
MICRO POWER ECONOMY IN THE PHILIPPINES
RISK MANAGEMENT IN MINI-GRID POWER SUPPLY

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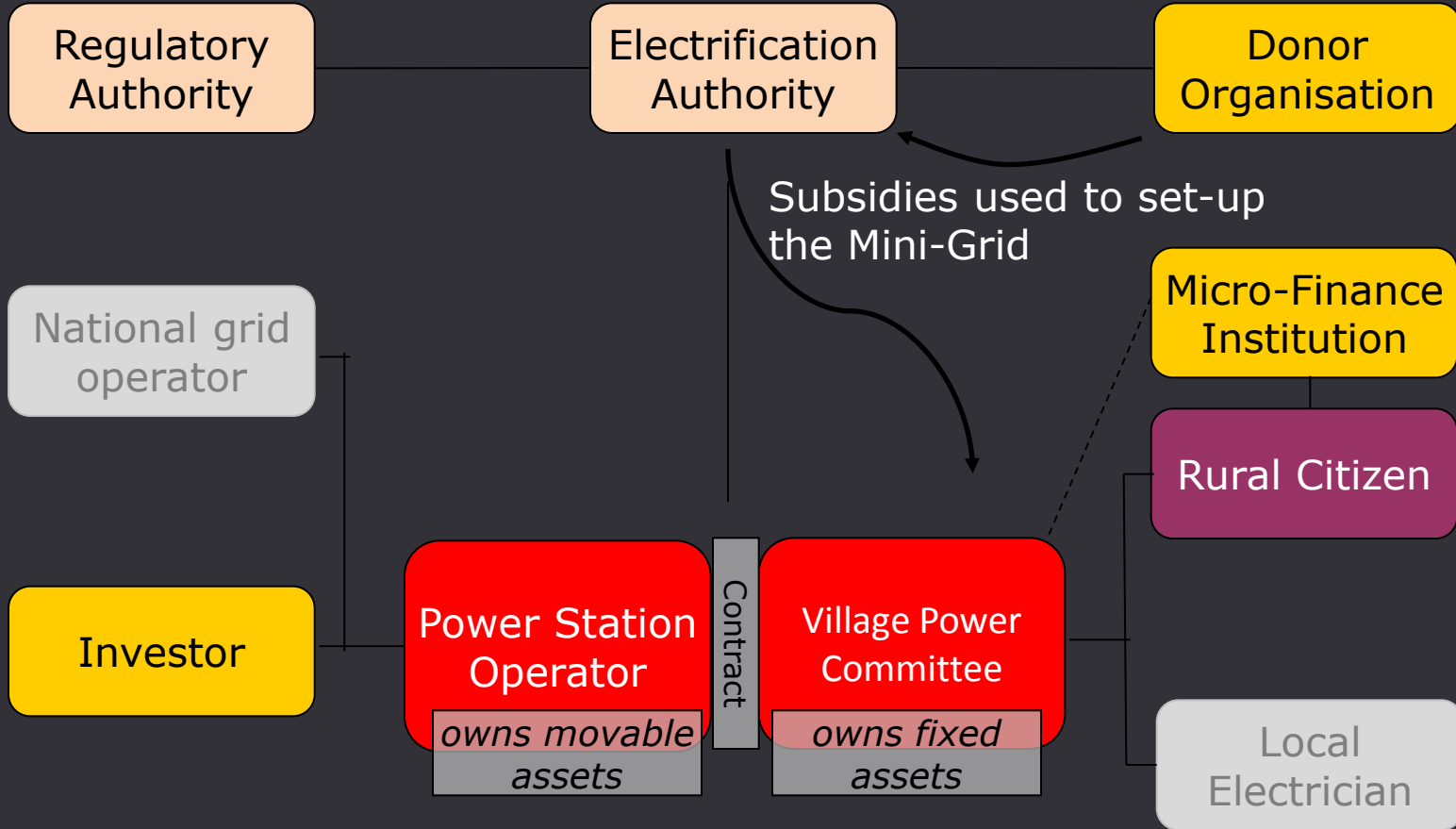
WIND-SOLAR-DIESEL HYBRID SYSTEM WITH BATTERY



