# Off-grid Energy Financing Solutions

YURA CAPITAL

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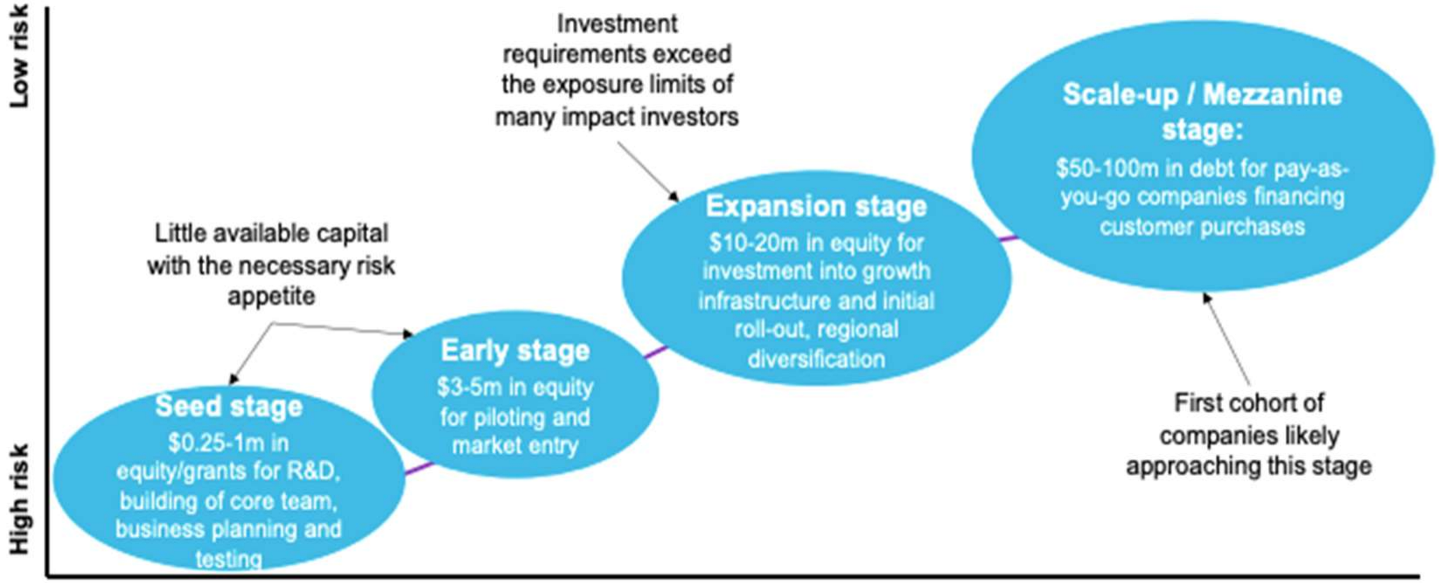
# 1. PAYG FINANCING AND SOLUTIONS

