



## De-risking Investment in Renewable Energy

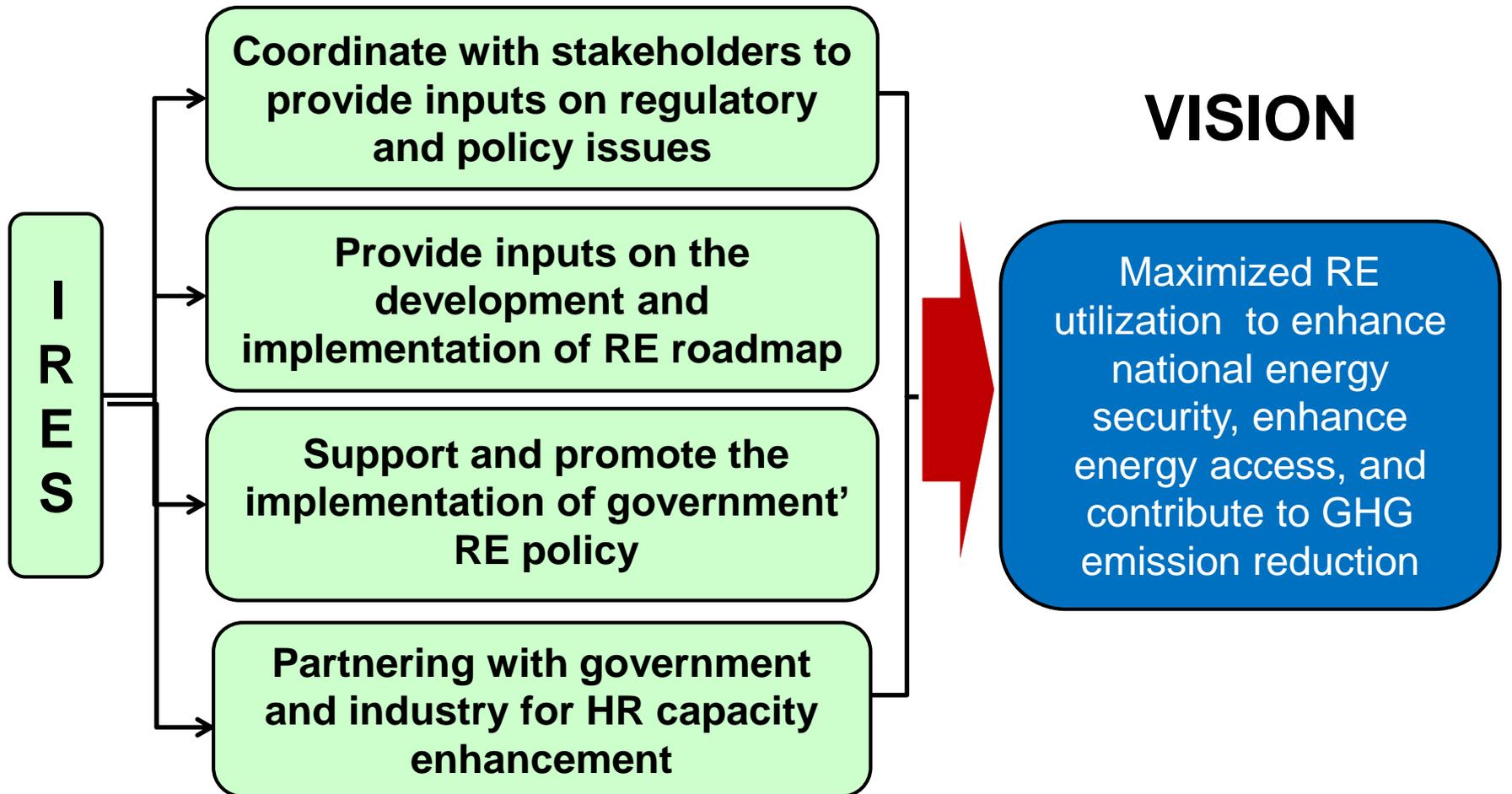
**Paul Butarbutar**  
**Executive Director IRES**  
**May 21, 2019**

