



**WINCH ENERGY**

**Chris Kanani**

Mini-Grid Portfolio  
Financing Case  
Study



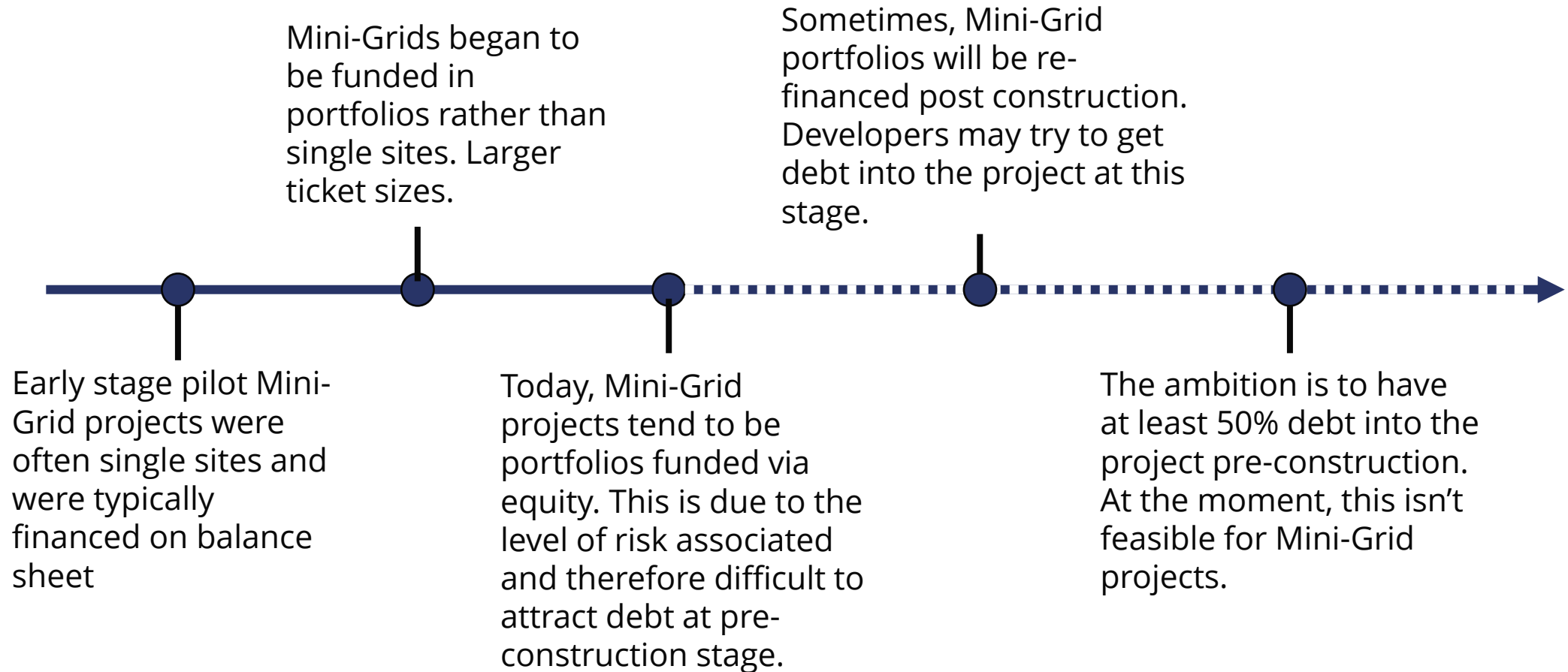


# Winch Energy Limited

- Winch Energy is a off-grid solar developer and operator. Winch aims to become the largest off-grid utility in key African countries.
- Winch's executive management team has extensive experience in the energy, engineering and financial industry. Winch's shareholding is comprised of Total EREN, Winch Partners, Itochu Corporation and Al-Gihaz.
- As of 2022, Winch is one of the largest solar mini-grid developers globally and is the largest developer and operator in Uganda.



