Elements of Scaled-up Crediting Instruments

Indonesia Geothermal Case

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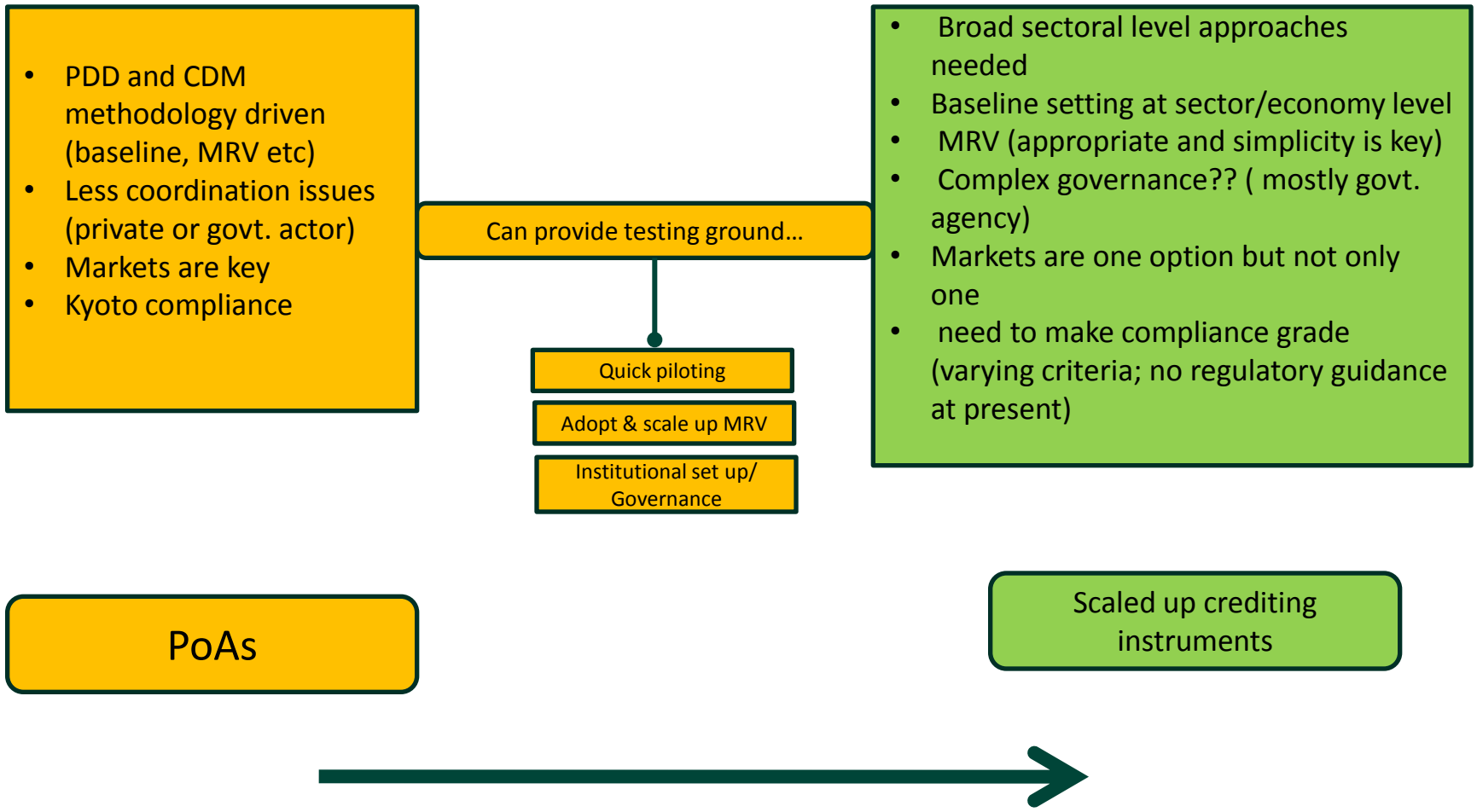
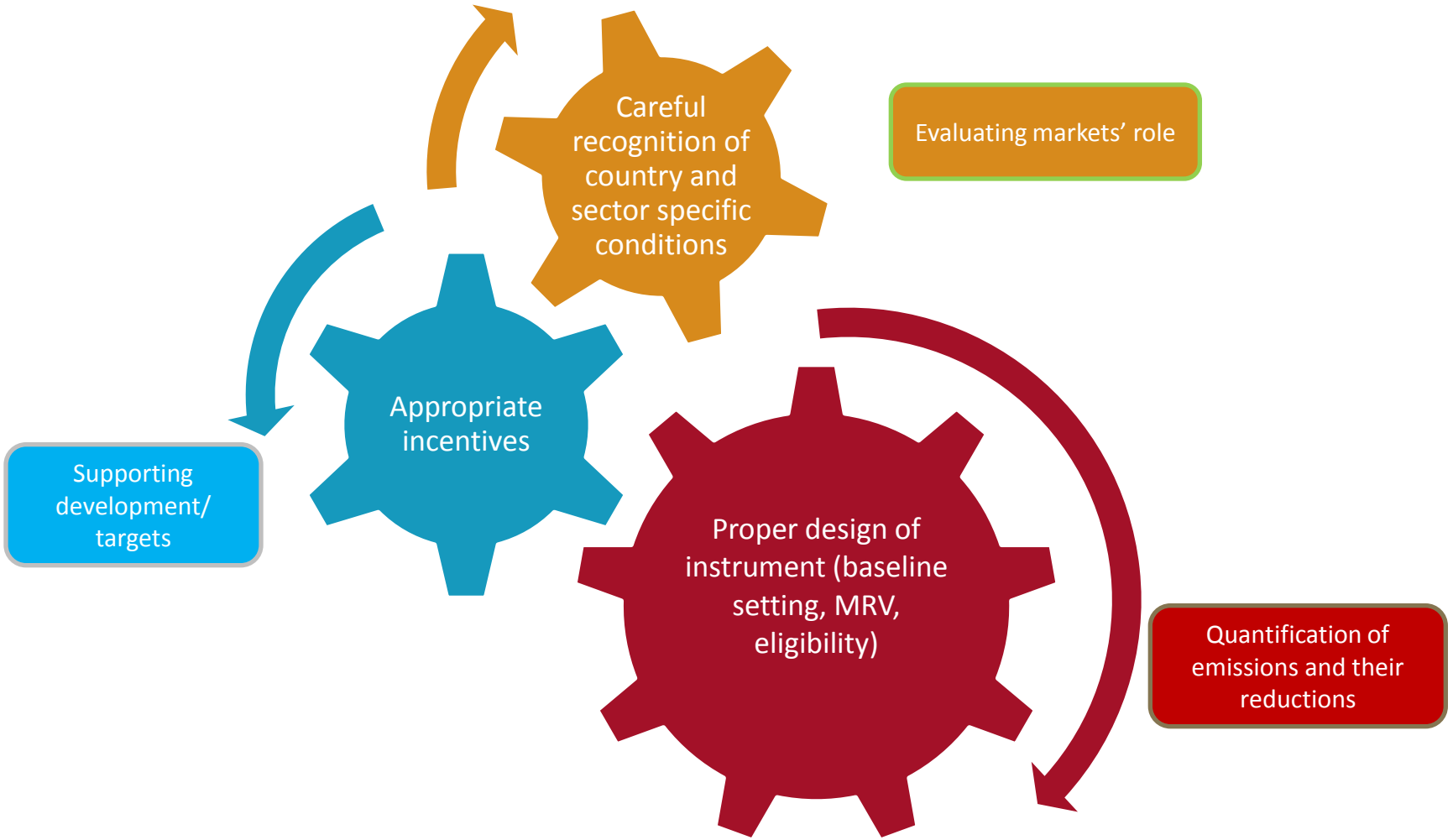
pmr Partnership for Market Readiness

