

# **ENERGIZING ONE MILLION RURAL HOUSEHOLDS IN INDIA: A REALITY CHECK**

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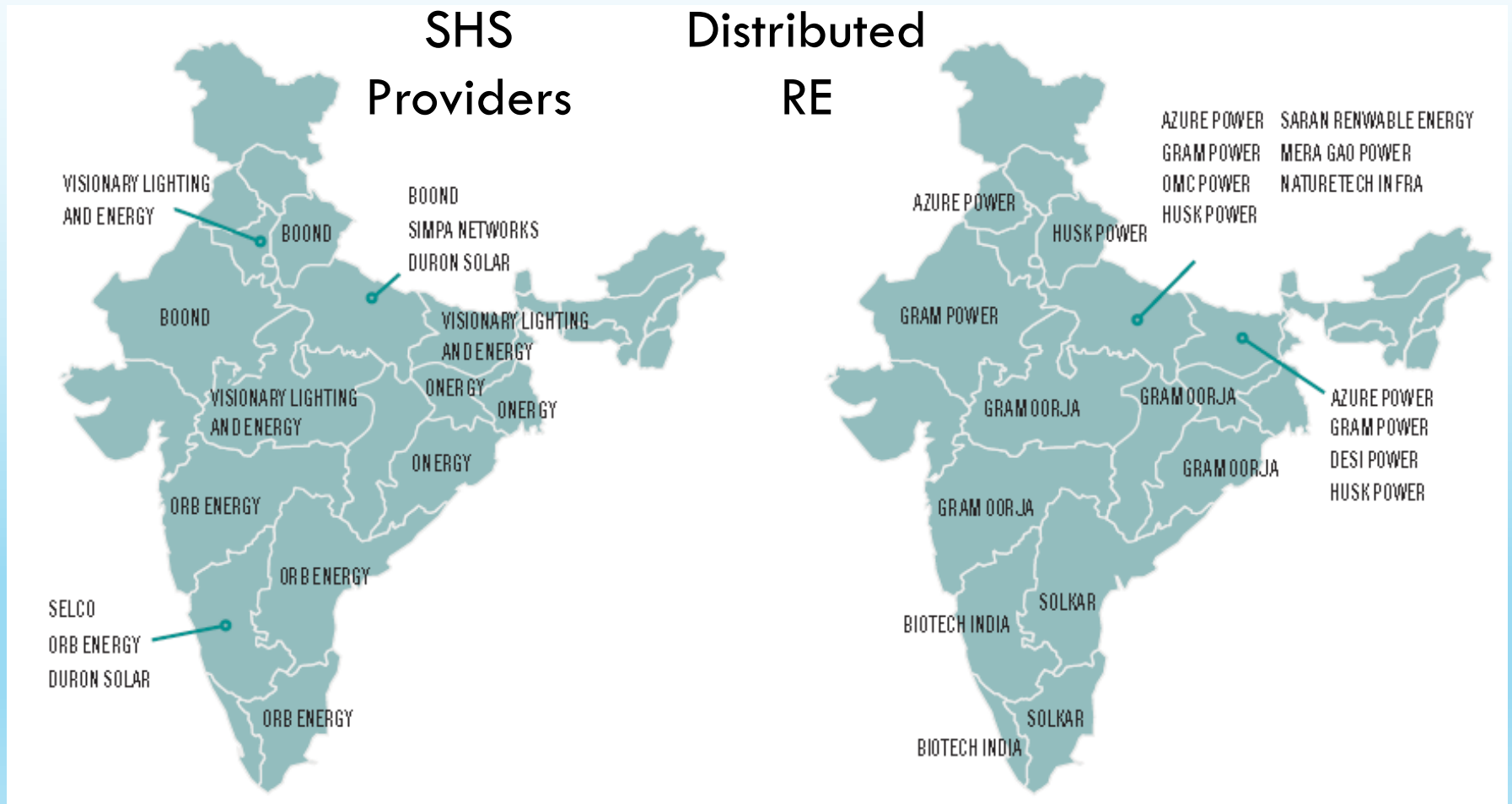
Bangalore, 23 April 2015  
Micro Perspectives for  
Decentralized Energy  
Supply



# RESEARCH QUESTIONS

1. What are the critical problems and solutions for scaling up DESCOS? How can the right solution be applied to the right sector need at the appropriate time?
2. Is there a successful business model that can be scaled up to reach 1 million households?

