GREENPEACE

duction

wer Sector crises – refusing to go away- Black out, Coal Scam etc

pact on social and economic aspects

pact on our environment; Global Warming- 58% of India's CO_2 from Power

rgy Injustice in India- Rich Vs Poor, Urban Vs Rural

nce the more need for carbon space

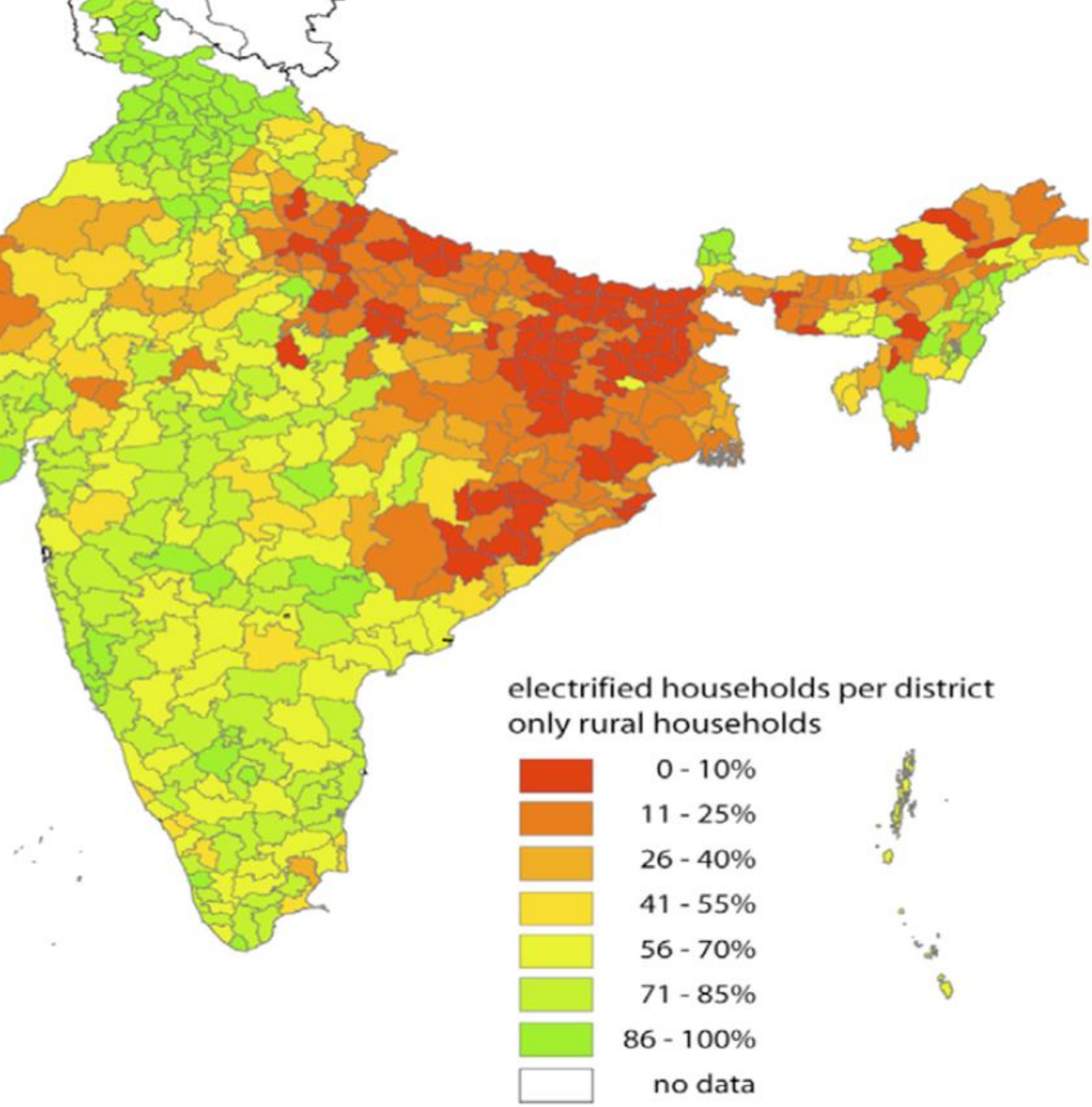
Results – Overlapping coalfields over

- Over 1.1 million hectares (11,000 sq. km.) of forest in just 13 (of 40) coalfields
- Over 185,000 ha. showed tiger presence
- 277,000 ha. showed leopard presence
- 55,000 ha. showed elephant presence
- 354,000 ha. lies within 10 km. buffer of a PA.

Thermal power plants need water!