Foto: ENERSA power station; Senegal



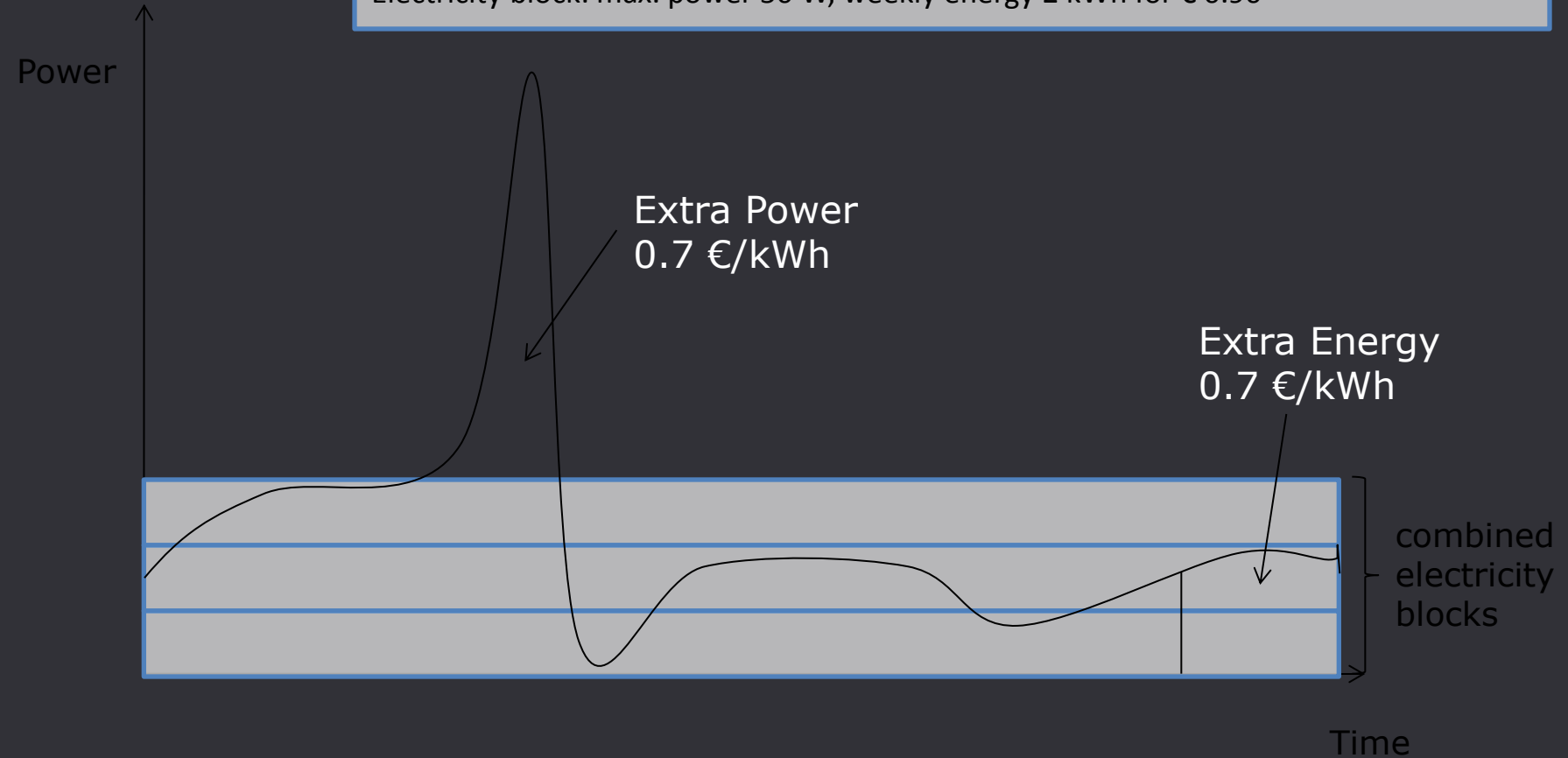
COMPONENT 1: CONSTELLATION OF STAKEHOLDERS





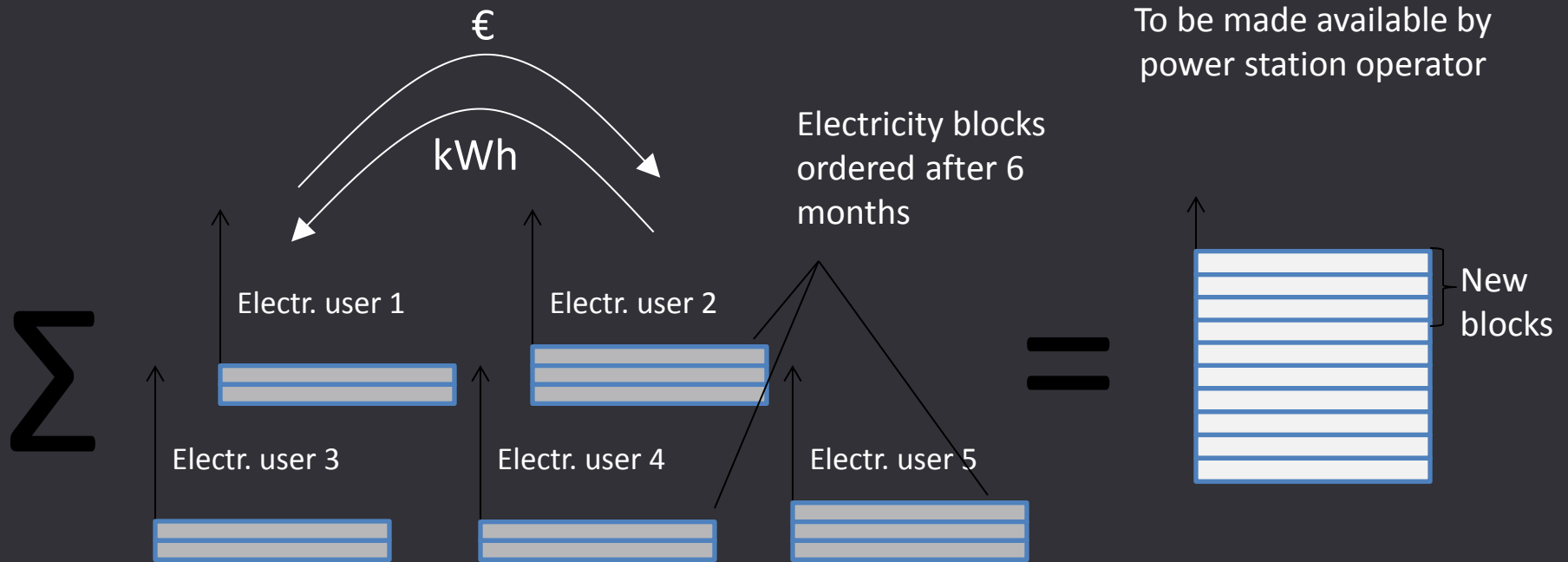
COMPONENT 2: TARIFFS AND BILLING

Electricity block: max. power 50 W; weekly energy 2 kWh for € 0.90





COMPONENT 2: TARIFFS AND BILLING



Number of electricity blocks ordered can be increased or decreased every six months

Electricity blocks can be traded between rural citizens



EXPLAINING THE ELECTRICITY BLOCK SCHEME





COMPONENT 3: THE MICRO UTILITY SOLUTION

_ The Micro Power Smart Meter



_ The Micro Grid Control and Accounting Centre





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PALAWAN



Map: NordNordWest



LEGAL FRAMEWORK

- _ Electric Cooperatives can assign villages to be supplied with electricity by Qualified Third Parties
- _ Qualified Third Parties can apply for electricity supply license with ERC
- _ UC-ME subsidy to buy down the kWh price for end customers available and can be negotiated with ERC - tariffs need to be checked by ERC
- _ MPE metering technology and block model are in the process of being accredited by ERC



VILLAGES SOUGHT AND FOUND

- _ High density of population (>1500 inhabitants per m²)
- _ Village population of 3,000 to 10,000 people
- _ Electric Cooperative willing to open the village for Qualified Third Party electrification
- _ Track record of positive economic development in the village
- _ Working social and political structure within the community (family structure, democratic structure, etc.)



CURRENT ELECTRICITY SUPPLY SITUATION AND SPLIT OF ASSETS





LONG BANCA RIDES TO CITY – DIFFICULT MONEY TRANSPORT





WOMEN LIKE THE IDEA OF ELECTRICITY EXPENDITURE BUDGETING





CONCLUSIONS

- Supplying electricity in the Philippines is highly **burocratic** and involves considerable **transaction costs**
- **Attractive villages** for Micro-Utilities (quick demand growth, high density villages, large villages, working decision making structures) are **available**
- In some villages **strong demand growth** thanks to tourism
- The MicroPowerEconomy **block planning model fits** nicely into the local family environment and **household budget planning**
- The **split of assets** can be implemented **easily** in systems where there is already a grid available
- **Meters already installed at poles** → no grid structure changes required
- **BAPA** can easily be **transformed into mini-grid operator**



MicroPowerEconomy means development options
for rural citizens
and attractive profits for investors!



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