# Typical Mini-Grid Financing





# Winch Case Study

A portfolio financing approach

---

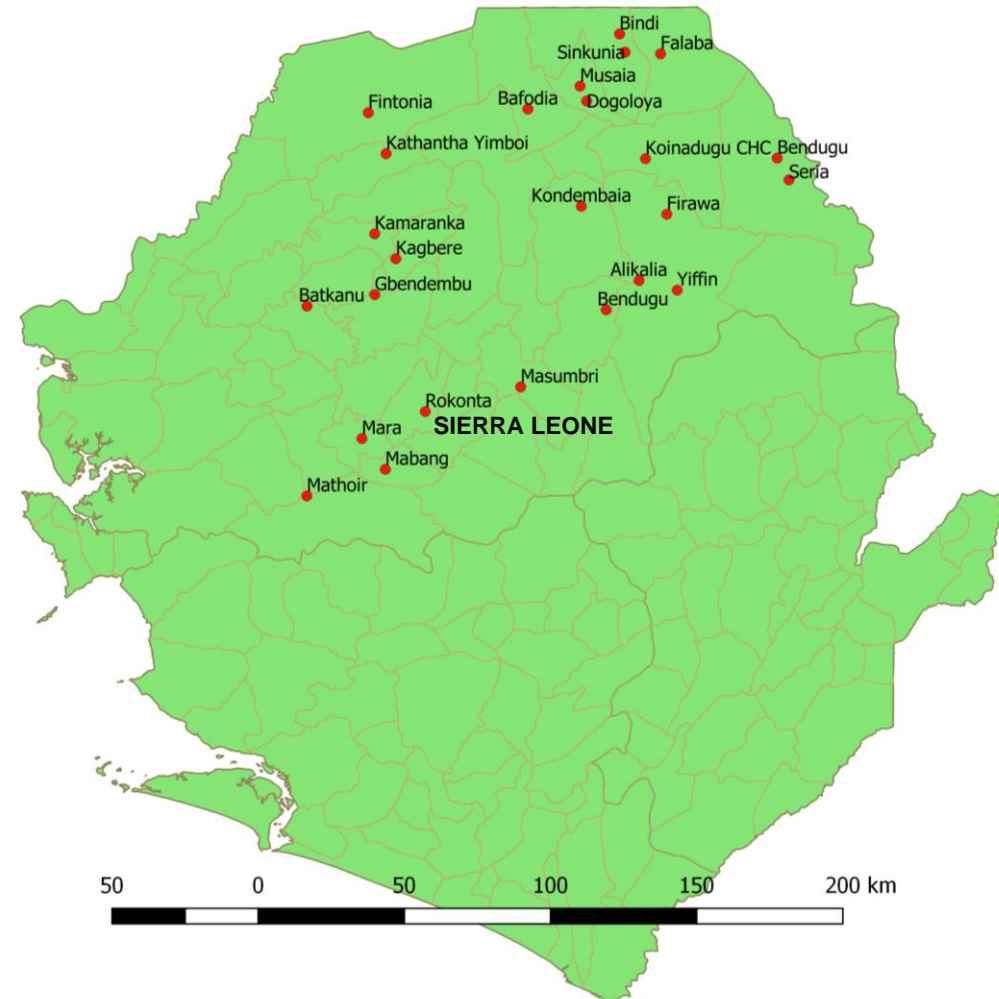
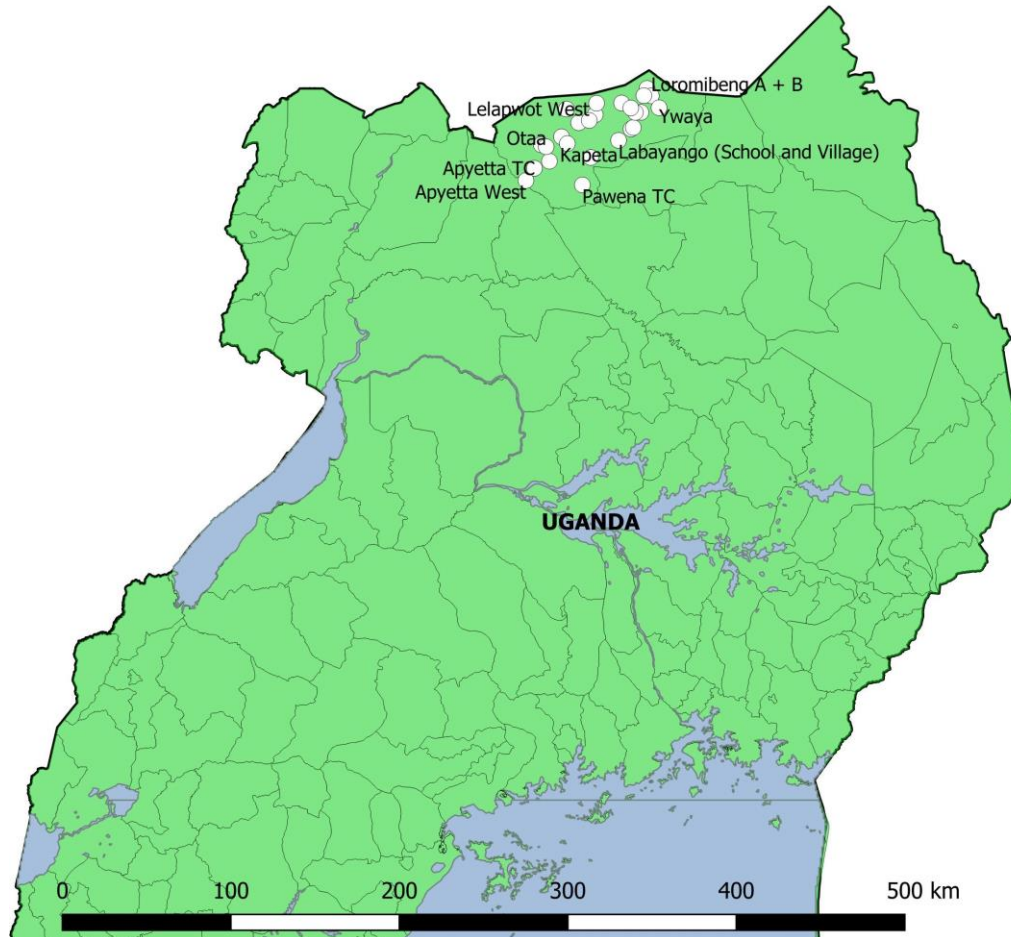
- 1 project
- 2 countries
- 49 locations
- 6,400 connections
- 50,000+ people
- \$16m cost project
- 3 debt providers
- 2 equity providers
- 2 contractors



