

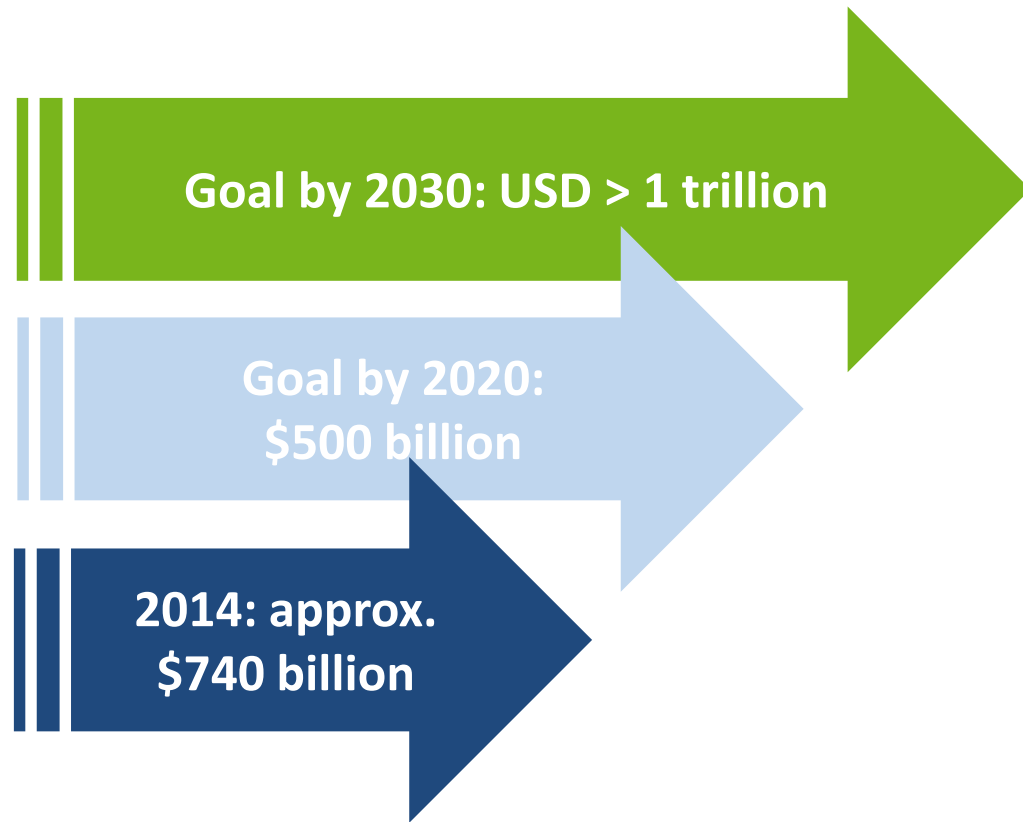
# Experiences – Low Emission Development Strategy Zimbabwe



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## WORKING APPROACH

Annual investment required to reach 2°C



- Significant investment gap
- Can only be closed by private funding
- Q: how to engage the private sector?

## WORKING APPROACH

- While climate change is a global issue, climate change mitigation always relates to investment / leveraging investment in activities in energy, agriculture & forestry (AFOLU/LULUCF), industry (IPPU) and waste
  
- For developing countries -> focus on economically viable abatement potential
  - How to define economically viable / economically viable vs financially viable?
  
  - $NPV(i, N) = \sum_{t=0}^N \frac{B_t - Ct}{(1+i)^t}$
  
- Combine amendments to policies (push factor) with financing instruments (pull factor)