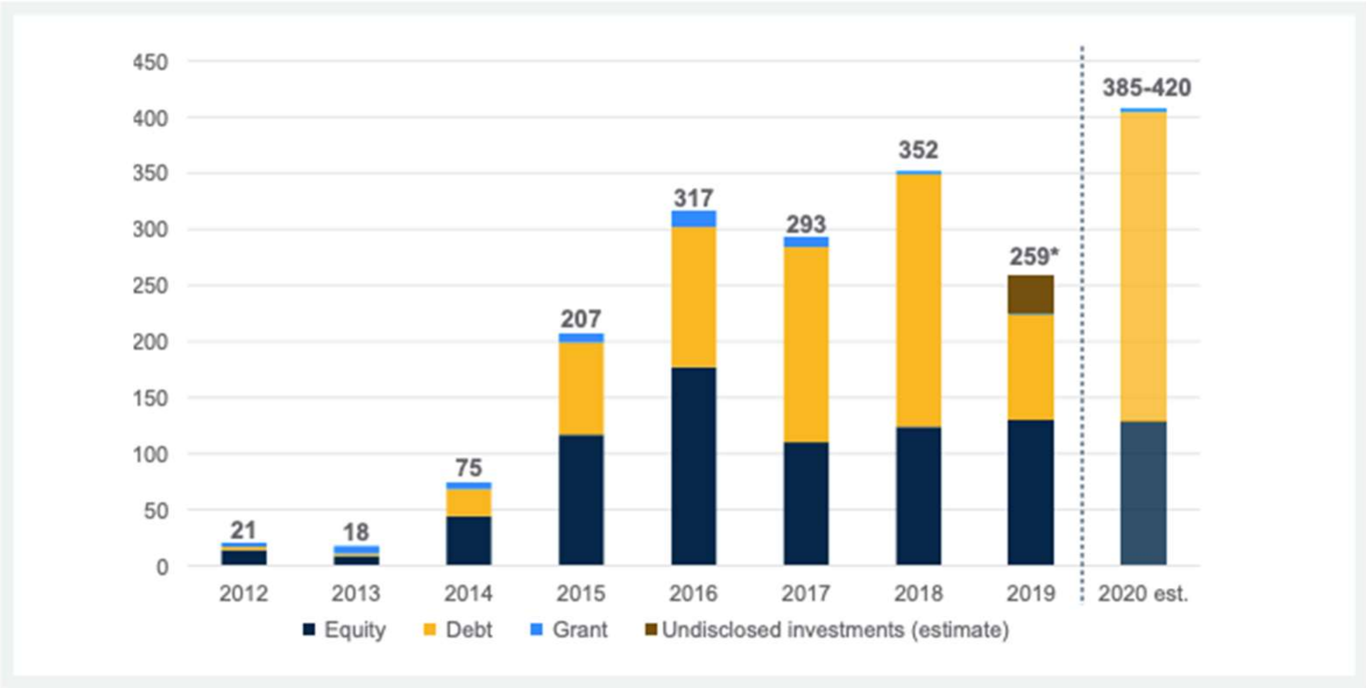
# 1.1 PAYG FINANCING NEEDS




- As companies move through the stages of growth the financing needs shift from equity to debt
- Market is beginning to mature with the first-generation off-grid companies reaching scale-up stage
- The maturity and increasing size of debt raises requires more complex and sophistication structures
- The current financiers (grant-makers, DFIs and impact investors) will be insufficient. Commercial debt sources are required to bring scale

Source: How Can PAYG Solar be Financed, Bloomberg New Energy Finance, 2016

# 1.1 PAYG FINANCING NEEDS




- Long-term trend shows a significant growth in debt raises
- Current capital raises are highly concentrated with the top 10 companies receiving 80% of the total investment value
- Decline in 2019 is indicative of:
  - Long-term horizon of deals
  - Concentration of raises among first-generation companies
  - Complexity of transactions
- 2020 expected growth is driven by first-generation companies returning to the debt markets to re-finance

Source: Off-Grid Solar Market Trends Report 2020 (p.19), Lighting Global, 2020

## 1.2 THE PAYG WORKING CAPITAL PROBLEM

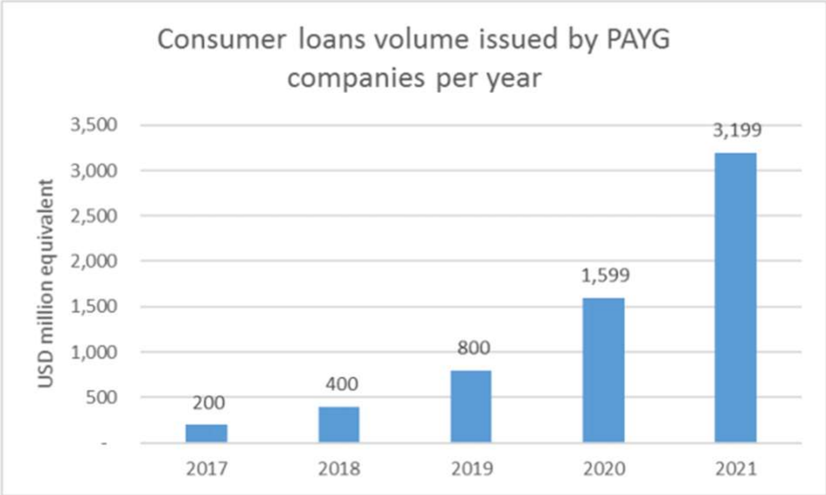
The PAYG business model has a long cash conversion cycle. With some companies taking as long as three years to fully recover receivables.

This creates a vast working capital funding gap in the sector. The debt required to finance the PAYG loan books is expected to reach $3.2bn by 2021.

Retaining the required debt levels on-balance sheet significantly impacts the companies gearing, limiting its ability to raise additional finance to grow its loan book.

Comparisons are often made to the automotive industry which faces a similar challenge with cars sold on finance.