# OVERVIEW OF ENTERPRISES



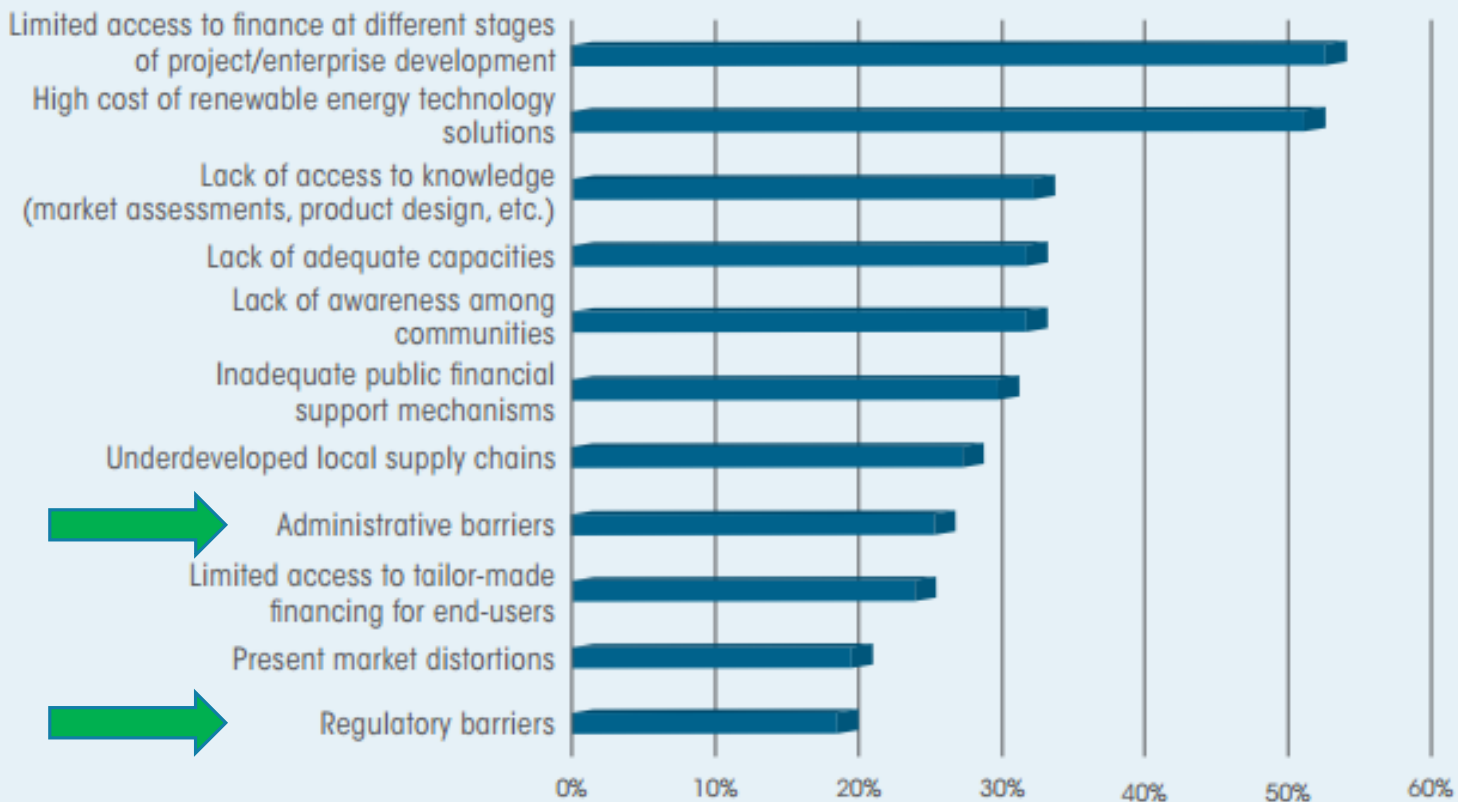
Source: The Climate Group (2015), *The business case for off grid energy in India*