Contents

PoAs to Scaled up crediting instruments – any elements to adopt?



Broader elements of market instruments



Indonesia Geothermal Development

Indonesia Geothermal Development

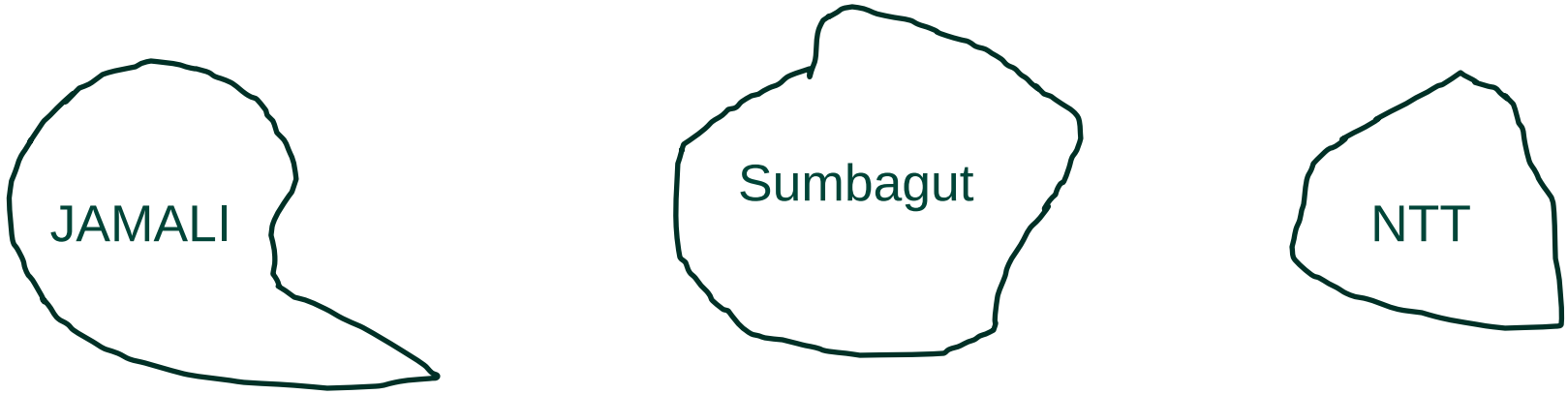
Objective: To improve the share of renewable energy in total grid mix by 2025.

Sector specific conditions	Incentives	Design elements

• High potential
• High up-front risks
• High upfront costs
• Higher incremental costs (over coal)
• Inability of state utility to off-take without PSO
• Technology is almost mature and accessible
	• Tariff policy
	• Mandatory off-take by PLN
	• Tax incentives
	• Competitive bidding
		• Homogenous in nature
		• Clearly defined grids
		• Has a target setting (9500 MW by 2025)
		• Base load candidates
		• Baseline setting
		  • Elements of ACM0002
		  • Can be dynamic/fixed based on economic growth/demand for electricity services
		• MRV can be relatively easy (few parameters to monitor for quantification)

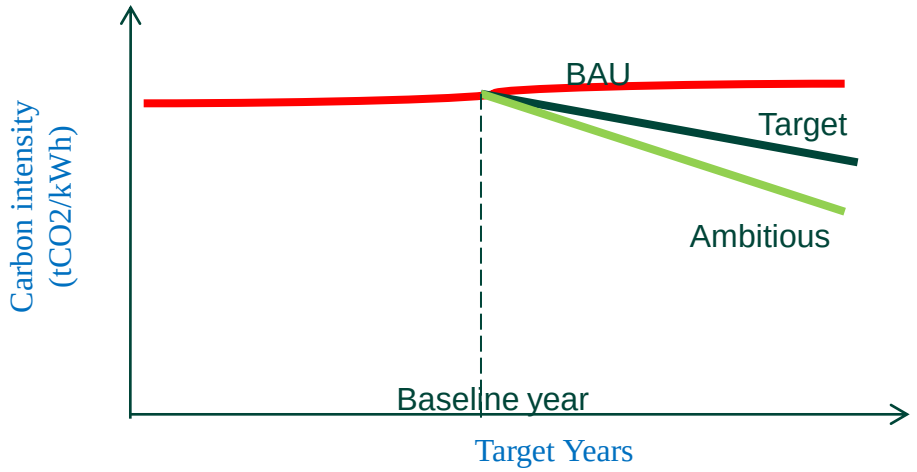
Government is trying to address issues the sector is facing and sending a signal to developers through introduction of appropriate sector policies for geothermal promotion.