Dealerships utilise off-balance sheet financing to manage their cashflow. The off-grid solar market is beginning to follow suit.




Source: Investing in PAYG Companies, GOGLA, 2016

# 1.3 FINANCING SOLUTIONS

Increasing Moral Hazard →

### On-Balance Sheet

- OpCo retains ownership of assets
- Liabilities associated with the assets are retained “on-balance sheet”
- Finance providers need to assess entire spectrum of operational risks
- Low moral hazard as operating company is fully integrated with origination and servicing of debts

### Captive Finance Companies

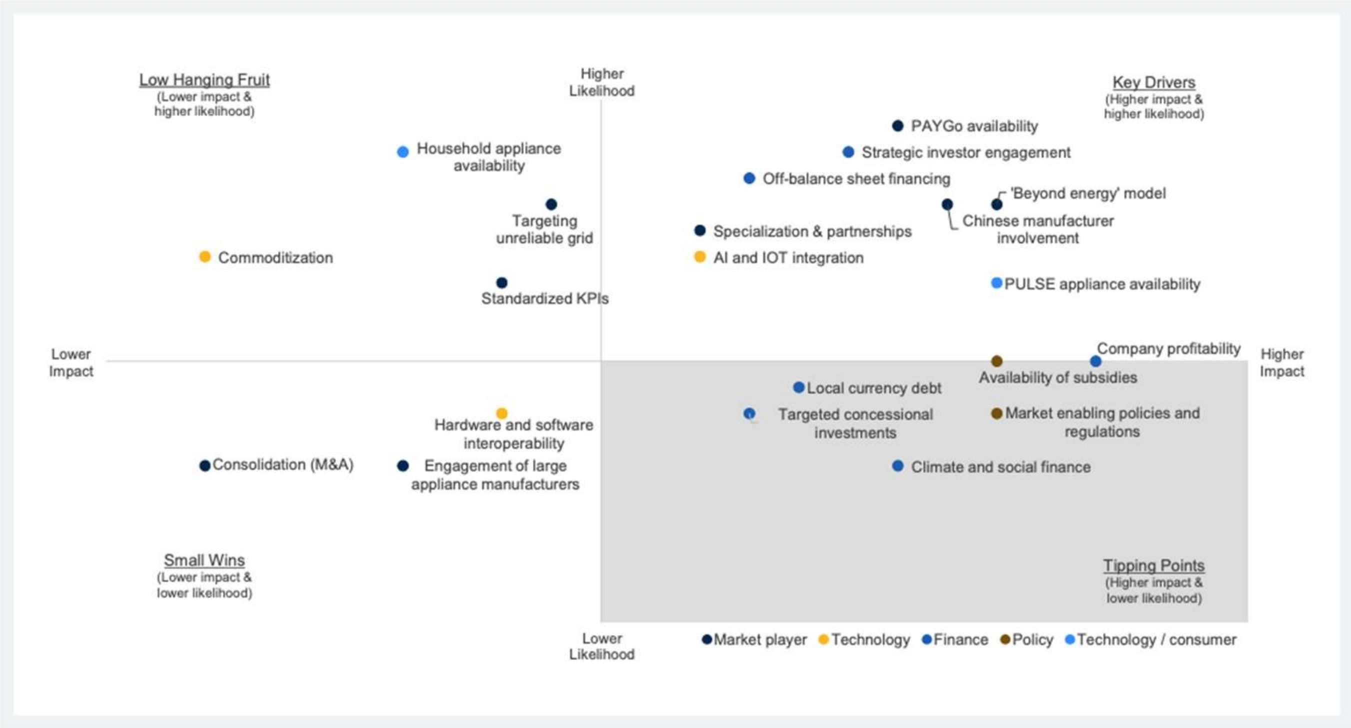
- Assets sold to subsidiary (FinCo) of vertically integrated group
- Assets and liabilities of the OpCo are held “off-balance sheet”
- FinCo can finance these receivables using on- or off-balance sheet financing
- Increased moral hazard as origination and servicing functions divided, but retained within the same group

### Off-Balance Sheet

- Ownership of assets resides with a third party
- Reduction in OpCo’s working capital assets, reducing corresponding liabilities
- Improved liquidity, strengthened balance sheets and transfer of risks.
- High moral hazard as origination and servicing of debts are fully separated

