFI repays the principal minus verified losses.	
2	G4A provides **concessional debt** to MFIs, requiring them to **pass on savings** to consumers at interest rates 500-800 bps below market	
3	TA support FIs/ MFIs to **identify viable DESCOs** and **broker partnerships**	
4	Local FIs/ MFIs lend **directly in local currency,** taking on the FX risk	
5	G4A's portfolio is focused entirely on supporting the purchase of **PUE appliances and equipment**	

1. DESCOs include SunCulture, Roam, eWAKA, Baobab+, Sun King, Koolboks, Agsol, Tulima Solar, Eja Ice

Case Study 4 | Challenges addressed - The fund's design address challenges related to local FI risk appetites and capacity, high cost of capital and local currency risk

	Design feature	Challenge addressed
1	G4A provides **20% first-loss guarantees** to FIs/MFIs reducing their risk exposure. These guarantees are held by the lender as cash deposits or loans, ensuring **fast fund access** after default	FIs and MFIs perceive PUE lending as **too high-risk**, and small loan sizes hinder portfolio profitability. Traditional guarantees that tackle risk are **often slow and complex**, discouraging uptake and delaying recovery when defaults occur
2	G4A offers **concessional debt to MFIs** and requires that **cost savings be passed on** to end-users through lower interest rates (500-800 bps below market rate)	MFIs often operate with a **high cost of capital**, resulting in **unaffordable loan terms** for low-income customers and limiting uptake of clean energy technologies
3	G4A leverages GreenMax Capital's market intelligence to **identify vetted DESCOs** and **actively broker partnerships** between them and lenders	Local FIs often **lack climate finance knowledge** and **visibility of key OGS actors,** limiting their ability to effectively engage in the sector, and leading to underutilization of available credit lines and guarantees
4	G4A supports local FIs/MFIs to **lend directly in local currency**, enabling international lenders to support lower cost local currency finance without being exposed to FX risk	International lenders are often unwilling to **take on foreign exchange risk**, and hedging solutions can be prohibitively expensive
5	G4A has a **100% PUE technology portfolio limit** to lower asset risk and align with the **lower risk appetites** of its partner financial institutions	Non-productive use appliances can have **weaker repayment performance**, as users may have **less incentive to repay** when the asset is not tied to income, **limiting attractiveness** for lenders with lower risk appetites

Case Study 4 | Fund outlook - G4A's pilot shows strong early financial performance, with ambitious goals for future capital mobilization and impact

Capital Raising & Deployment Performance

- G4A is targeting a **US$50M** fund capitalization, with 60% concessional capital. The amount from IKEA Foundation has been disbursed
- From this base, G4A aims to mobilize **US$908.6M** in energy access loans by leveraging and recycling private capital:
  - 20% first-loss protection enables **5x leverage for every dollar** deployed to FIs and MFIs
  - Short-term loan cycles (18–24 months) **allow 6 rounds of capital recycling** over the fund's 10-year investment period
  - The target includes **conservative adjustments** to account for expected defaults and loss provisioning

Implied leverage ratio on concessional capital: >18:1, due to combined effects of leverage and recycling

Structured for OGS needs: Loans provided at interest rates 500-800 bps below market

Impact Outcomes

- G4A is still in pilot phase, but once fully launched aims to achieve three main impact targets:
  - **115MW** clean capacity generated
  - **10M** tonnes of Co2e avoided
  - **1.5M** PUE appliances supported

Case Study 4 | Lessons learned - G4A offers a set of lessons learned to inform future facilities aiming to support local currency lending in the OGS sector

Key objective	Lesson Learned
Align to OGS business needs	• **Providing technical assistance and dedicating time to FI negotiation can encourage local FIs to provide local currency lending in the OGS sector** – Despite the provision of the first-loss guarantees OGS was not a strategic priority for Tier 1/2 commercial banks – G4A had to spend time providing TA and negotiating to build understanding and capabilities for OGS lending, align on objectives, and secure participation
Mobilize more capital	• **Structuring first-loss guarantees that are quickly accessible to lenders** can reduce local lender risk concerns and reduce recovery delays • **Aligning portfolio limits with target investor risk appetites** can act as a lever to attract risk-sensitive capital
Go where commercial capital alone won't	• N/A
Improve efficiency	• N/A