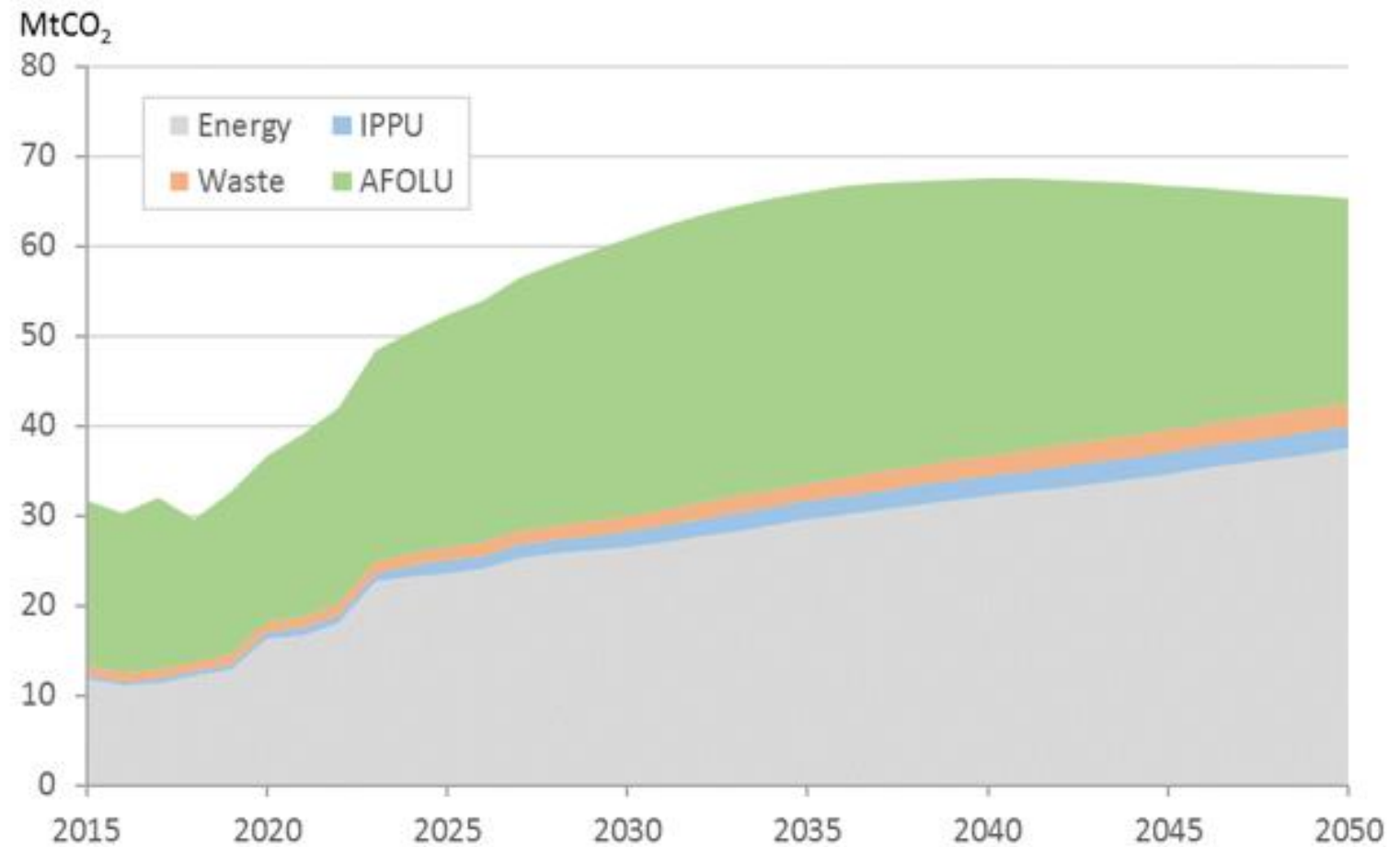
## WORKING APPROACH

# Zimbabwe's Low Emission Development Strategy

## BAU MODELLING

Based on GHG inventory GDP forecasts and sectoral assumptions (non-linear effects)