Source: Taming the Strange Beasts: Servicing and the Future of PAYGo, CGAP, 2018

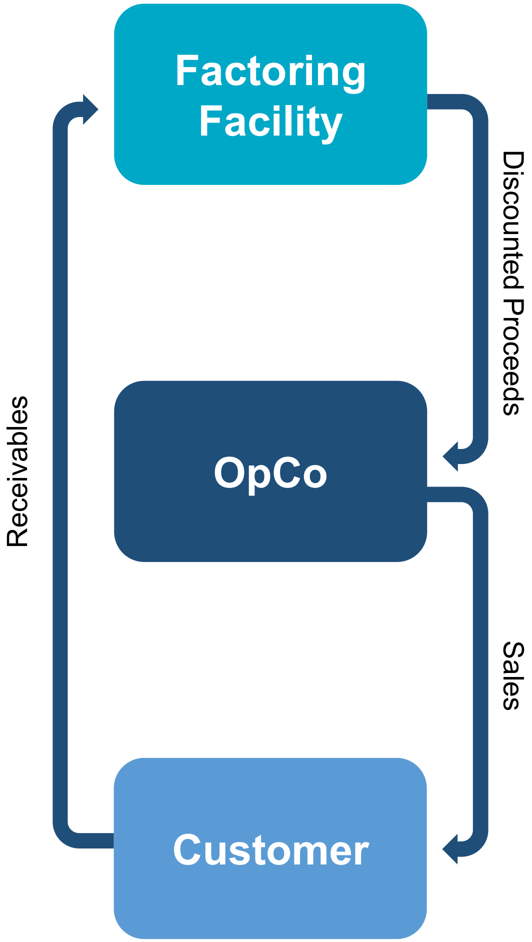
# 1.3 FINANCING SOLUTIONS




- Off-balance sheet finance identified as a key sector driver with high-impact and high-likelihood
- As the sector matures and risk are better understood, the size and rate of securitisation of receivables will increase

Source: Off-Grid Solar Market Trends Report 2020 (p.29), Lighting Global, 2020

# 2. OFF-BALANCE SHEET STRUCTURES




## 2.1 DEBT FACTORING

The OpCo enters into an agreement with a third party to sell on their accounts receivable at a discounted rate.

The OpCo is able to improve liquidity and reduce their credit risk exposure (non-recourse only) by moving the assets off-balance sheet in exchange for an upfront payment.

The third party assumes the responsibility and cost of debt collection in exchange for receiving the full cash flow on payment.

The discount rate will vary depending on the risk of the underlying assets. Typically the required rate is between 15% - 30%.

Types of factoring arrangement:

1) Recourse
2) Non-recourse
3) Disclosed
4) Undisclosed

Differs from invoice financing where a revolving credit facility is obtained and secured against the receivables. In this case both the assets and liabilities are retained on-balance sheet.

# 2.1 DEBT FACTORING

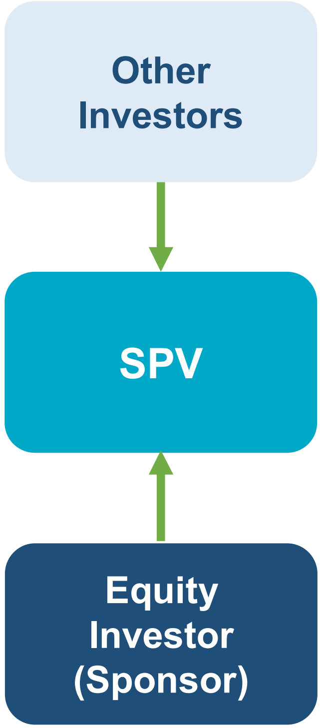
## Advantages

- Improved liquidity, reduced risk exposure and stronger balance sheets
- Increases OpCo's ability to raise or renegotiate other debt facilities
- Cost & resource savings. OpCo is no longer committed to carrying costs associated with the assets
- Relatively cheap and easy to set up
- Contract can easily be terminated, and the debts brought back on balance sheet

## Disadvantages

- Reduction in revenues
- Risk of reputational damage from difference in company culture between the agent and OpCo
- There are high cancellation costs, including the need to fully finance the first working capital cycle
- Potential to remain liable for debts (recourse factoring). Likely for off-grid sector due to lack of track-record and low-income borrowers
- Inflexible structures and limited scope for variation