# OUTLINE

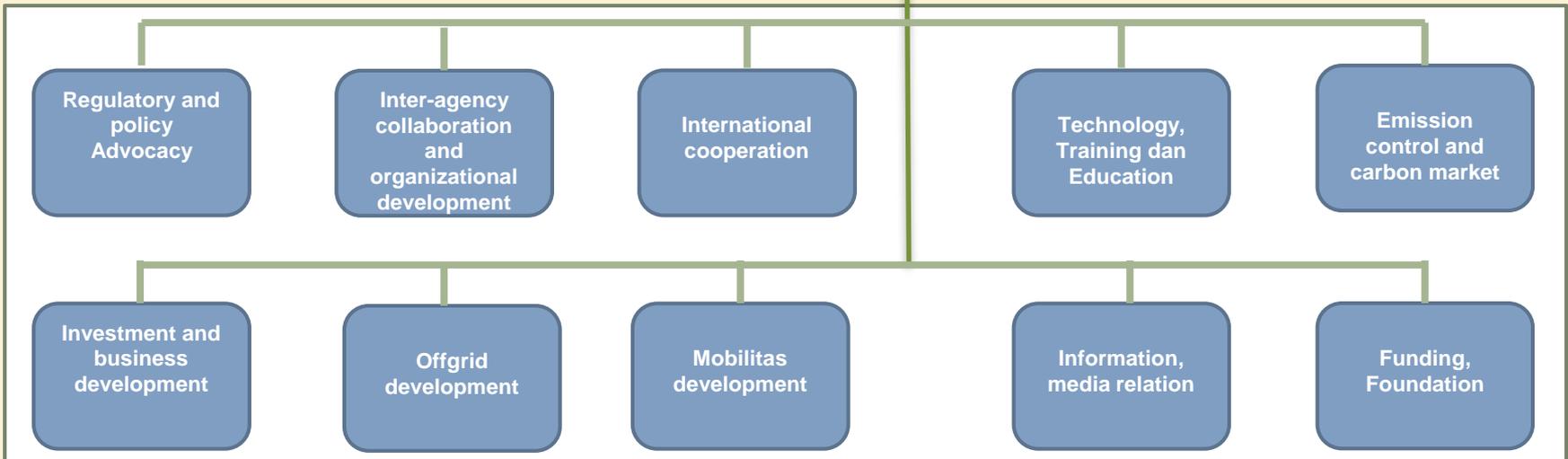
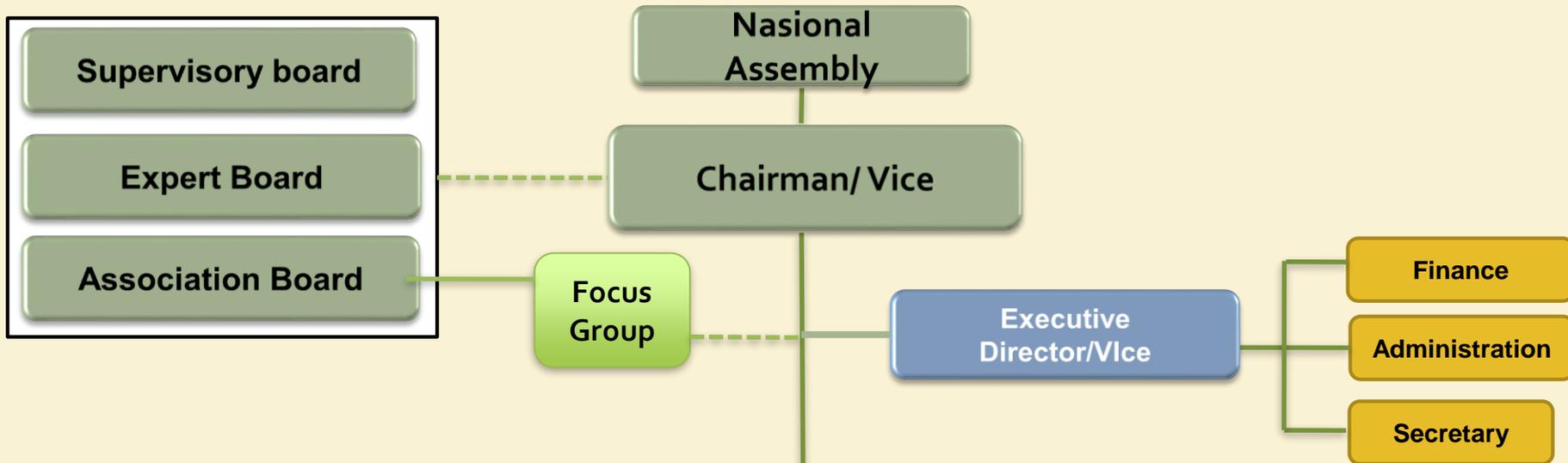