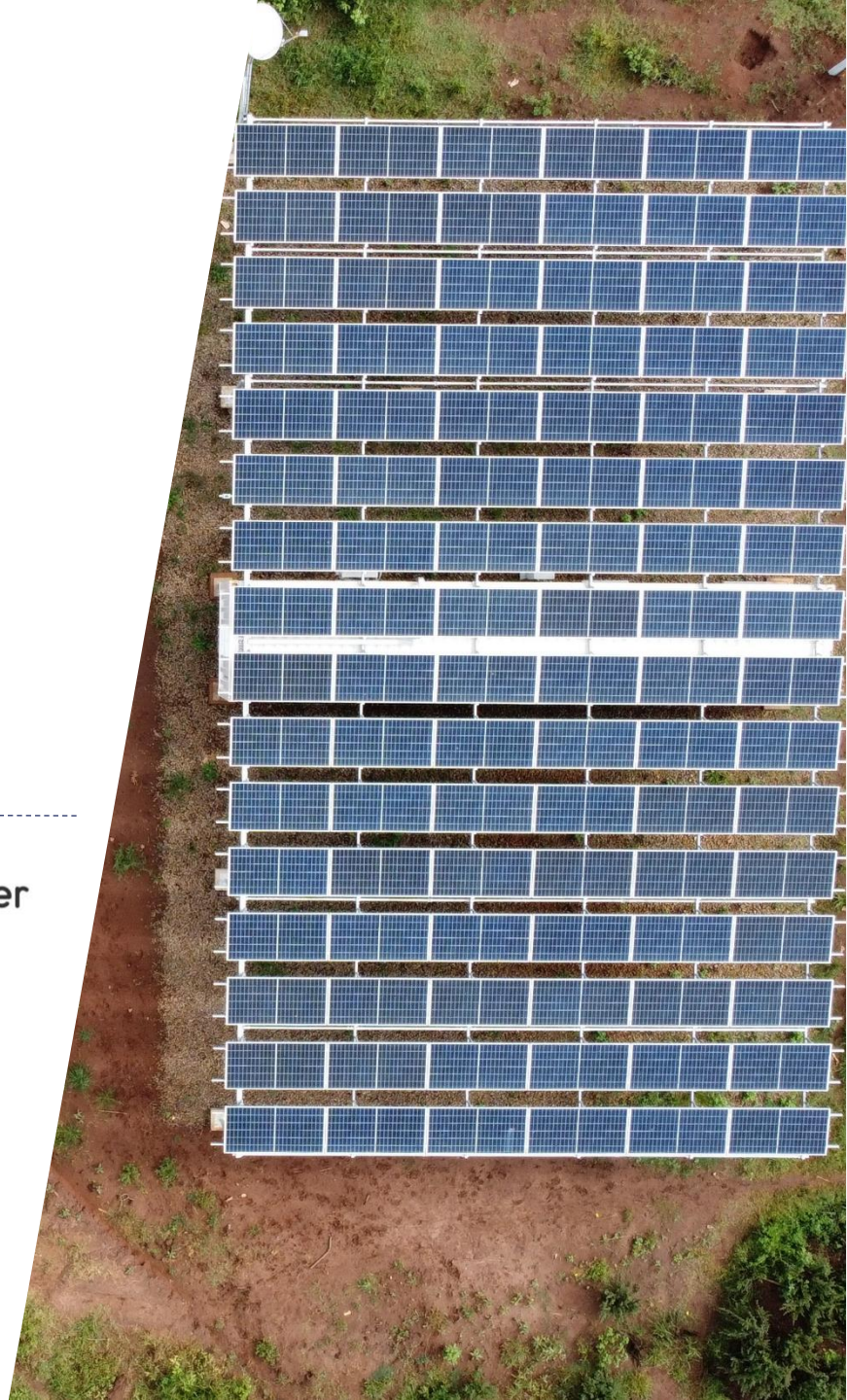