## 2.2 SPECIAL PURPOSE VEHICLES



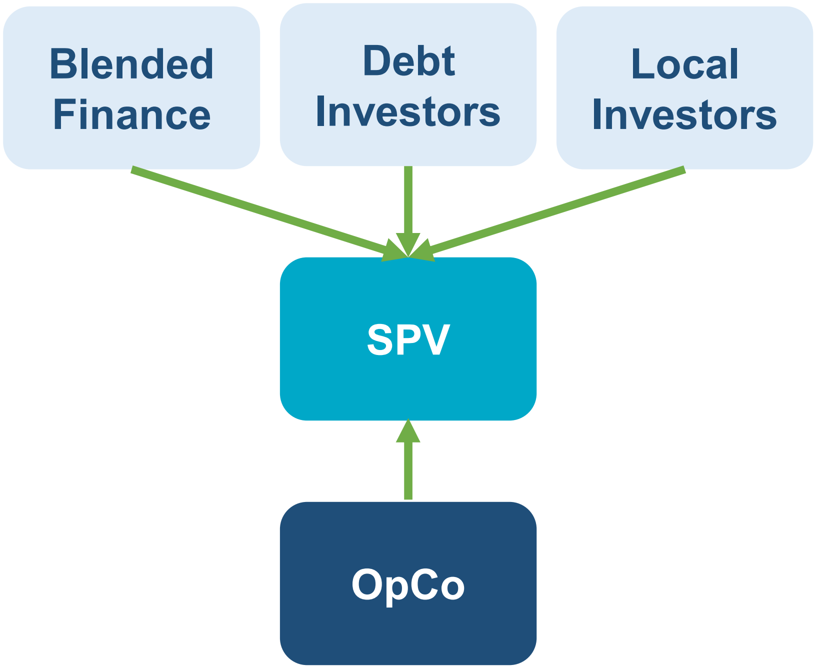

Special Purpose Vehicles (SPVs) are a separate legal entity with its own assets and liabilities.

The typical legal forms of SPVs are partnerships, limited partnerships, or joint ventures.

They are created to:

- Transfer & Share Risk
- Transfer Assets
- Securitise Assets

## 2.2 SPV FLEXIBILITY




| OpCo Control | Relationship | Structure |
|---|---|---|
| > 50% | Subsidiary | Captive Finance Company |
| ≤ 50% | Joint Venture, Associate | Independent SPV |

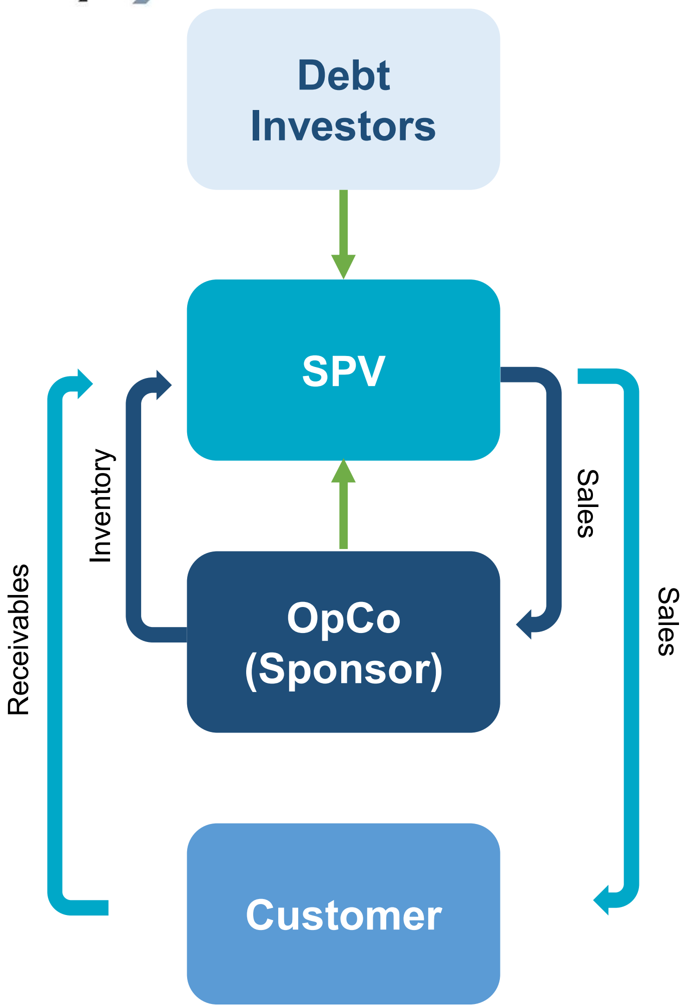
The allocation of risk between parties is directly related to the financing structure of the SPV.

