Renewable Energy for Africa

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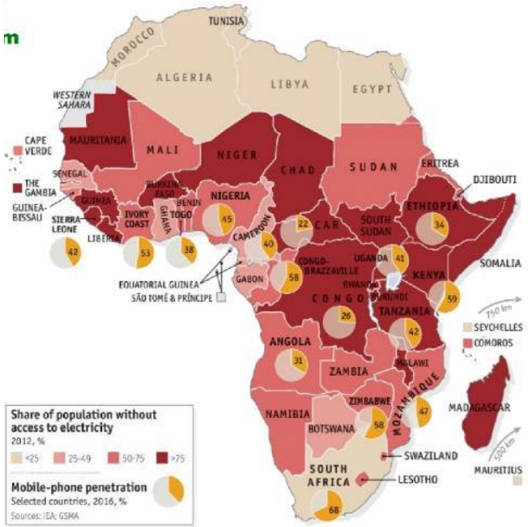
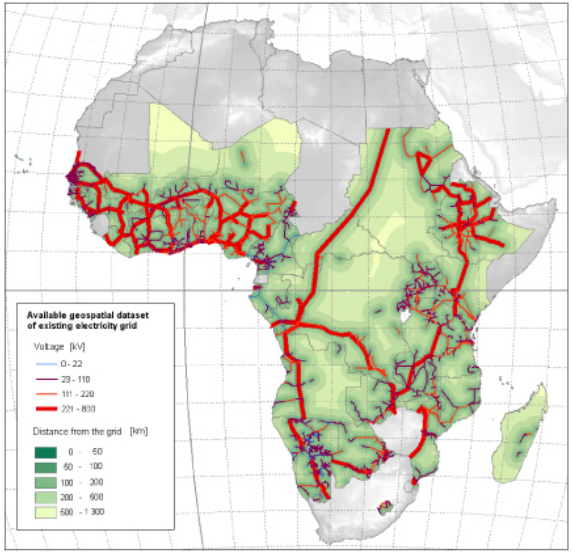
Input 1- Africa need is more about Distribution than Generation

The Need & Complexity



The Grid & Quality!



The Size

Renewable Generation Yes …but more decentralized & Off Grid….
More many small Distributed Energy Projects than On Grid large PV Farms

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Input 2 – Issue is about Scalability, & Volume deployment

> **600 Millions** People without electricity on such a large continent Means

- **300.000 Villages** to Power (50KW to 200KW) with DERs, **= 1000 DERs Mini grids /Month during 30 years**

+

- **20.000 Large Sites** from 1 MW to 10 MW with DER, **= 100 DERs Large Mini Grids /Month during 20 Years**
- **Traditional project scheme, = 18 Months Engineering, Commisionning and Testing**
- Industry needs to:
  - Productize and Standardize the solutions, and make it Modular, Scalable & factory tested,
  - To reduce drastically Engineering time, Site Comissioning, maintenance costs and enable local Contractors to manage the deployment.

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Input 3 – African Capacity need in Deploying and Operating DERs

Consumers

African DEScos

African EPCs

Equipment Vendors

Financers

! More & Balance sheet & Early Project fin.