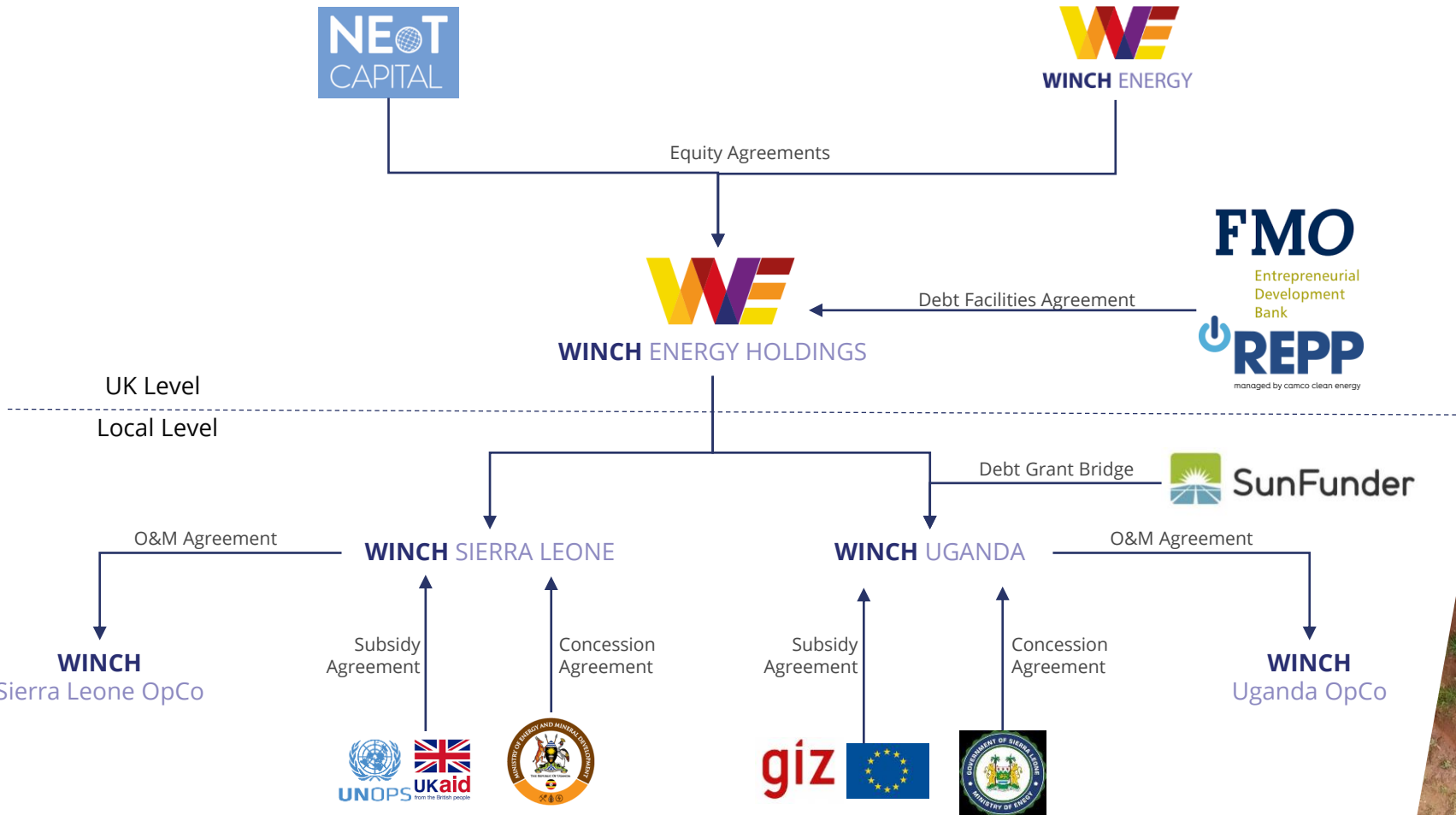