SPVs allow for more sophisticated debt transactions to occur where specific assets can be financed by a consortium of investors. Creating significant opportunities to incorporate blended finance, further reducing the risk of commercial investors.

Local investors providing finance denominated in the local currency eliminates the SPVs need to hedge exchange rates.

However, the complexity will undoubtedly lead to issues over the triple bottom line (Social, Environmental, Financial) – different investors will have different values.

# 2.2a INVENTORY BACKED SPV




- OpCo originates sales and remains responsible for customer servicing requirements
- OpCo sells inventory to SPV
- SPV holds the contract with the customer and has full entitlement to the receivables whilst retaining the inventory as security
- The SPV investors hold security over the inventory and a share pledge over the SPV exercised in a default event

**Case Study: SunFunder & SolarNow**

SolarNow is a Ugandan based, solar company providing PAYG solar systems across Uganda and Kenya. They provide solar solutions to a range of customers including households, agriculture and corporate clients.

In 2016 SunFunder provided a $2m loan to finance its receivables growth . The loan was structured as an inventory backed SPV. In 2017 a second, $6m, facility was raised under the same structure.

Source: World Bank (2020), Funding the Sun: New Paradigms for Financing Off-Grid Solar Companies

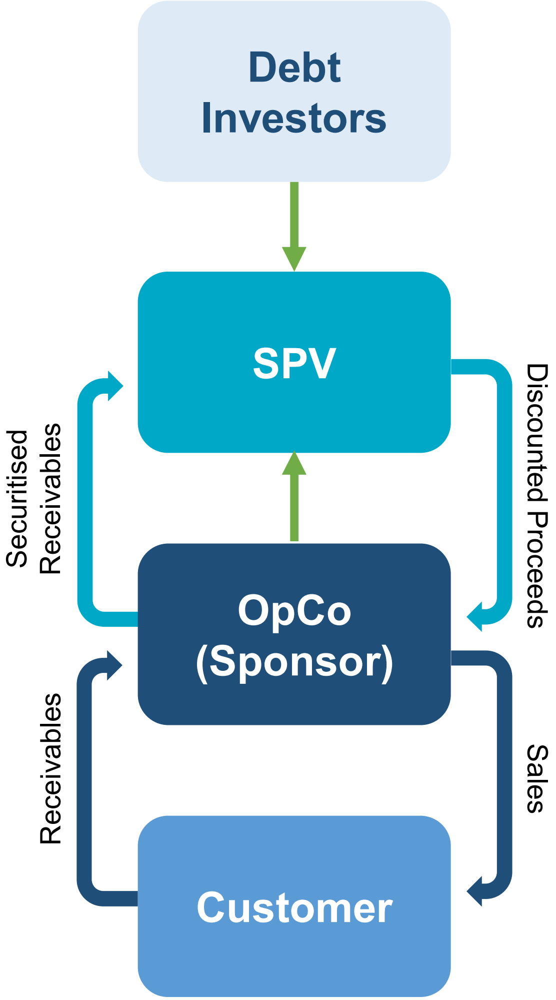
# 2.2a INVENTORY BACKED SPV

## Advantages

- Enables continued growth of loan book despite OpCo being unable to raise additional financing
- Assets are protected from risks associated with OpCo
- Most secure structure for investors as they hold security over inventory and a pledge over the SPV shares
- Added sophistication with flexible structures that can be tailored to investors

## Disadvantages

- Only applies to new PAYG customers, OpCo's existing loan book remains on balance sheet
- Expensive and complicated to arrange and set up
- No, or limited, options to bring assets back on balance sheet
- Additional complexity, reporting and compliance which can lead to a lack of transparency




## 2.2b SECURITISATION

- OpCo originates sale with customer and retains contract with the end customer
- OpCo pools receivables based on their underlying characteristics; tenor, region, etc.
- The cashflows from the underlying pooled or securitised assets are sold to the SPVs in exchange for discounted proceeds
- Investors hold limited security in a default event

**Case Study: BBOXX and Oikocredit**

BBOXX, a solar home system distributor active primarily in East Africa, entered the first to securitised receivables transaction in December 2015. Raising KSh 51m ($0.5m) with an interest rate of 21% and a maturity of 30 months, equivalent to the remaining tenor of customers' three-year contracts.