- 41 GW added from 2007-12 during 11th plan
- 100 GW expectation from 2012- 2017- 12th plan.
- If this ratio is about 80% coa 80 GW would consume abo 2.5-2.8 Billion m^3 or about 9 tmcft of water.
- Of which 380 GW is just in 3 districts and220 GW in inlan districts- meaning the water source has to be freshwater

Electrification
Energy Injust




ENERGY
REVOLUTION BIHAR
The Decentralised Renewable Energy Way

- sad story of power cuts - both scheduled and unscheduled;
- low & high voltages, frequent collapse of the grid either locally or at state or at regional level;
- problem generally has been acute in meeting the peak hour demand
- At the end of 11th five year plan Bihar is expected to face an Energy shortage of 41% and Peak Deficit of 51%
- 70% HH in Bihar still without access to electricity.
- Bihar is left with Load factor and no resources. Per capita consumption is lowest in country and near non-existent in Rural Areas.

- **Bihar is left with Load Factor- 540 MW installed Capacity**

Energy Forecast

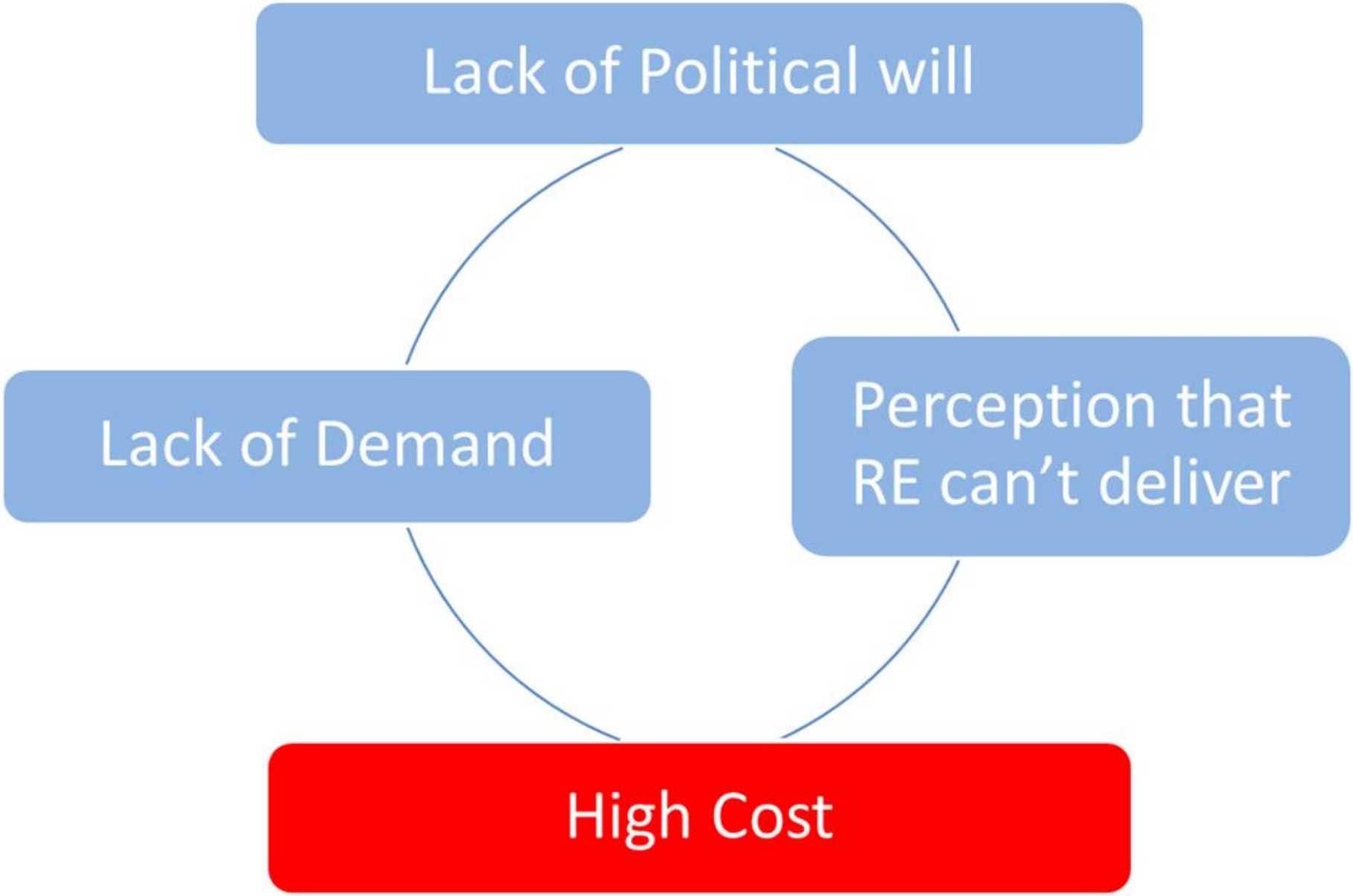
Table-8 Demand Forecast

r	Peak Load (MW)	Energy Requirement (MU)
6-07	1570	9629
7-08	1842	11134
8-09	2177	12874
9-10	2575	14886
0-11	3046	17213
1-12	3607	19905
6-17	5598	32857
1-22	9567	58248