# WHAT ARE THE BARRIERS?

# SHS: PRIVATE SECTOR PERSPECTIVE

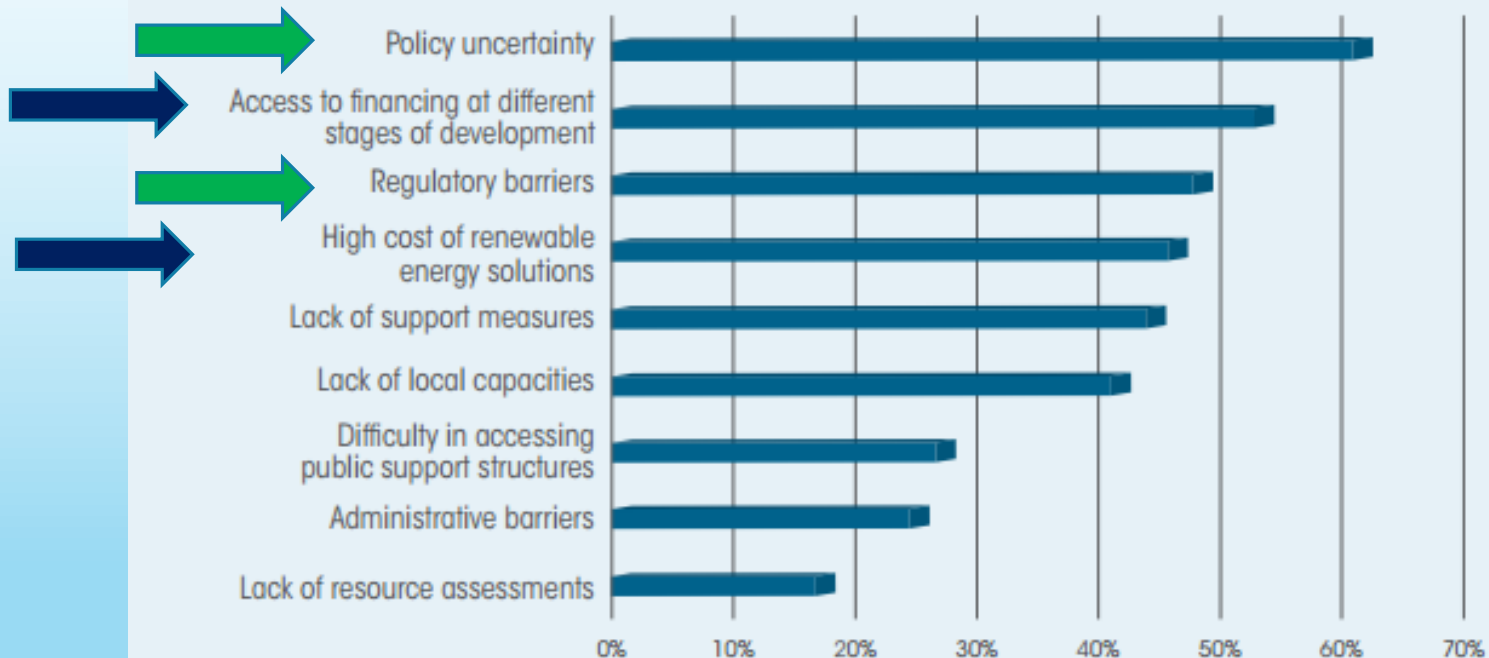
FIGURE 2. WHAT ARE THE LARGEST BARRIERS THAT HAMPER DEVELOPMENT OF THE STAND-ALONE RENEWABLE ENERGY SECTOR? (% OF TOTAL RESPONDENTS\*)



\*RESPONDENTS COULD CHOOSE UP TO FOUR ANSWERS

# MINIGRIDS: PRIVATE SECTOR PERSPECTIVE

FIGURE 3. PRIVATE SECTOR PERSPECTIVE: WHAT ARE THE LARGEST BARRIERS THAT HAMPER THE DEVELOPMENT OF THE RENEWABLE ENERGY-BASED MINI-GRID SECTOR? (% OF TOTAL RESPONDENTS\*)



\*RESPONDENTS COULD CHOOSE UP TO FOUR ANSWERS

# BARRIER 1: OFF-GRID POLICY CONTEXT – CAUTIOUS OPTIMISM

- Targets: 2 GW Off-grid solar by 2022; 24x7 Power for All by 2019
- Promising:
  - Excise duties on off-grid solar removed Dec 2014
  - Inclusive policy formation – High Impact Task Force
  - Banks eligible for solar lending expanded in NSM Phase II
- Just in: Off-grid solar subsidy axed (!)
  - MNRE budget woes
- Wish list:
  - Tradeable tax credits
  - Policy clarity!!!