1. Introduction to IRES
2. Investment risks in RE
3. De-risking framework
4. Typical risks in RE projects
5. Available insurance product for de-risking
6. Case: risks in small scale hydro project in Indonesia
7. Questions

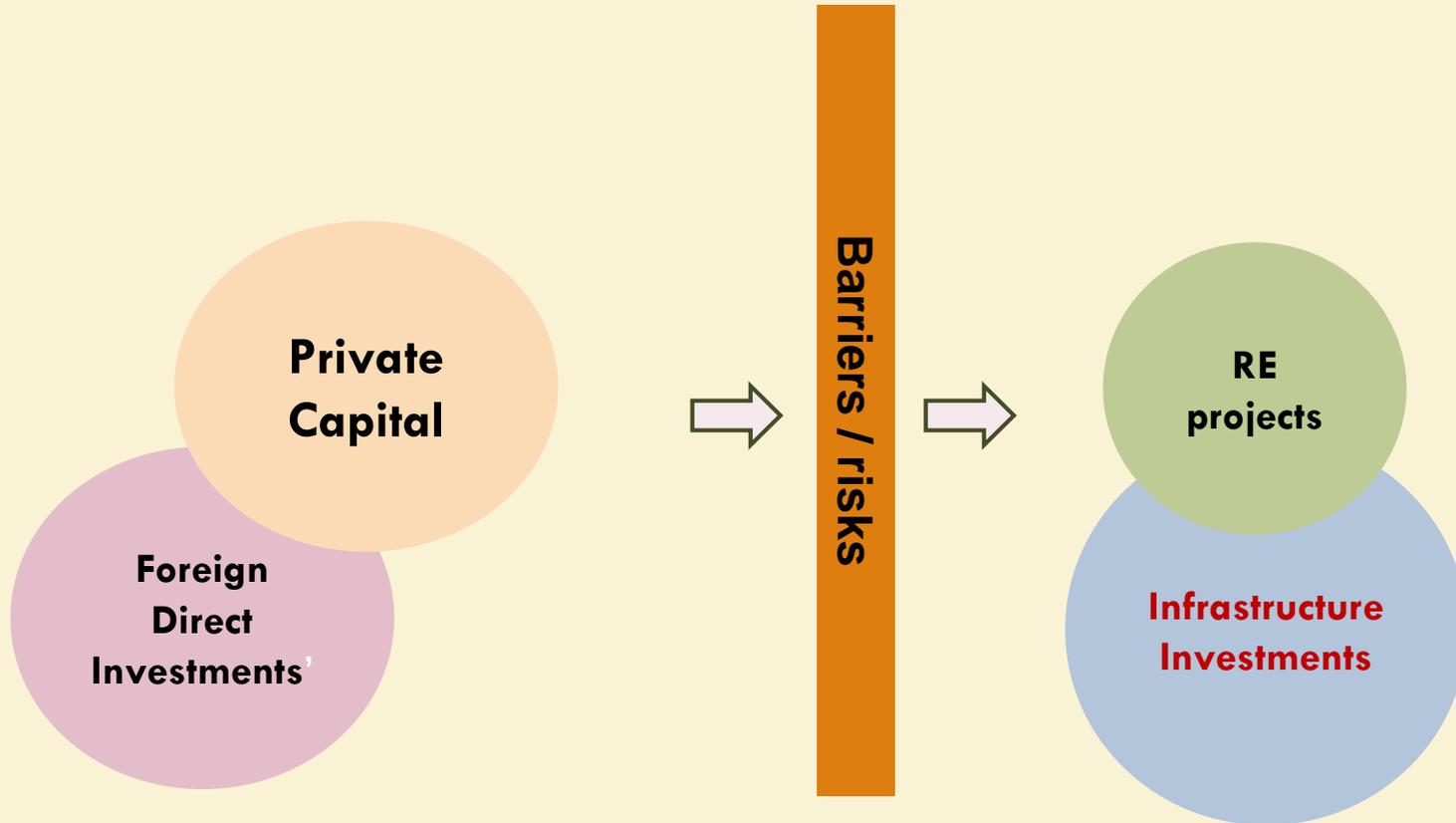
# About IRES



# Organisational Structure



# Investment risks in RE



How investor, financial institutions perceive risks?