Case Study 5 | Nithio's Facility for Adaptation, Inclusion and Resilience (FAIR)

Objective	FAIR was created to respond to the **imminent need for investment** in companies that sell household energy products to increase connectivity, improve livelihoods, and build climate resilience by providing a range of debt instruments

Objectives:

Align to OGS business needs

- **Reduce cost of capital particularly for Tier 2/3 companies** by providing blended finance, often in local currency

Mobilize more capital

- **Mobilize commercial capital** by improving risk-return profile through first-loss capital and building investor confidence through AI-powered analytics to provide more accurate credit risk assessment

Go where commercial capital alone won't

- **Provide finance to companies with revenue <US$25m** ("Tier 2 / 3") who are critical to reaching last-mile customers but remain underfunded compared to larger companies

Improve efficiency

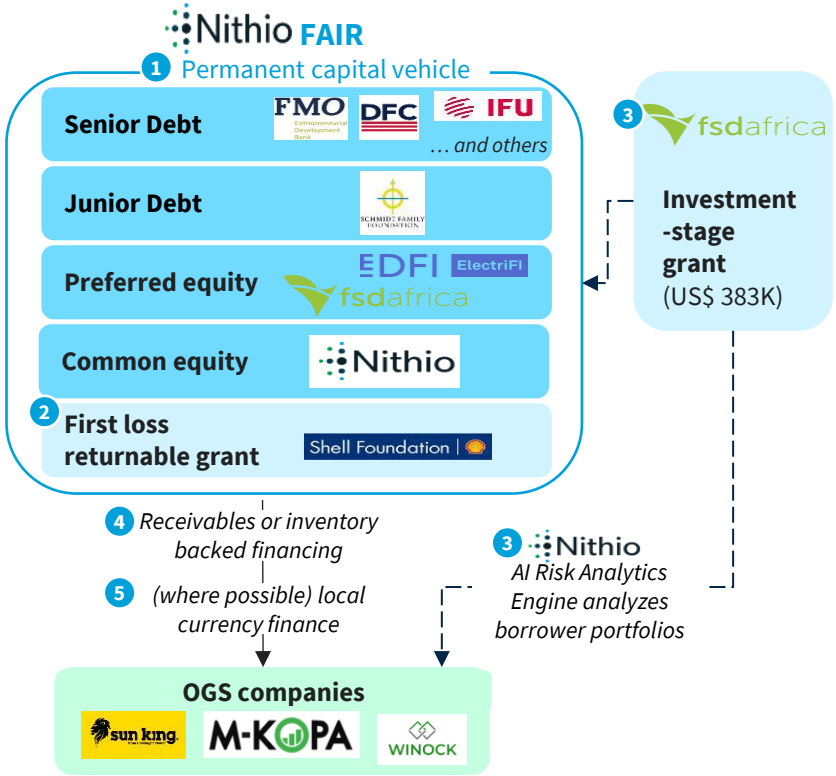
- *Not a priority objective for FAIR*

Initiative details:

Launch year	• 2021
Facility size	• Target US$100M+
Facility tenor	• Open-ended
Ticket size	• US$1-8M
Investor profiles	• **Concessional:** Shell Foundation, FSDAi, ElectriFI • **Commercial:** FMO, DFC, IFU …*and others*
Financial toolkit	• Concessional capital, receivables and inventory financing, local currency financing
Target geographies	• East, Central and West Africa
Target technologies	• Solar home systems, solar productive use products, e-mobility, small scale commercial & industrial

Case Study 5 | Facility structure and key design features

Fund structure:



Key design features:

		Targeted Objectives
1	The facility is structured as a **permanent capital vehicle**	
2	First loss returnable grant layer protects senior investors and improves the vehicle's **risk-return profile**	
3	Investment-stage grants enable the use of **Nithio's Risk Analytics Engine** to analyze borrower portfolios, supporting **risk-informed investment decisions** for FAIR while providing companies with revenue <US$25m with data-driven insights to **strengthen portfolio quality** and financial performance	
4	FAIR mainly provides **receivables or inventory backed financing** with **loan terms aligned with OGS companies' client repayment cycles**	
5	Where available, FAIR provides **local currency finance** through **FX hedging or local bank partnerships**	