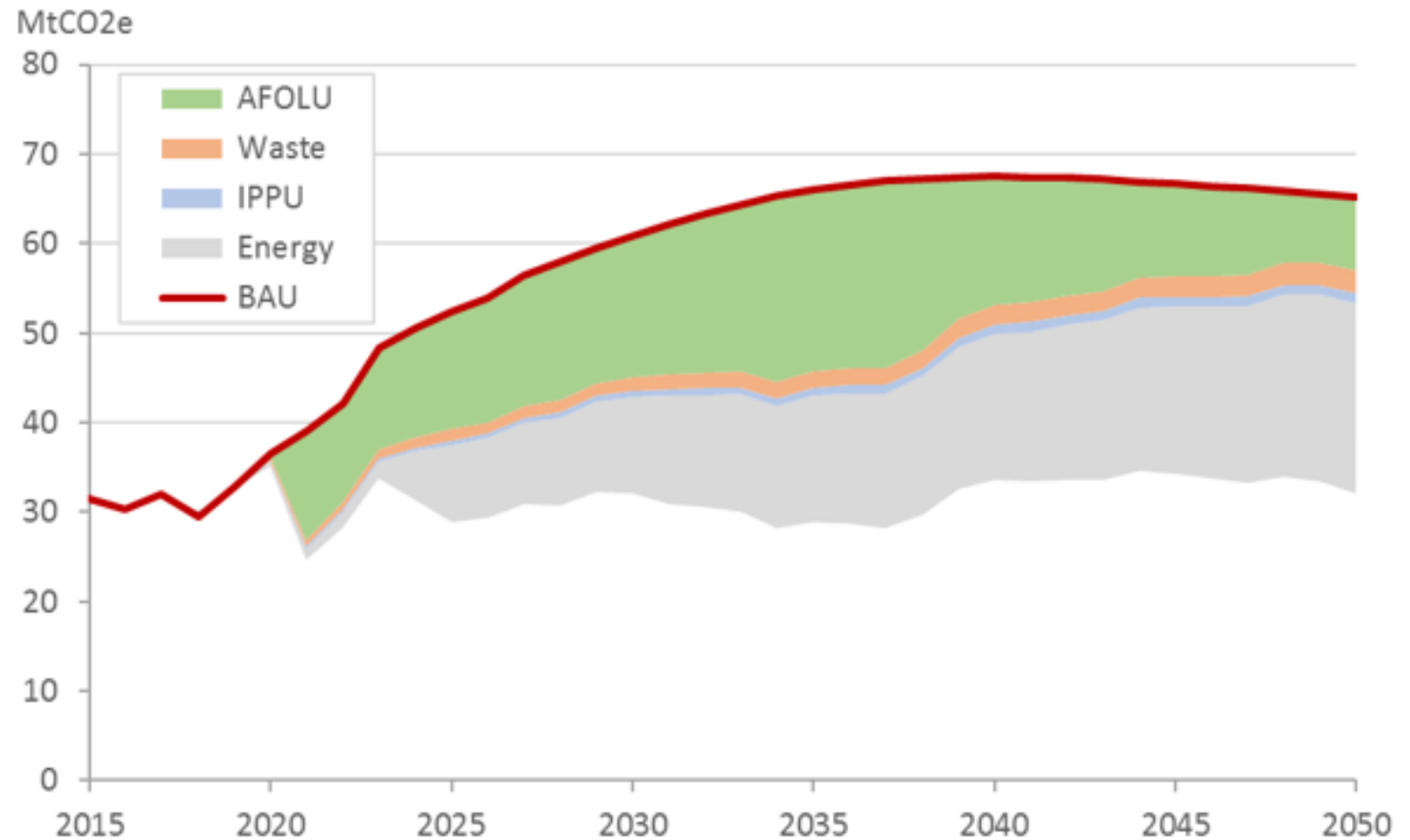
Economy wide BAU Scenario



## MIT MODELLING

Government led sectoral screening process, sectoral WS with private sectors and CSOs

Economy wide MIT Scenario



## Yes, but at what cost?

- High level modeling, CBAs for 38 (sectoral) mitigation actions
- Accumulated investment
- Net Present Value @ SDR = 6%
- What are the additional cost?

Table 7: Summary of Investment Needs

No	Mitigation Measure	NPV (in M USD)	MAC (in USD/tCO2e)	Accumulated Investment Need up to 2030 (in M USD)
1	CSA On-farm biogas	175.01	- 28.98	82.95
2	CSA Solar pumping for irrigation	517.32	- 94.44	378.98
3	Off-grid solar electrification	88.81	- 138.46	250.89
4	EE lighting	106.68	- 224.34	4.00
5	Rooftop solar (commercial)	128.43	- 216.02	40.00
6	MEPS	39.31	- 98.54	18.64
7	Solar LED street lighting	25.12	- 86.69	20.76
8	Solar water heaters	489.69	- 144.45	90.08
9	RPC	123.96	- 28.76	36.06
10	CoH biogas plant	0.15	- 26.55	0.26
11	CoB biogas plant	2.91	- 24.83	3.30
12	Firle biogas plant	11.62	- 24.79	13.20
13	Devil's Gorge	238.36	- 3.95	2,250.00
14	Batoka hydro	1,123.65	- 6.20	2,600.00
15	Solar IPPs	- 1.91	4.74	13.28
16	REF micro-grids	- 0.14	10.85	2.66
17	ZPC solar plants	- 96.61	11.02	354.00
18	Unspecified RE	N.A.	- 1.91	-
19	Energy efficiency program	1,779.48	18.24	341.17
20	Electric motors (mining)	0.83	- 8.01	0.32
21	NRZ Rail electrification	- 349.47	102.20	801.00
22	EV	- 193.81	17.71	367.37
23	Modal shift	N.A.	12.00	N.A.
24	Fuel economy	2,051.67	- 100.83	510.87
25	Biodiesel program	2.94	- 0.92	299.70
26	Clinker substitution: fly ash	12.42	- 16.98	0.64
27	Clinker substitution: BFS	2.86	- 3.91	9.22
28	N2O decomposition	- 2.23	0.70	2.84
29	Coke substitution: Steel	- 226.21	25.86	-
30	Coke substitution: FeCr	- 81.96	27.86	-
31	LFG Flaring	- 31.79	0.74	14.36
32	Composting Emissions Reductions	25.91	- 2.20	104.51
33	Reduction of Deforestation	N.A.	0.78	42.48
34	Fruit Tree	437.17	- 119.77	- 661.34
35	Commercial Forestry	183.21	- 239.35	- 123.77
36	SWMP	- 2.85	1.37	7.33
37	Conservation Agriculture	549.83	- 2.13	3.14
38	Reduction of Prescribed Burning	N.A.	3.50	1.31
	Total - All Projects	7,130		7,880
	Total - Projects with positive NPV	8,116		6,273