Stark Realities- Positives

- Bihar is growing and GDP growth was 2nd highest in country a approx. 11%
- High political interest on RE in Bihar
- Special RE task-force is being created by Govt. of Bihar
- Projects worth 1600 MW have been approved
- MFIs leading the DRE revolution in the state

Key Barriers for RE growth



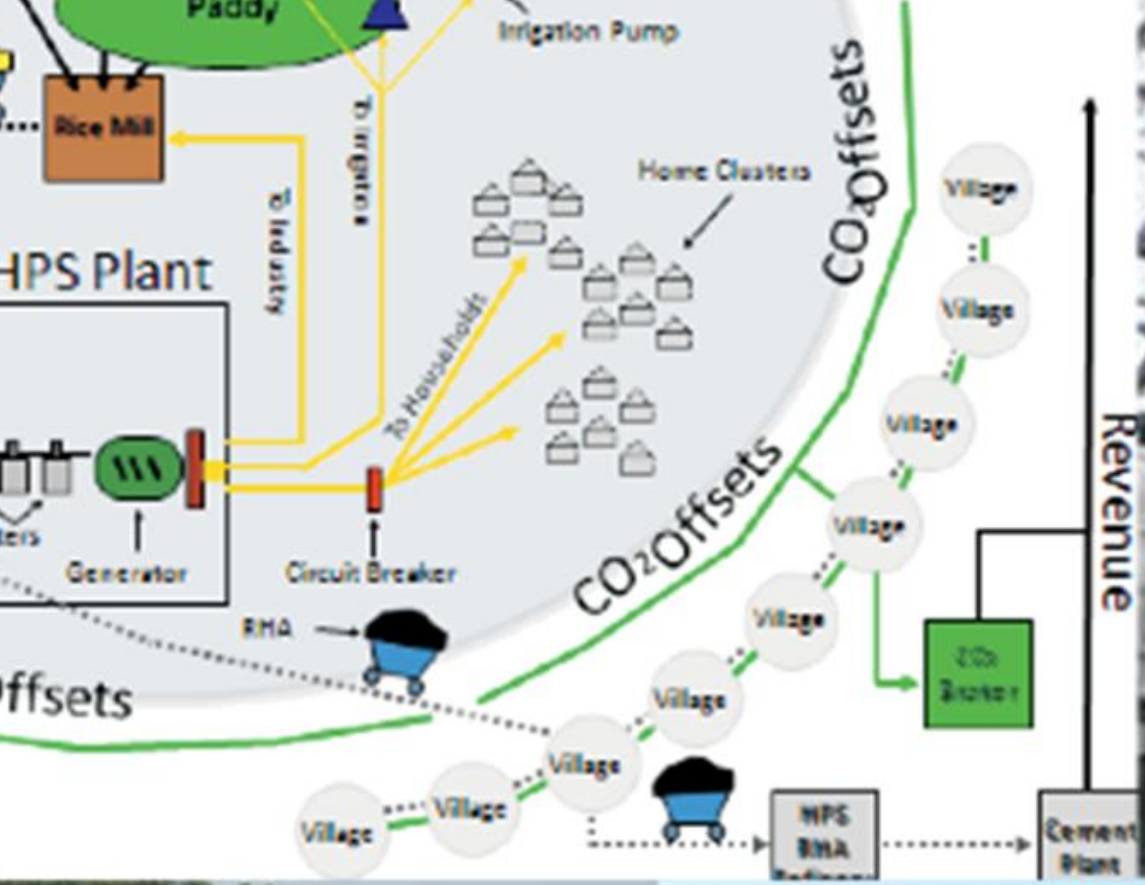



Political Theatre of Bihar





www.mapsofindia.com



Solar Pump for Drinking Wa

748 cr.