Case Study 5 | Challenges addressed – The fund's design addresses challenges related to investor confidence, working capital constraints, and FX risk

Design feature	Challenge addressed
1 The facility is structured as a **permanent capital vehicle**	OGS companies can **face disruptions** when funding comes from time-bound facilities, requiring them to **repeatedly return to market under changing rules**
2 First loss returnable grant layer protects senior investors and improves the vehicle's **risk-return profile**	**Commercial investors** perceive the OGS sector, particularly smaller companies, as **too high-risk**, and are reluctant to enter without de-risking tools
3 FAIR uses **Nithio's Risk Analytics Engine** to analyze borrower portfolios, supporting **risk-informed investment decisions** for FAIR while providing companies with data-driven insights to **strengthen portfolio quality** and financial performance	Borrowers at smaller scale often **lack standardized, comparable portfolio data,** making it **difficult to assess creditworthiness** and inform risk-adjusted investments
4 FAIR mainly provides **receivables or inventory backed financing** with **loan terms aligned with OGS companies' client repayment cycles**	OGS companies often face **working capital shortfalls** while waiting on customer payments, especially when other funding avenues (equity or debt) are unavailable or exhausted
5 Where available, FAIR provides **local currency finance** through **FX hedging or local bank partnerships**	Many investors provide funding in hard currency while companies earn in local currency, **creating FX risk**

Case Study 5 | Facility outlook - FAIR has mobilized significant volumes of capital, which will be used to deploy thousands of solar systems to improve energy access

Capital Raising & Deployment Performance

- FAIR has ~**US$50M** assets under management, with aims to raise more than **US$100M**
  - **Leverage ratio** (i.e. commercial to concessional): 5:1[1]
- FAIR has invested in **11 companies** that distribute solar home systems, and solar productive use products across East, Central, and West Africa
  - **Inclusion:** 70% of FAIR's borrowers have revenue <US$25m (i.e. Tier 2 and 3); these are critical to reaching last-mile customers but remain underfunded

Impact Outcomes

- FAIR's investments have supported the deployment of **151k systems,** with **38%** purchased by women
- These systems, which represent a total installed capacity of ~4.8 MW, have contributed to:
  - Improved energy access for **0.5M people**
  - **1.94M** metric tons of Co2e avoided

1. Source: Nithio calculations assuming that FSDA and ElectriFI's preferred equity are concessional. Calculation based on Convergence Historical Market Trends Database would have this as 1:7 if leverage ratio is calculated as total commercial capital raised/ total concessional capital raised. Concessional capital is defined by Convergence as funding from public or philanthropic sources that has low or no return expectations, or is willing to take on outsized risk.

Case Study 5 | Lessons Learned – FAIR shows how junior capital and credit analytics can unlock senior investment, and how flexible portfolio design can support scale-up

Key objective	Lesson Learned
Align to OGS business needs	• N/A
Mobilize more capital	• **Securing early investment from trusted actors can build confidence among commercial investors** – Early participation by ElectriFI and FSDAi provided a strong signal of credibility and catalyzed follow-on investment from DFIs and commercial lenders • **Risk aversion amongst DFIs and other commercial investors has made it harder for FAIR to raise junior capital** – Despite interest from senior investors, FAIR requires more junior capital to unlock senior investment and is currently focusing on raising this junior capital • **Supporting the creation of credit analytics tools can support portfolio quality and boost investor confidence** – FAIR's Risk Analytics Engine enabled forward-looking credit assessment for Tier 2/3 companies, improving deal pricing, risk-adjusted structuring, and reassuring cautious investors
Go where commercial capital alone won't go	• N/A
Improve efficiency	• **Designing flexible portfolio requirements, and adapting them to facility context, can support vehicle scale up** – FAIR's initial structure included strict concentration limits (e.g., per borrower, country, operator tier), based on an eventual target fund size of US$100M+ – These constraints made it more challenging to operate given that working with Tier 3 companies can be very expensive, which has led Nithio to seek to automate more of the lending process for smaller borrowers

Case Study 6 | AFC Brighter Life Kenya (BLK) 1

African Frontier Capital

GOGLA

Mandate	Brighter Life Kenya 1 aimed to **support d.light's expansion** by providing **off-balance sheet, local currency financing** through a receivables-backed securitization structure