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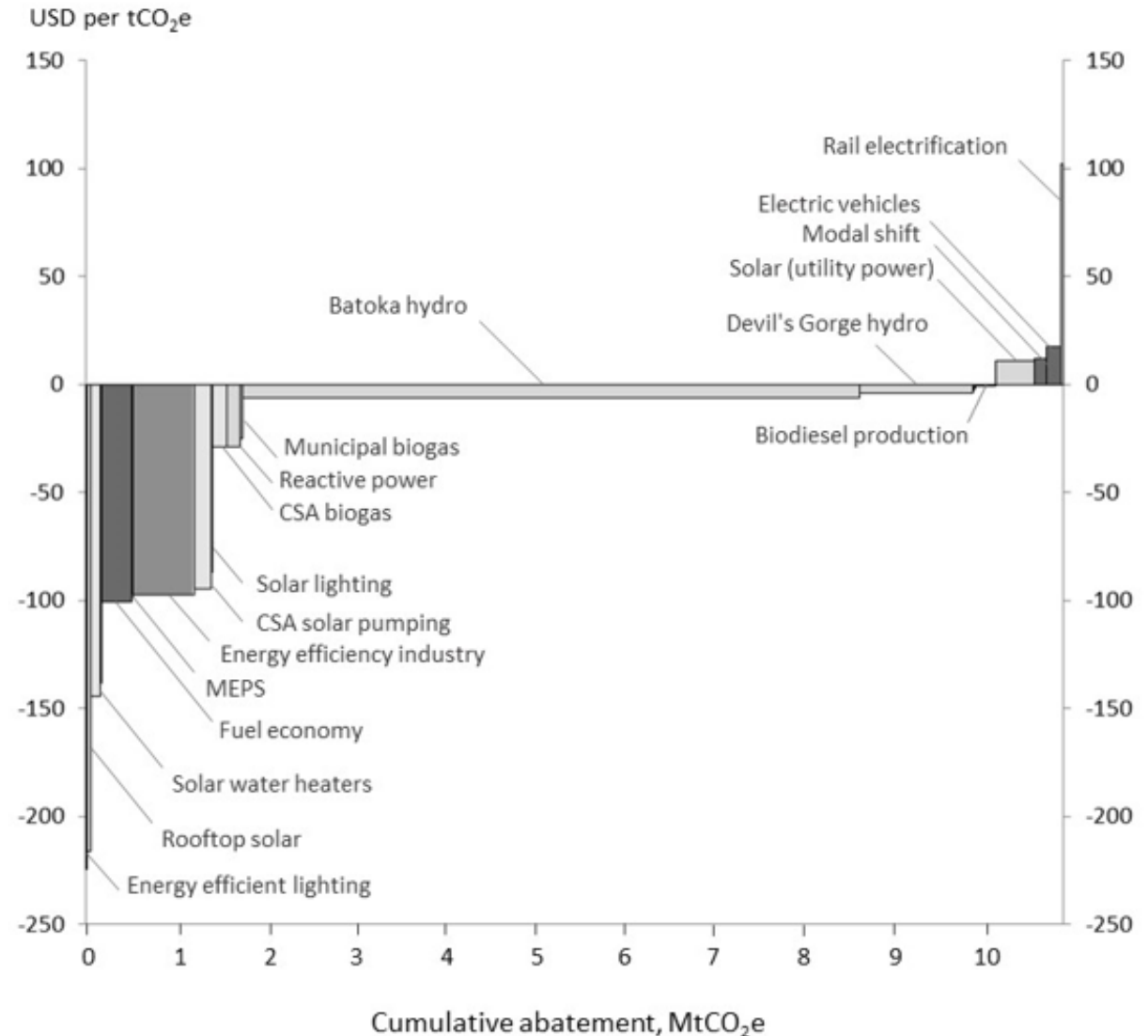