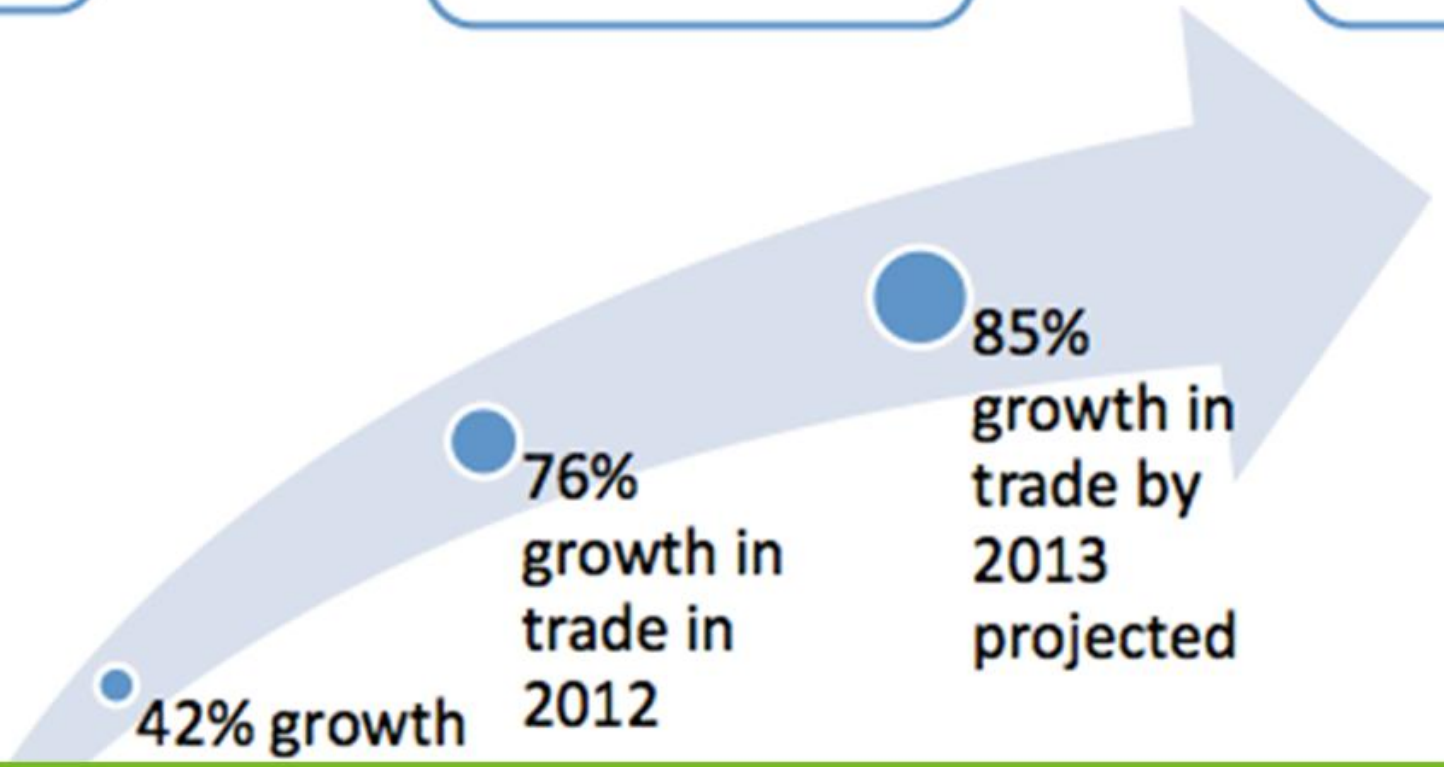
- Total investment

1671 MWs

- Total production (solar + biomass)