Objectives:

Align to OGS business needs

- **Reduce d.light's exposure to FX risk** by using a currency hedge to provide funding in local currency (Kenyan Shillings)

Mobilize more capital

- **Mobilize DFI capital** by offering **a subordinated tranche** to de-risk senior investors, and structuring the deal to achieve an investment-grade, self-liquidating vehicle that reduces refinancing risk and builds investor confidence

Go where commercial capital alone won't

- *Inclusion was not a priority objective for this transaction*

Improve efficiency

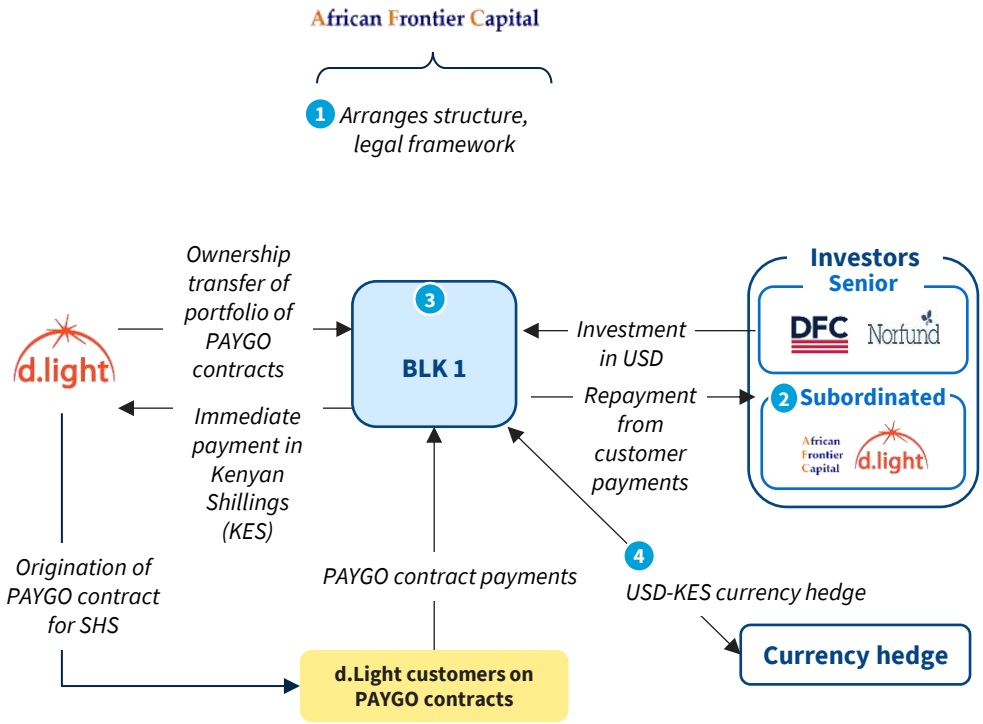
- **Lay groundwork for future securitization deals** by creating and testing a replicable legal framework

Transaction breakdown:

Launch date	• 2020
Transaction size	• US$110M
Stakeholders	• **Sponsor:** AFC • **Senior Investors:** International Development Finance Corporation (DFC), Norfund • **Subordinated lender:** AFC (through a subsidiary)
Financial toolkit	• Local currency, subordinated capital, off-balance sheet financing
Target geographies	• Kenya
Target technologies	• Solar Home Systems

Case Study 6 | Transaction structure and key design features

Transaction structure:



Key design features:

		Targeted Objectives
1	AFC invested time and resources to **structure the facility and legal framework**, creating a replicable template that can be adapted for future transactions	
2	**Subordinated capital from AFC de-risks the senior tranche and enables shared risk participation**, boosting senior investor confidence	
3	**BLK 1 holds customer receivables off balance sheet,** separating portfolio risk from d.light's operations and preserving future fundraising capacity	
4	**An FX hedge enables BLK 1 to disburse financing in local currency**, despite raising capital in USD, thereby reducing FX risk for d.light and its customers	

Case Study 6 | Challenges addressed - The design features address challenges related to local currency risk, investor risk perception and lack of standardized structures