! More &Training

! Simplified Solutions Local Industrialisation

! Below 5 M€ tickets & De risked Historical Datas

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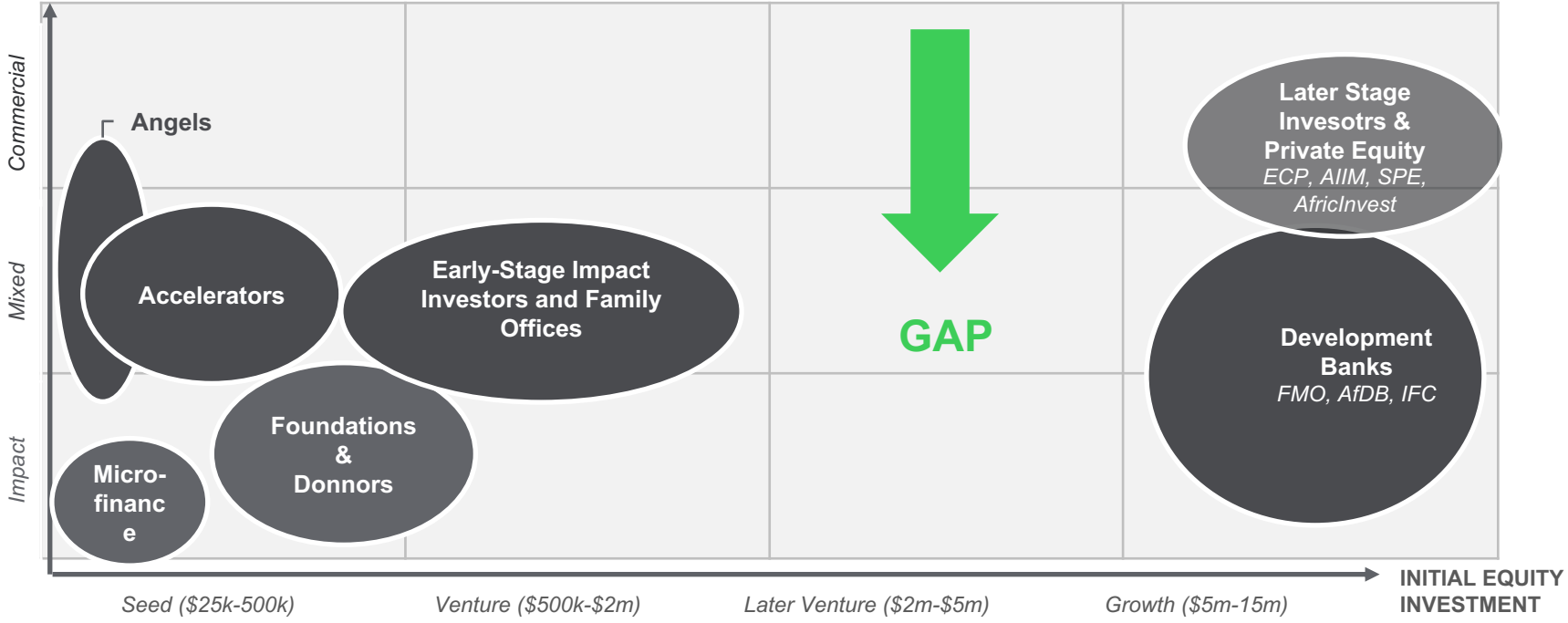
Input 4 – Private Investment and Financing Gap filling need



> Needs for Lower Tickets below 5 M€

> Needs financial Historical Datas

> Needs regulatory env. Private Investor

> Needs for De-risked Projects

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Input 5- 20.000 Commercial & Industrial Sites on Diesel generators are bankable for renewables

> **69% of Africans** do not have Energy at work place.

> Main roadblock to economic development : lack of quality energy

> Out of the few connected to grid, best case of the work place run on Diesel,

> This sites from 1MW to 10 MW, needs Hybridation at least 70% renewables / 30% Diesel.

> High energy density, bankable customers = **Bankable projects.**

C&I B Segment Bankable for Mini grid & renewables

1

Lowering cost of equipment & Financial costs

2

Economic dev. Boost Energy Cons In rural Zone & Lower Financial costs

3

Rural Electrification More Bankable

4

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Summary

> Energy transition to Renewable in Africa is **more about Distribution logic** than Generation, adopt a DER strategy would help a lot

> **Scalability is a roadblock,** Modular & Scalable solutions, Development of Local DEScos and EPCs would help a lot

> **Financing** at minimum ticket of 25 M€ is not adapted to the solution which **is more large Qtys of small projects** below this minimum.

> **Governments Regulations** should be very **open to private investors**, and their need for profit, they should adopt as a minimum a cost reflective approach or full deregulation to develop African DEScos, Jobs and Profits.

> Finally, **starting with Commercial & Industrial Building**, Bankable projects, would bring solutions costs down and Financial costs down, that will help in a second Phase Rural electrification.

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