2000 DRE

- Total projects



Private players' & Investment

352 DRE projects

22 Cr. of investment

1000 village communities benefitted

355 MW of RE projects

2743 cr. of investment

5.4% RPO status*

[r]cluster" r a nart energy access

E OF MICROGRIDS IN PROMOTING THE INTEGRATION OF RENEWABLE ENERGY IN INDIA

Framework For Energy pathway in Bihar

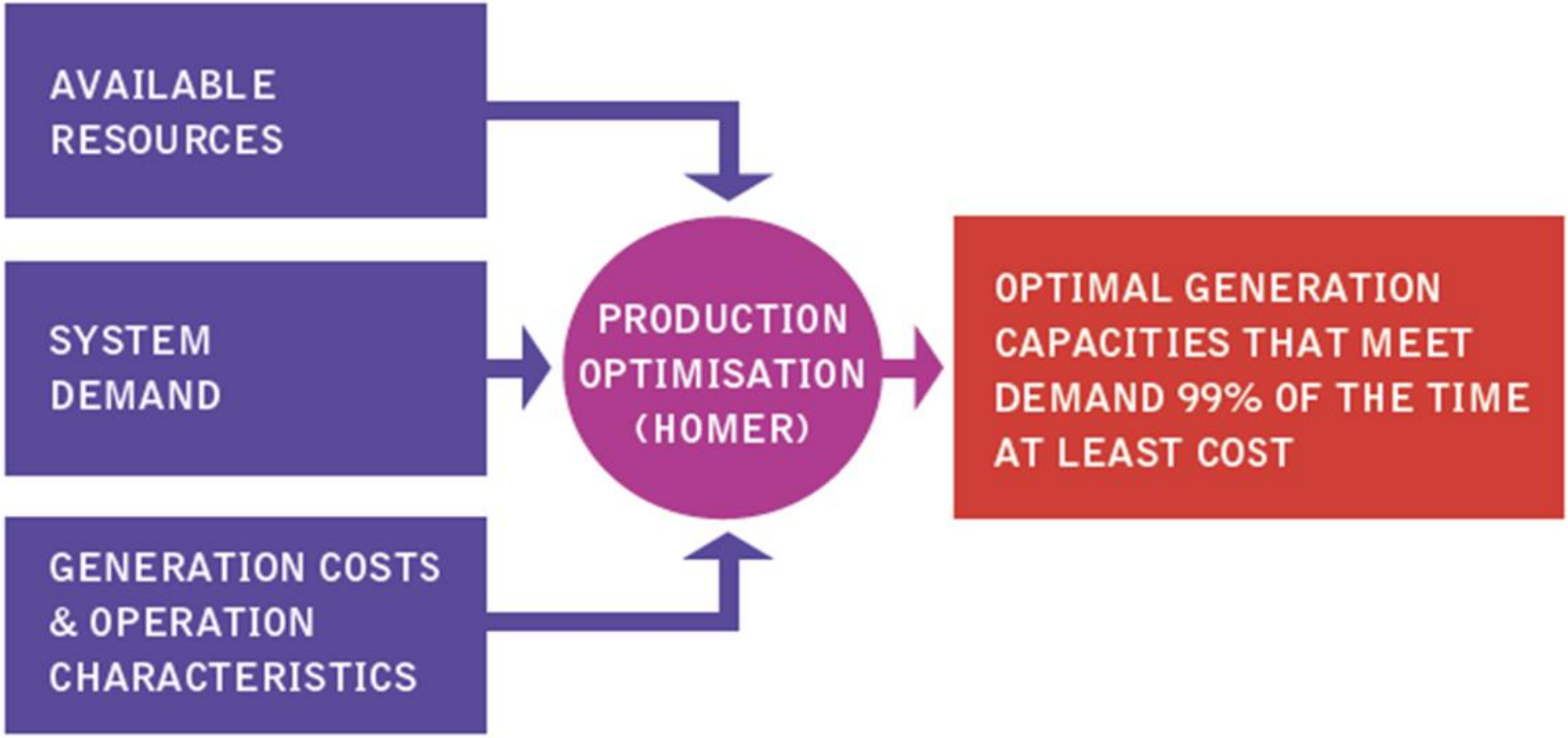
om-up electrification", integrated with "**Top-down financing"**

lopment of micro-grids cluster

nicro-grid approach is **smart** because it can facilitate the integration of renewable ies and it can reduce **transmission losses** by having generation close to demand.