# MARGINAL ABATEMENT COST CURVE – ENERGY

Cost of one emission reduction

$$MAC = \frac{NPV @ SDR}{Abatement Potential (2030)}$$

Marginal abatement cost curve for energy use, 2030

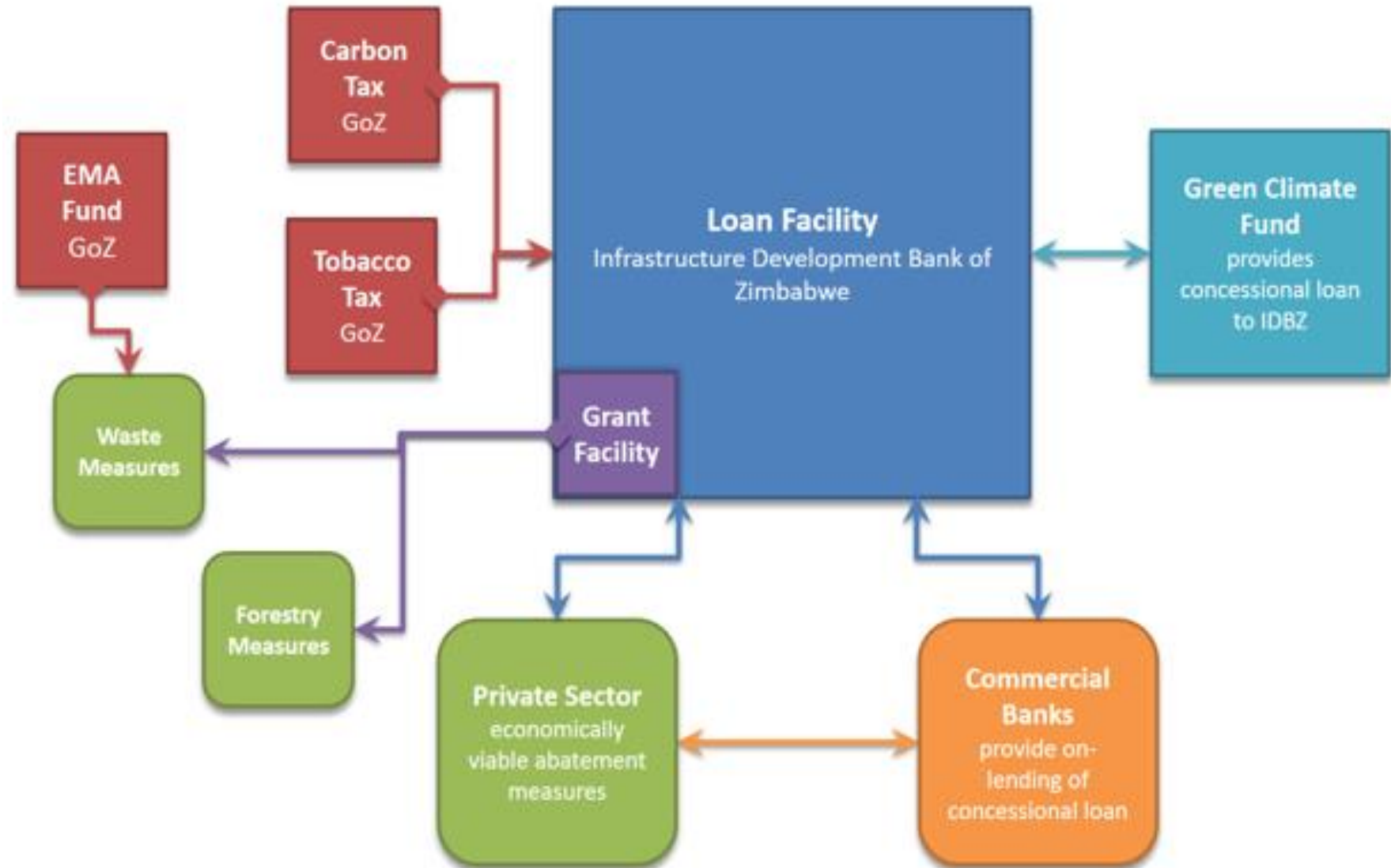


## ECONOMIC VIABILITY $\neq$ FINANCIAL VIABILITY