# BARRIER 2: GAP IN FINANCING NEEDS & REQUIREMENTS

	Equity and quasi-equity	Long term loans (8-10 year loans)	Short term (bridge, working capital and 2-3 year term) loans	Subsidies (One-time, FITs, GBIs, ...)
Quantum of capital potentially available for Rural DRE				
Number of capital providers exploring Rural DRE*				Driven by budgetary allocation
Capital provided matches project tenure of Rural DRE projects				Most Subsidies available as one-time and up-front
Will attract entrepreneurs and ESCOs				

Capital can be tapped. Limited to 20-30% of project size

**Missing link.**

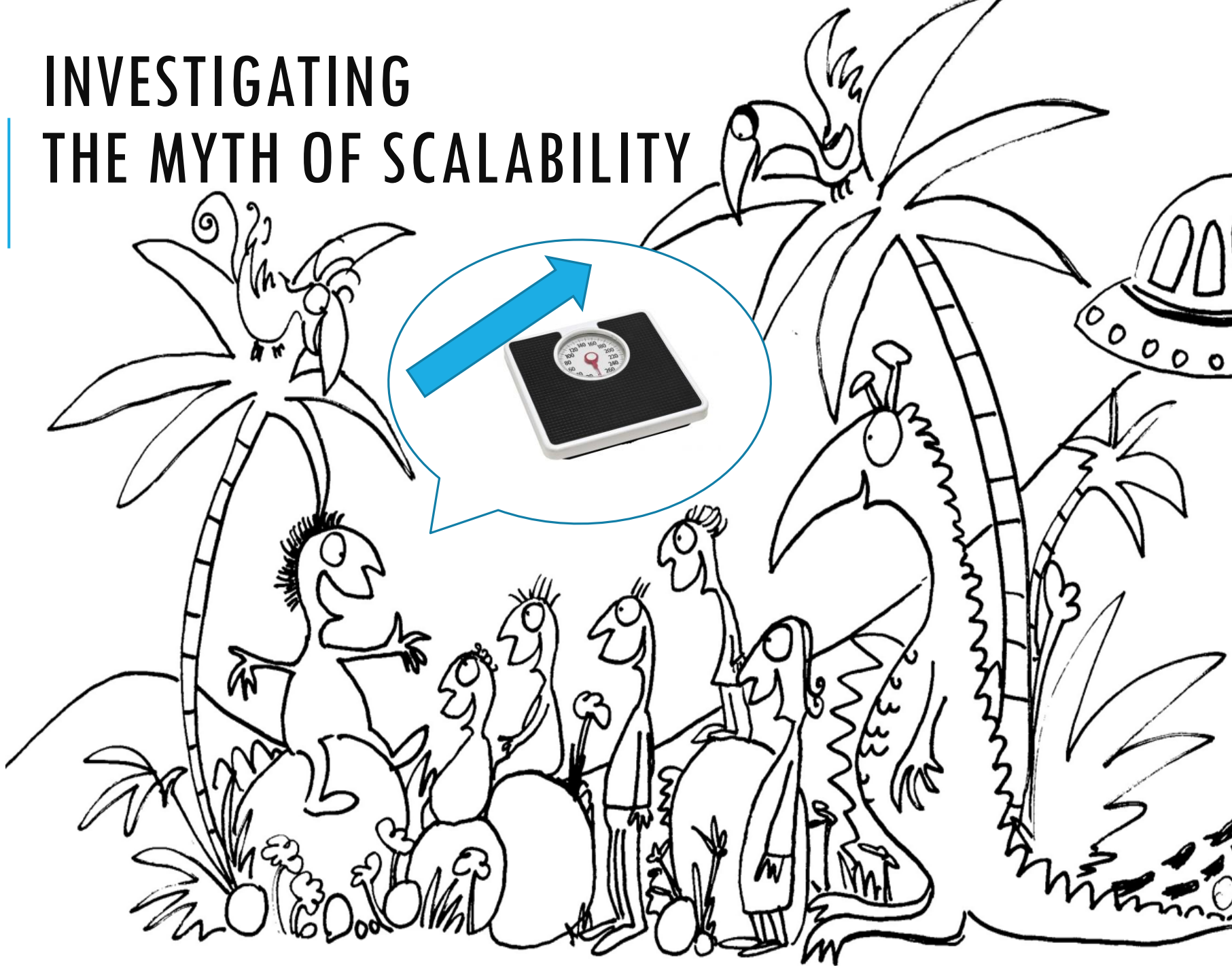
Would be the second target after long term debt is addressed