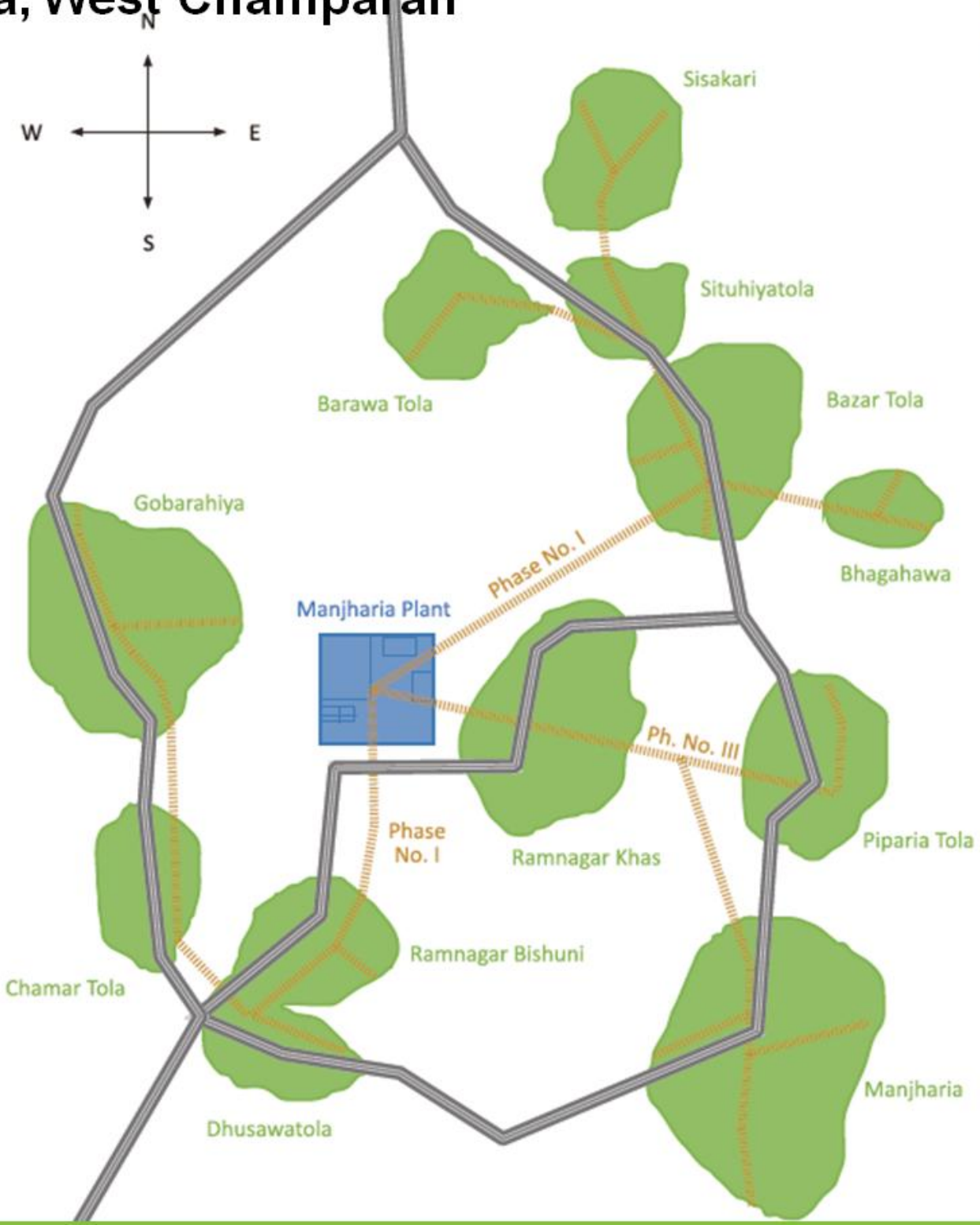
demand projections
define optimal generation mix
network design & implementation

figure 2: process overview of supply system design by production optimisation



Source: ENERGYNAUTICS

Case Study Manjharia, West Champaran



Legend:

ROAD

VILLAGE

DISTRIBUTI

Connect on:

Phase No. I - 115

Phase No. II - 80

Phase No. III - 105

~~0 villages can be electrified by various sources including~~
r, Bio-mass and small Hydro.

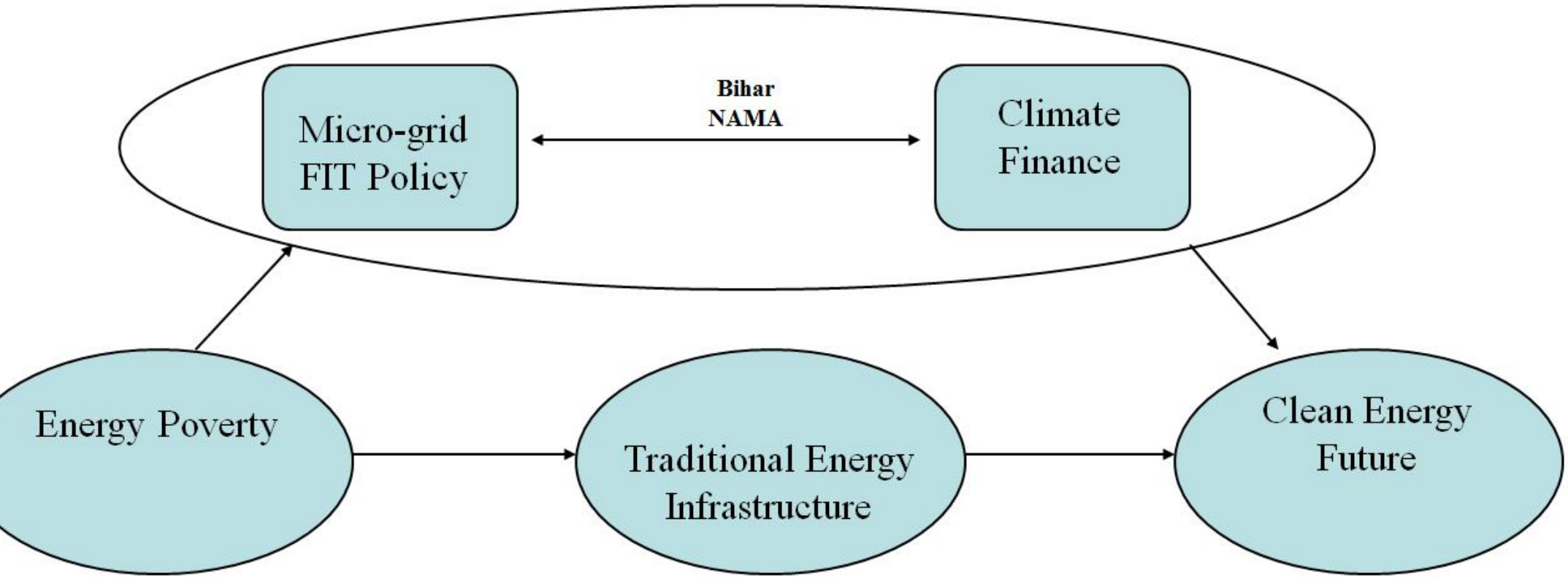
00 villages can be electrified by solar and Biomass and
through small hydro