The round was led by Dutch impact investor Oikocredit and was made up of 2,400 receivables, worth in total KSh 102m ($1m). Collateral at twice the value of the principle.

This structure allowed Oikocredit to ensure that only receivables from customers with a healthy track record in the first six months were placed in the note. The high level of collateral compensated for the increased default rates and exogenous factors such as the 2017 Kenyan elections.

Source: World Bank (2020), Funding the Sun: New Paradigms for Financing Off-Grid Solar Companies

# 2.2b SECURITISATION

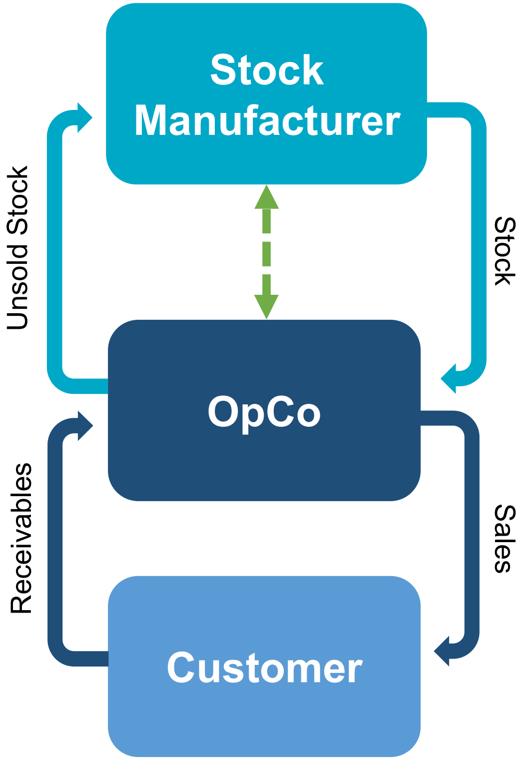
## Advantages

- Improved liquidity, reduced risk exposure and stronger balance sheets
- Increases OpCo's ability to raise or renegotiate other debt facilities
- Cost & resource savings. OpCo is no longer committed to carrying costs associated with the assets
- Assets are protected from risks associated with OpCo
- Investors in SPV rank higher than they would investing directly in OpCo
- Added sophistication with flexible structures that can be tailored to investors

## Disadvantages

- Reduction in revenues
- Expensive and complicated to arrange and set up
- Additional complexity, reporting and compliance which can lead to a lack of transparency
- No option to bring assets back on balance sheet
- Increased moral hazard, OpCo may lower quality of credit assessments in loan origination

## 2.3 CONSIGNMENT STOCK




- OpCo (consignee) and the stock manufacturer (consignor) enter into a consignment arrangement
- The manufacturer retains ownerships of the stock, while OpCo has the stock available for sale and distribution
- OpCo only pays for stock once a sale has been made, returning any unsold stock to the manufacturer
- This is a set up widely used between manufacturers and dealerships in the automotive industry

# 2.3 CONSIGNMENT STOCK

## Advantages

- Improved liquidity – reduces the working capital burden of stock, matching the purchase of stock with the sale
- Protects OpCo against stock obsolescence
- Can improve product offering at no additional cost
- Can be combined with other forms of off-balance sheet financing

## Disadvantages

- Shift to a just-in-time stock system, requiring strong management capabilities
- Over reliance on a single supplier of stock
- OpCo retains stock carrying costs, which will potentially rise if bulk orders are being made
- No asset on balance sheet that can be used as security

# 3. RISK CONSIDERATIONS & CONCLUSIONS

## 3.1 RISKS TO CONSIDER

The inherent risks of using off-balance sheet financing in the PAYG sector are far more pronounced than conventional industries. The enhanced risks stem from the individual and regional demographics of the PAYG Solar customers.

- Inherent risks:
    - Foreign exchange risk
    - Tenor expectations
    - Exogenous shocks: Covid-19

- Enhanced risks:
    - Credit risk
    - Diversification of customers

## 3.2 CONCLUSION

- Later stage PAYG companies have trouble raising finance for expansion as they are overleveraged.
- The PAYG companies are overleveraged as they are working capital intensive. They require large amount of external finance to support their lending operations.
- Off-balance sheet finance enables PAYG operators to shift the burden of the loan books to a third party. Reducing leverage and transferring risks.
- SPVs are the most common form and used across a variety of industries already. Later stage PAYG operators have already made use of these vehicles.

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