Capital there but Is limited to 10-30% of project size

Low High

- Breakthroughs:
  - Simpa Networks: \$4 million debt
  - OMC: \$3 million equity + SunEdison partnership

# INVESTIGATING THE MYTH OF SCALABILITY



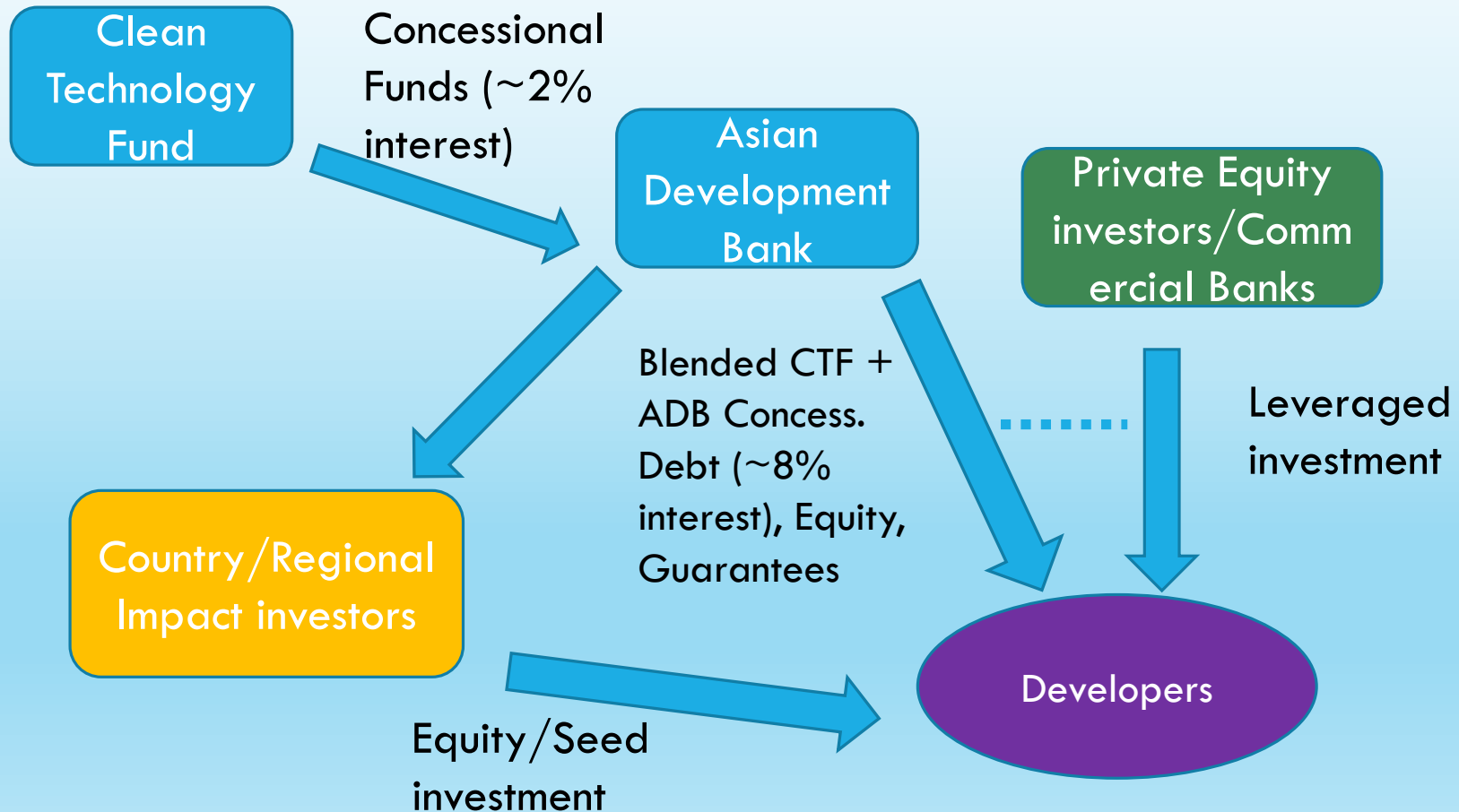
# SCALABILITY: IMPACT TO DATE (2014)