al of 2200 MW would be generated at level of Micro-grid

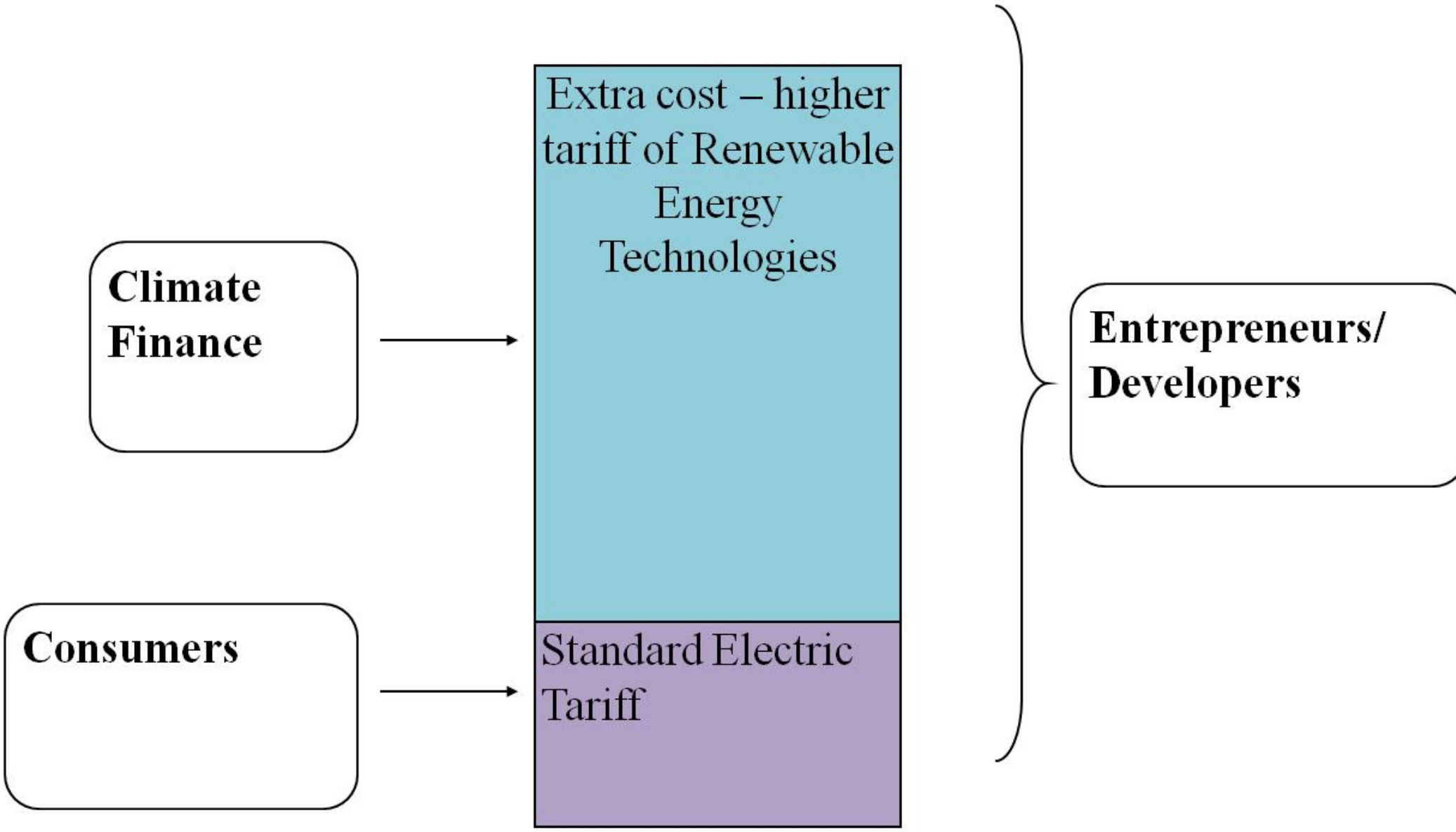
eration capacity goes up to 10000 MW of PV, 4000 MW o
ass and about 800 MW of small hydro when integrated
central grid