# Investment risks in RE

Social  
Permit  
Engineering  
PPA/contract  
Policy/regulatory  
Procurement process  
Land acquisition

Development

Social  
Engineering  
Policy/regulatory  
Technology  
Construction  
Labor  
Nature  
Currency

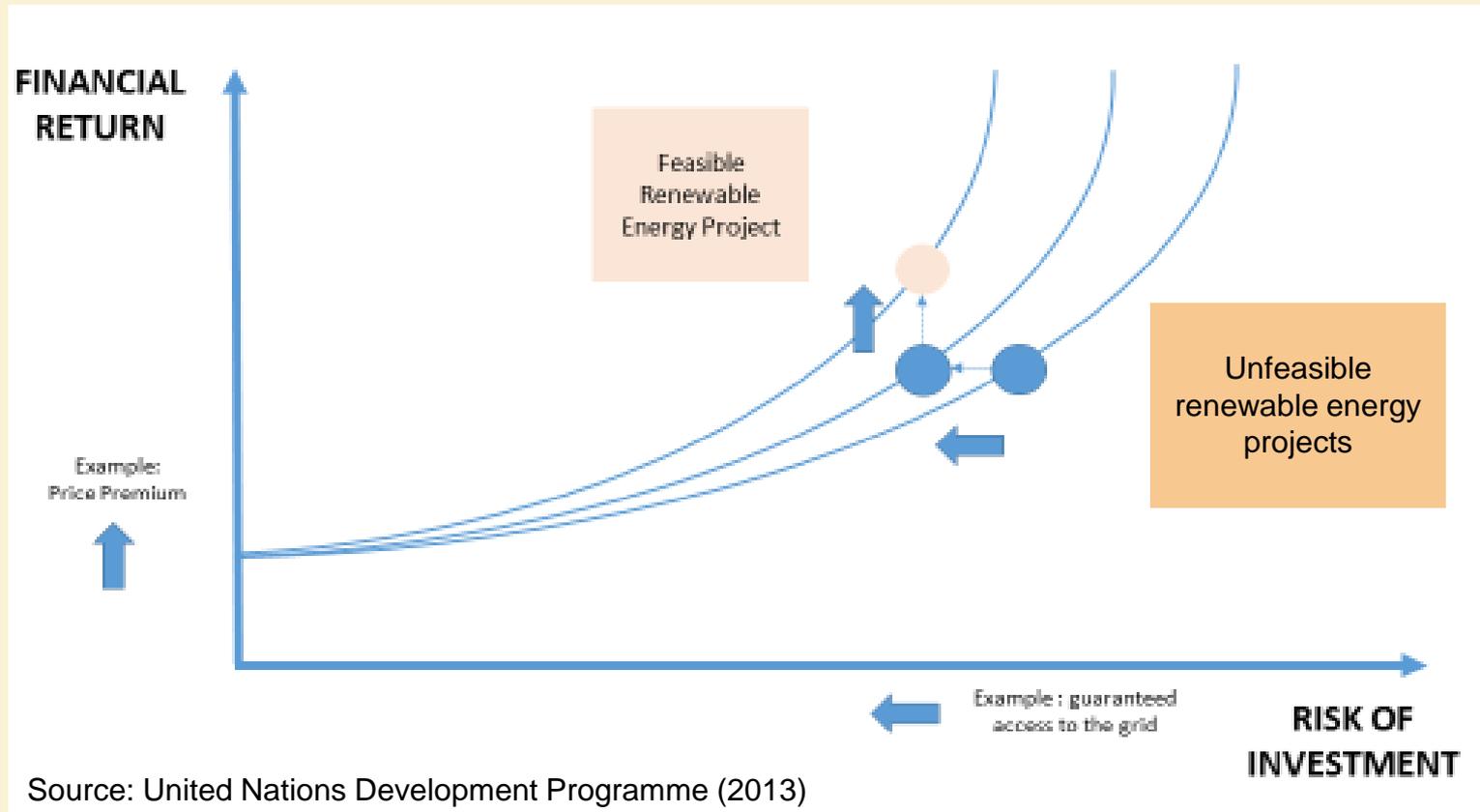
Construction

Social  
Engineering  
Policy/regulatory  
Technology  
Labor  
Nature  
Currency  
Hydrology  
Grid connection  
Curtailment

Operation

Which risks are acceptable to project developers, investors, lenders, utility company? And which are not acceptable? What to do about it?