Company	Households reached	Delivery type	Founding	Active states	Targets
Simpa Networks	7,000	SHS	2011	UP	--
Boond	6,000	SHS, DRE	2010	UP, Rajasthan	--
SELCO	200,000	SHS	1995	Karnataka	--
Onergy	40,000	SHS, DRE, Solar pump	2009	West Bengal, Jharkhand, Orissa	1mm by 2016, 10mm by 2022
OMC	60,000	DRE	2011	UP	10mm people by 2020
Mera Gao	20,000	DRE	2010	UP	1mm people by 2017
<b>Total SHS</b>	<b>900,000</b>	<b>SHS</b>			
<b>Total DRE</b>	<b>100,000</b>	<b>DRE</b>			

Source: Company websites; Discussions with enterprises; The Climate Group (2015)

# CASE STUDY 1: ADB MINIGRID FUND

- Total investment: \$94.5 million; \$34.5 million from CTF

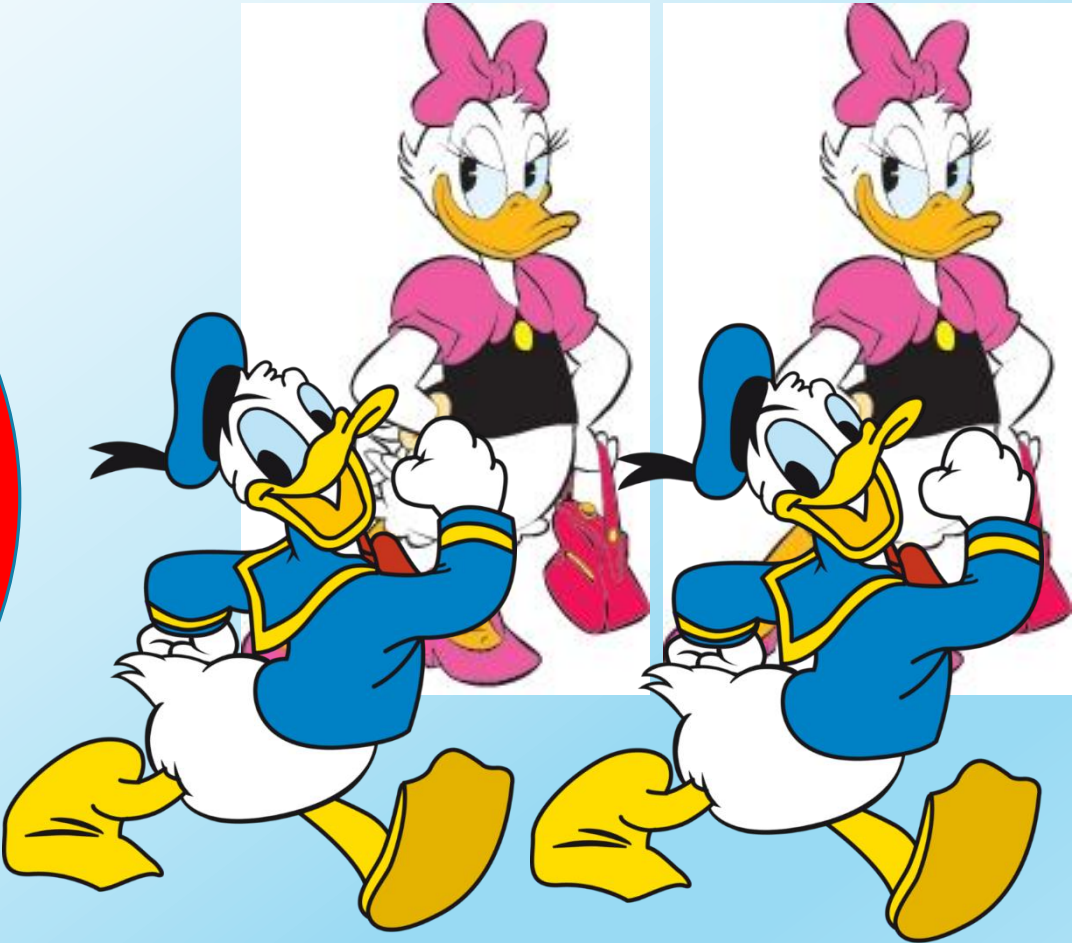


# CASE STUDY 2: INFUSE VENTURES

- INR 110 crore venture capital fund (\$18 million)
- Public-Private-Academia partnership
- First and only dedicated sustainability & cleantech incubation fund in India
- Types of investments
  - Seed capital: ~ INR 25 lakhs (\$40k)
  - Pilot stage equity investments: INR 1-2 crore (\$160k-320k)
  - Growth stage equity investments: INR 8-10 crore (\$1.3mm-1.6mm)



# DISCUSSION





**THANK YOU!**