Boundary and Scope



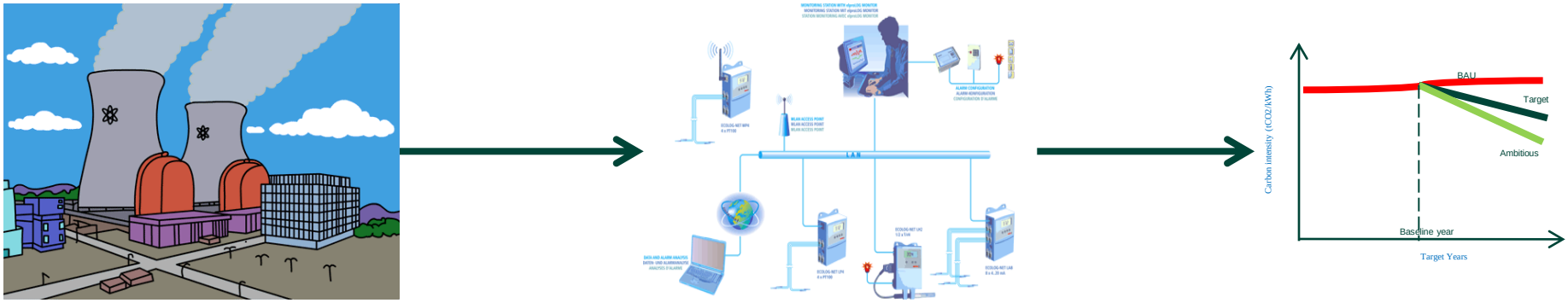
- All electricity generators
- Differentiated by grid configuration (Java, Sumatra-Bali,..)
- Separate grids, varying incentives
- Major source of emissions – CO_2
- Old plants can be excluded; but capacity additions can be included (negotiation/conservatism)
- Small plants (less than 1 MW) can be excluded
- Consideration may be given to plants located in outer islands

Baseline (or Threshold) Setting



- Relatively easy to set compared to other types of sectors (e.g. industrial)
- For each grid, based on historical emissions data and projected values based on planned installed capacity (and technology)
- Projections can be linked to electricity generation growth / govt. ability to 'fund' incremental costs (may not easy to quantify!!)
- Can be in intensity terms (tCO2/kWh)
- ACM0002 elements can be easily adopted (OM and BM weightage for baseline and target can be negotiated)
- Absolute terms may not be suitable considering heavy growth needs
- Domestic vs international requirements (stringency of OM/BM weightage)
- PLN with the support of MEMR and other agencies are better positioned to propose the baseline setting

MRV



- Relatively easy to establish compared to other types of sectors (e.g. industrial); following ACM0002 approach
- For each grid, monitoring of electricity generation and supplied to the grid; fuel consumption in each power plant is already in place (need some improvements)
- At present, tCO2/kWh for each grid is available; but with a time lag
- Systems need to be placed to collect the information on timely basis
- QA/QC procedures are key and needs further strengthening
- A system to monitor the efficiency of power plants is needed
- On line and centralized system and real time data reporting/compilation is useful

Incentives for participation

- Helps to set ambitious target setting
- Incremental cost of generation from geothermal (between USc3-10/kWh)
- Unsustainable levels of electricity subsidy (PSO)
- High upfront costs for development (“resource risk”)
- Opportunity to integrate carbon in to policy and support for ‘development’
- PLN’s current inability to off-take (high cost of generation)
- Investor’s need certainty and support (no major developments in the last decade or so)
- Scalability (vs PoA vs project-by-project route)

Issues for debate

- How to integrate carbon in to policy development and implementation?
- How revenue will be allocated/distributed among players?
- What level of certainty carbon provides to the government for developing and implementing the policy?
- What is the incentive for private sector participation?
- Any impacts on consumers in terms of increased electricity tariff??

Summary

Elements	Yes/No	Remarks
Sector Context		
Need for 'markets'	√	High potential but little exploited; Higher upfront risks; high incremental costs; govt. needs to bear the incremental costs and compensate PLN (PSO)
Incentives		
Sectoral Policy	√	Geothermal development policy is prepared; tariff policy; mandatory off take
Target setting	√	Govt. has set a target of 9500 MW by the year 2025
Design elements		
Boundary	√	Relatively easy to define; single output (electricity); no/limited competitiveness issues
Coordination	√	PLN/MEMR can play a major role with coordination from other agencies
Data availability	√	Reasonable, can be improved further
Baseline/Target setting	√	Elements of ACM0002 can be used; intensity based calculations are appropriate