00 cr or about 15 billion USD worth of investment require

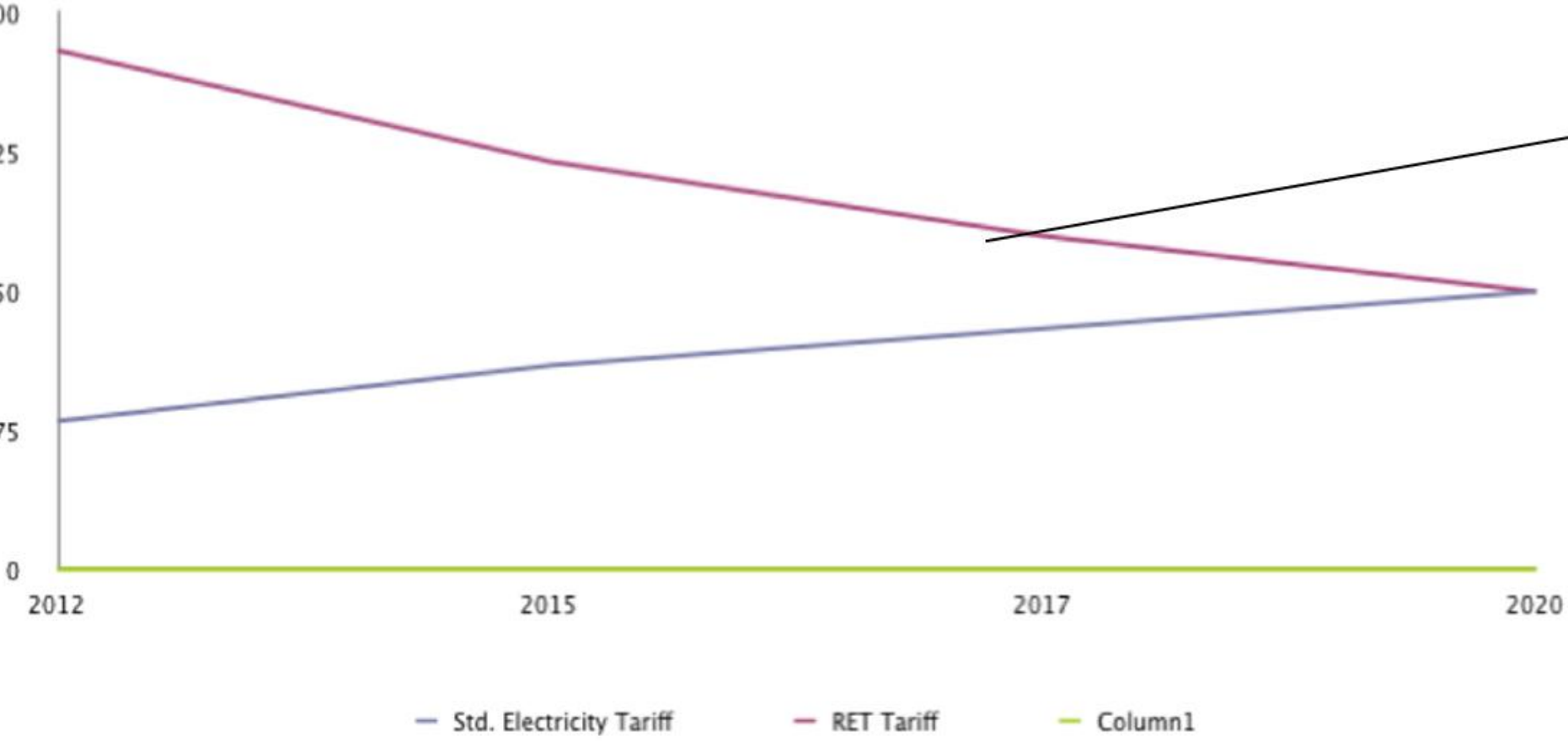
help Bihar


Micro-grid
FIT Policy
Bihar
NAMA
Climate
Finance
Energy Poverty
Traditional Energy
Infrastructure
Clean Energy
Future

Off grid FIT


Climate Finance
Consumers
Extra cost – higher tariff of Renewable Energy Technologies
Standard Electric Tariff
Entrepreneurs/ Developers

Incremental Cost



Climate Finance

Policy requirement to support E(R) cluster

parent planning process and mapping of Renewable energy
rces.

gnizing DRE- both grid-interactive and off-grid, as prefered optic
y access.

ing bottom-up electricity infrastructure and top down fianncing a
ple for HH/Rural eletrification.

of financial allocation under RGGVY to DRE for ensuring quality
omical and afforadable access to rural electrification

Feed-in tariff for Bihar

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THANKS!

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