Design feature	Challenge addressed
1 AFC invested time and resources to **structure the facility and legal framework**, creating a replicable template that can be adapted for future transactions.	**Lack of standardized structures** and legal frameworks **increases transaction costs** and **slows down development** of similar deals
2 **Subordinated capital from AFC de-risks the senior tranche and enables shared risk participation**, boosting senior investor confidence	**Commercial investors** perceive the OGS sector as **too high-risk**, and are reluctant to enter without de-risking tools; **investor confidence** in the new framework **is further limited if originators aren't perceived to have "skin in the game"** (risk sharing)
3 **BLK 1 holds customer receivables off balance sheet,** separating portfolio risk from d.light's operations and preserving future fundraising capacity	Holding customer receivables on balance sheet **increases equity requirements and constrains originators' ability to raise additional capital for growth**
4 **An FX hedge enables BLK 1 to disburse financing in local currency**, despite raising capital in USD, thereby reducing FX risk for d.light and its customers	OGS companies earning in local currency but financed in USD are **exposed to FX risk—currency volatility affects repayment flows** and **restricts the ability to fund operations** and scale sustainably

Case Study 6 | BLK 1 Outlook and lessons learned

Capital Raising and Deployment Performance

- The transaction raised **USD $35M** from leading DFIs (Norfund and DFC)
- Despite several external shocks, including **Covid, locust infestations and droughts in Kenya,** BLK 1 fully repaid its senior lenders **ahead of schedule**
- The securitization transaction has purchased over US$110 million PAYGO SHS accounts from d.light
  - **Structured for OGS needs:** D.light received finance in KES reducing exposure to FX risk
  - **Improve efficiency:** This initial structure laid the foundation for four subsequent securitization transactions for d.light across four countries[1]

Impact outcomes

- BLK 1 has directly led to:
  - **1.5 million people** gained improved energy access, financial inclusion and greater resiliency to climate change
  - **USD$67** million of additional income for the Kenyan economy and its consumers
  - **Over 460,000 tons** of CO2 emissions prevented

Key lessons learnt

Align to OGS business needs	• **N/A**
Mobilize more capital	**DFIs can help demonstrate new models and build a track record to attracts commercial investors in future vehicles** • BLK1 included only DFIs in the senior tranche, but its success validated the model and catalyzed private investments in BLK2
Go where commercial capital alone won't	• N/A
Improve efficiency	**Philanthropic capital can absorb one-off costs to enable replicable deal frameworks** • Legal structuring and due diligence required significant upfront investment, which philanthropic support could cover **Warehousing receivables from multiple smaller originators can help scale the model** • Pooling receivables from smaller companies reduces transaction costs and expands access beyond large players.

1. Tanzania, Nigeria, Uganda, Kenya

Case Study 7 | Energy Access Relief Fund

Mandate	**The Energy Access Relief Fund** aimed to **address urgent liquidity challenges faced by** energy access companies as a result of the COVID-19 pandemic by providing low-cost, flexible loans

Objectives:

Align to OGS business needs

- **Lower cost of capital by up to 5% for micro, small and mid-sized companies serving bottom-of-the-pyramid (BOP) consumers** by using concessional capital to offer low-interest, non-collateralized loans to businesses

Mobilize more capital

- **Mobilize senior investors** by improving the risk-return profile through **use of first-loss grants and guarantees**
- **Participation with no risk protection from the GCF** (no first loss requirement)

Go where commercial capital alone won't

- **Target companies serving BOP consumers,** and expand their access to finance by removing collateral requirements

Improve efficiency

- **Use automation and standardized templates** to speed up loan processing times and reduce fund set-up costs