# De-risking framework



...shifting risk profile into a **feasible area!**

# Typical risks in RE projects

Study/concept design	Development/procurement	Construction	Operation
Design risk & technology selection			
Commercial risks, e.g. EPC			
Currency risk			
Political risk			
PPA, permits, land acquisition			
Legal & contractual risk		Third party liability	
Regulatory & environmental		Transmission infrastructure	
		Force Majeure risk	
		Terorism & political violance	
		Construction risk	Operating risk
		Commisioning & handover	Business interruption
		Marince cargo	Hydrology risk
		Delay in start up	

Some of the risks are included in PPA terms

# Available insurance product for de-risking

Construction/Operation	Marine	Financial	Casualty
Construction and erection all risks	Cargo	Trade credit	Professional indemnity
Delay in start up	Delay in start up	Political risk	Third party liability
Industrial all risks		Surety/project bond	Environmental liability
Business interruption			
Performance warranty			
Revenue shortfall cover			
Weather			



## Other de-risking instruments available:

- Liquidity guarantee
- Political risk guarantee
- Payment guarantee
- Credit guarantee
- Performance guarantee
- Portfolio guarantee



- Such instruments are already available, but not across ASEAN
- Information gap on the instruments
- Growing market due to ambitious target for RE development in the region

# Case: risks in small scale hydro project in Indonesia

1. Basic PPA template regulated in Ministerial Regulation
2. Newly signed PPA: TOP for 20 years, TAP for 5 years
3. BOOT, transferring the assets after 25 years of contract
4. Tariff based on ceiling price: 85% of PLN' generation costs

## Lender's concern:

- Structuring:
  - Rights and obligation cannot be assigned to lenders
  - Shares can not be transferred to lenders
- Policy and regulatory change and impact on cost increase or reduced generation;
- Prolonged force majeure that cause project to stop operation;
- Delay in commissioning
- Penalty for construction delay
- Calculated outages
- Hydrology risks
- Operational risks



De-risking instruments? Or shifting the risks to other parties?

# Case: risks in small scale hydro project in Indonesia

Risks	De-risking
Structuring	Establish new company who owns SPV, but this means tax inefficient, reducing IRR. Feasibility? Could construction all risk insurance cover such issue?
Rights and obligation cannot be assigned to lenders	
Shares can not be transferred to lenders	
Policy and regulatory change and the increase of costs or reduced generation due to it;	In such case, how to adjust to potential cost/investment increase? Political Risk Guarantee
Prolonged force majeure that cause project to stop operation;	Business interruption insurance
Delay in commissioning	Level of penalty is contracted energy. How much would be premium for delay in start-up/business interruption insurance?
Penalty for construction delay	Shift the risk to contractor, back to back penalty clauses; Construction all risk insurance
Calculated outages	Evacuate to sub-station
Hydrology risks	Penalty for not meeting CF contract; weather insurance
Operational risks	Business interruption insurance

Other de-risking instrument:

- First-loss facility
- Loan guarantee
- Others...

What would be the level of insurance coverage that need to be used to make the project still be feasible?

# Questions.....

- *What are the current practices for financial risk mitigation in the region?*
- *How can we effectively access and assess RM instruments that have the potential to increase investments in RE?*
- *Are there any difference between de-risking instruments for small scale and large scale RE projects?*

# Thank you for attention

Paul Butarbutar

Executive Director, Indonesia Renewable Energy Society  
Director, PT 3GT Servis Indonesia

Email: [p.butarbutar@jib-sustainergy.com](mailto:p.butarbutar@jib-sustainergy.com); [pbutar@3gt.co.id](mailto:pbutar@3gt.co.id)

Mobile: +62 811 88 22 895 ; Skype: pmaruli