### Example commercial forestry



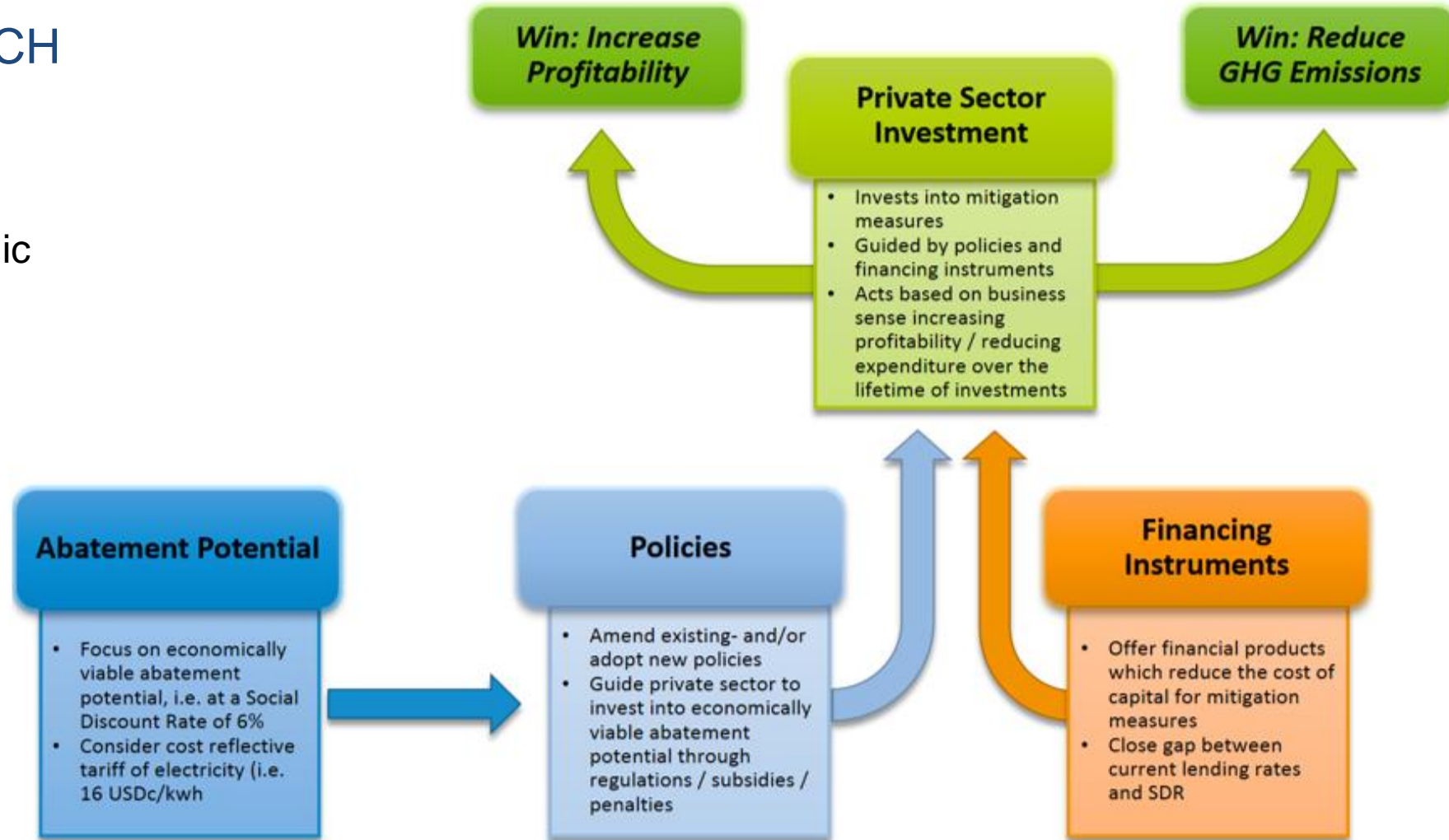
## WORKING APPROACH



Low Emission Development Financing Facility

# WORKING APPROACH

## Financial Intervention Logic



# Thank you for your attention

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