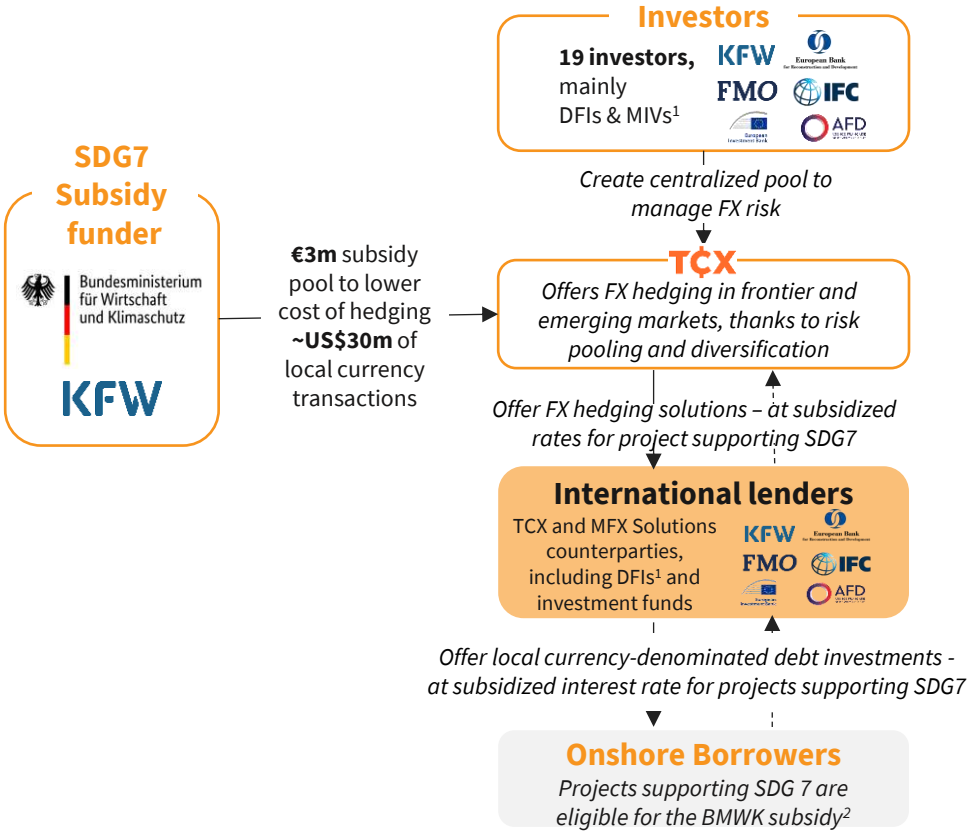
Fund details:

Fund vintage	• 2021
Fund size	• US$90M
Fund tenor	• Up to 3.5 years – *2-year extension in process*
Ticket size	• US$50,000 – 2.5M
Stakeholders	• **Fund manager:** SIMA • **Senior Investors:** BII, GAC, DFC, FMO, Acumen ; **Participant Investor:** GCF; **Guarantors:** Sida • **Junior Capital Providers:** World Bank, IFC, IKEA Foundation, Shell Foundation, Rockefeller Foundation, USAID, UKAID
Financial toolkit	• First-loss grant, first-loss guarantee
Target geographies	• East Asia and Pacific South Asia (20%), Sub-Saharan Africa (80%)
Target technologies	• Solar home systems, solar productive use, mini-grids, clean-cooking

Case Study 7 | TCX Fund Overview

TCX Fund & BMWK Program Overview

Preliminary



- TCX is a fund backed mainly by DFIs, MIVs[1] and sovereign countries that **offers long-term, local currency hedging solutions** in frontier and emerging markets.
- **By pooling and diversifying FX risk across geographies and sectors,** TCX provides FX hedging where commercial options are unavailable or limited
- **International lenders use TCX to hedge FX exposure** (e.g. via swaps or forwards), **enabling them to lend in local currency without taking on FX risk**
  - The hedge cost is integrated into the loan price and typically passed on to the onshore borrower
- **BMWK has now set up a program to subsidize FX hedging for SDG7 projects (up to US$30M in subsidies),** enabling international lenders to offer local currency loans to SDG7-aligned borrowers at subsidized rates – thus unlocking projects that are otherwise unviable due to FX volatility.
- **Funds like TCX can drive broad ecosystem impact from a single investment**
  - The BMWK Program treats TCX as an "investment node"' that enables system-wide impact; its subsidized FX hedge pricing is applied across borrowers, sectors, and geographies—extending reach without duplicating infrastructure.

1. DFIs: Development Finance Institutions. MIVs: specialized microfinance investment vehicles
2. Eligible projects include: On-grid or off-grid renewable energy projects; Enterprises and projects active in the renewable energy sector and distributed energy goods or services (e.g. solar home systems); FIs engaged in financing renewable energy providers; Projects providing access to affordable, reliable and modern energy services (i.e. clean cooking)

Supported by:

Thank you!

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