# Winch Mini-Grid Project

## 49 Mini-Grids in Uganda and Sierra Leone, providing 50,000 people with electricity

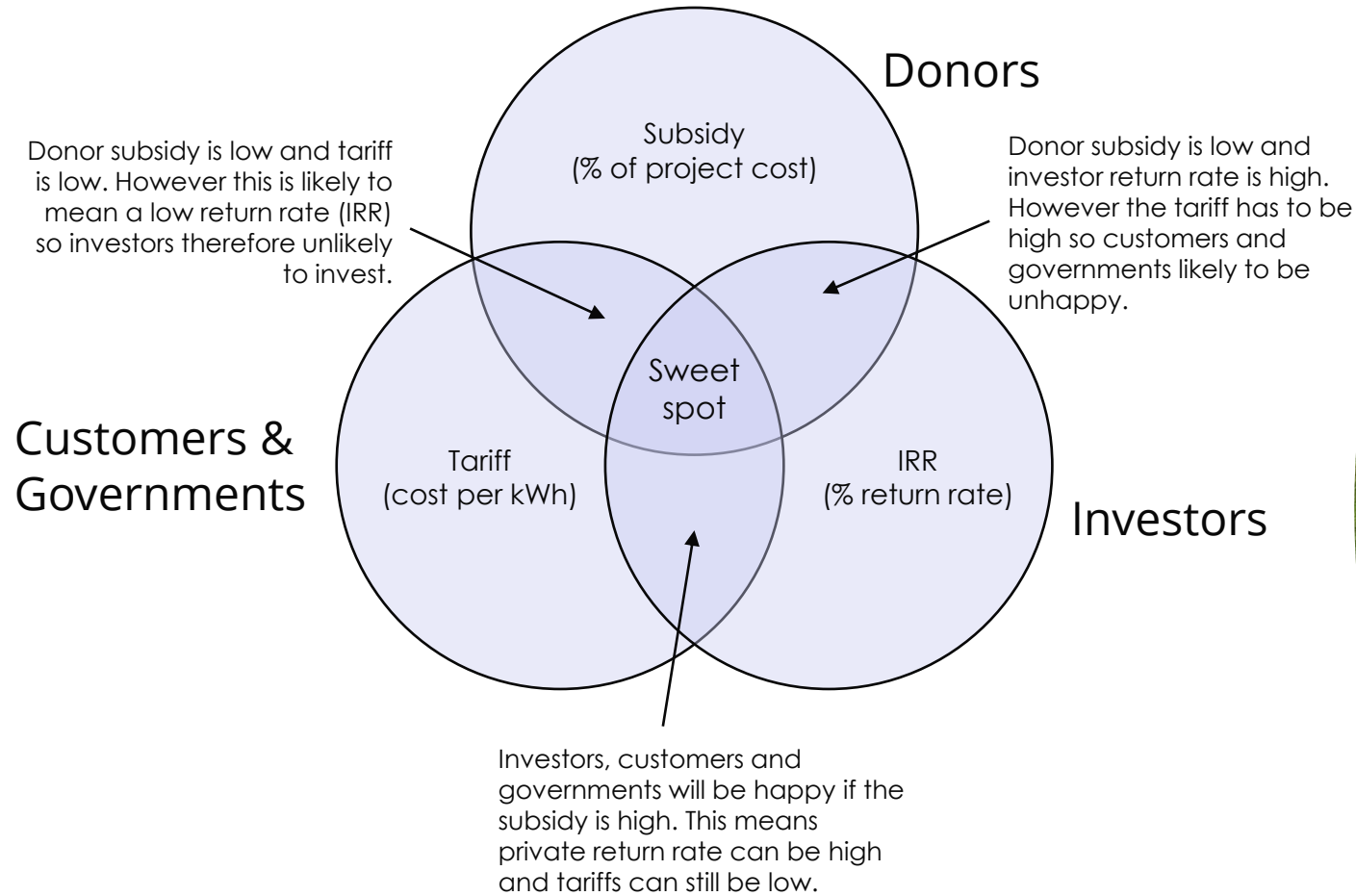


# Deal Structure





# Balancing Stakeholder Expectation



All stakeholders need to be happy



# Tariff vs Subsidies

A sensitivity analysis on a typical mini-grid model with standard inputs based on industry benchmarks. The table shows IRR at different tariff and subsidy levels.

		Electricity Tariff (\$/kWh)														
		0.19	0.22	0.25	0.28	0.31	0.34	0.37	0.40	0.43	0.46	0.49	0.52	0.55	0.58	0.61
Subsidy (%)	0%	-13.1%	-13.1%	-13.1%	-7.4%	-4.1%	-2.1%	-0.5%	0.8%	1.9%	2.9%	3.9%	4.8%	5.7%	6.8%	7.8%
	10%	-13.1%	-13.1%	-9.7%	-4.8%	-2.3%	-0.6%	0.9%	2.1%	3.2%	4.2%	5.3%	6.3%	7.5%	8.6%	9.4%
	20%	-13.1%	-13.1%	-5.8%	-2.7%	-0.7%	1.0%	2.3%	3.5%	4.7%	5.8%	7.2%	8.4%	9.3%	10.2%	11.0%
	30%	-13.1%	-7.5%	-3.2%	-0.7%	1.1%	2.6%	4.0%	5.3%	6.7%	8.1%	9.3%	10.3%	11.2%	12.1%	13.0%
	40%	-11.4%	-3.9%	-0.9%	1.3%	3.0%	4.5%	6.0%	7.8%	9.3%	10.4%	11.5%	12.5%	13.5%	14.5%	15.4%
	50%	-5.0%	-1.0%	1.5%	3.5%	5.3%	7.4%	9.2%	10.5%	11.8%	13.1%	14.3%	15.4%	16.5%	17.5%	18.6%
	60%	-1.2%	1.9%	4.3%	6.7%	9.1%	10.8%	12.4%	13.9%	15.3%	16.7%	18.0%	19.3%	20.6%	22.0%	23.3%
	70%	2.5%	5.6%	8.9%	11.2%	13.3%	15.2%	17.0%	18.8%	20.6%	22.3%	24.1%	25.9%	27.6%	29.3%	31.1%
	80%	8.6%	12.1%	15.1%	17.8%	20.4%	23.1%	25.8%	28.4%	31.1%	33.7%	36.3%	38.9%	41.5%	44.1%	46.6%
	90%	20.2%	25.7%	31.2%	36.6%	42.0%	47.3%	52.6%	57.8%	62.9%	68.0%	73.1%	78.1%	83.1%	88.1%	93.0%

- **Investors** typically look for return rates around 15% on their equity
- **Donors** typically look to limit subsidies to 50% of the project cost
- **Governments** typically want tariffs <\$0.50/kWh



# Differences in Regulation

## Uganda

- New regulations released within the last 5 years.
- Exclusivity period to develop projects
- Lower tariffs, higher subsidies
- 10-year concessions
- Long application process but relatively short approval time
- Annual indexation to account for inflation and currency
- Development costs and financing costs allowed in the calculation
- Long terms tariffs
- Compensation for grid arrival

## Sierra Leone

- New regulations released within the last 5 years
- Based on the regulatory asset base model
- Higher tariffs allowed, lower subsidies required
- 20-year concessions
- Relatively short application process but long time for approval
- Annual indexation to account for inflation and currency (although capped)
- Development costs and financing costs allowed in the calculation
- Short term 5-year tariffs (less certainty for investors)
- Compensation for grid arrival



WINCH ENERGY

# The Challenges

1. Demand risk
2. Balancing subsidies, customer tariffs and return rates
3. Relatively small ticket size and risk level makes project finance difficult
4. Debt still difficult to secure
5. Complex structure with many stakeholders. High legal/transaction costs.
6. Lack of dialogue between donors, governments, developers and investors
7. Off-grid regulation still developing
8. Projects take long time develop and license
9. Currency and inflation risk

Q:  
Is Project  
Finance  
the way  
forward for  
Mini-Grids?





**Thank you!**