









The Philippine Experience in Microgrid Development and Policy Innovations for Investment

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Department of Energy
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Contents

- Philippine Policy and Regulatory Framework for Microgrids
- Microgrid Development and Deployment in the Philippines
- Why Microgrids Matter : The Philippine Context
- Challenges, Opportunities, and the Way Forward

PHILIPPINE POLICY AND REGULATORY FRAMEWORK FOR MICROGRIDS

PHILIPPINE POWER INDUSTRY STRUCTURE IN OFF-GRID AREAS

Policy and Supervision

New Power Provider (NPP)

Small Power Utility Group (SPUG)

Off-grid Electric Cooperatives

GENERATION FACILITY

TRANSMISSION FACILITY

DISTRIBUTION UTILITIES

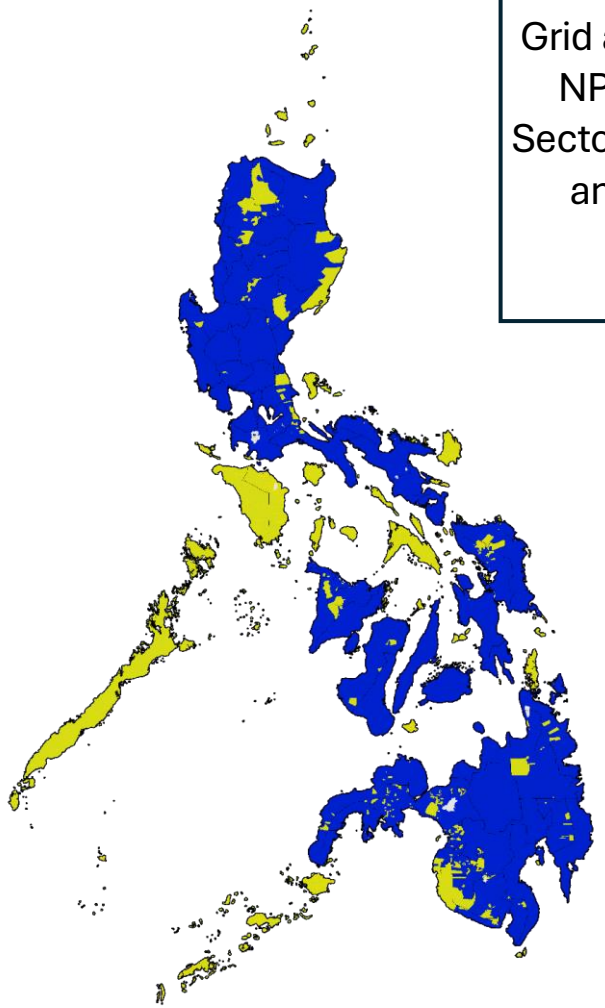
CONSUMERS

Residential Customers

Commercial and Industrial Customers

Microgrid Service Providers (MGSP)

Regulation



Off-Grid

Not connected to National Grid and power supplied by NPC SPUG and Private Sector (New Power Provider and Microgrid Service Provider)

Grid

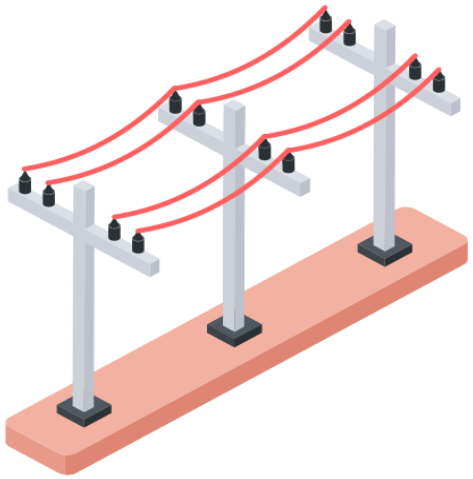
Connected to main transmission backbone

PH EVOLUTION OF REGULATORY FRAMEWORK

RA 9136 (EPIRA) QUALIFIED THIRD PARTY (QTP)

Rule 13 and 14 of Implementing Rules and Regulation

- Recognizes QTPs in remote and unviable areas beyond DU service capability
- QTP selection undertaken by DUs that waive service obligations
- Eligible for UCME subsidy support



MICROGRID SERVICE PROVIDER (MGSP)

Revised Implementing Rules and Regulations of RA 11646 (Microgrid System Act)

- Total electrification through competitive MGSP selection
- Defined timelines for CSP, permits, and approvals
- Eligible for UCME and other subsidies
- Projects of national significance
- Fiscal and non-fiscal incentives
- Distribution Utilities must undergo CSP for microgrid development

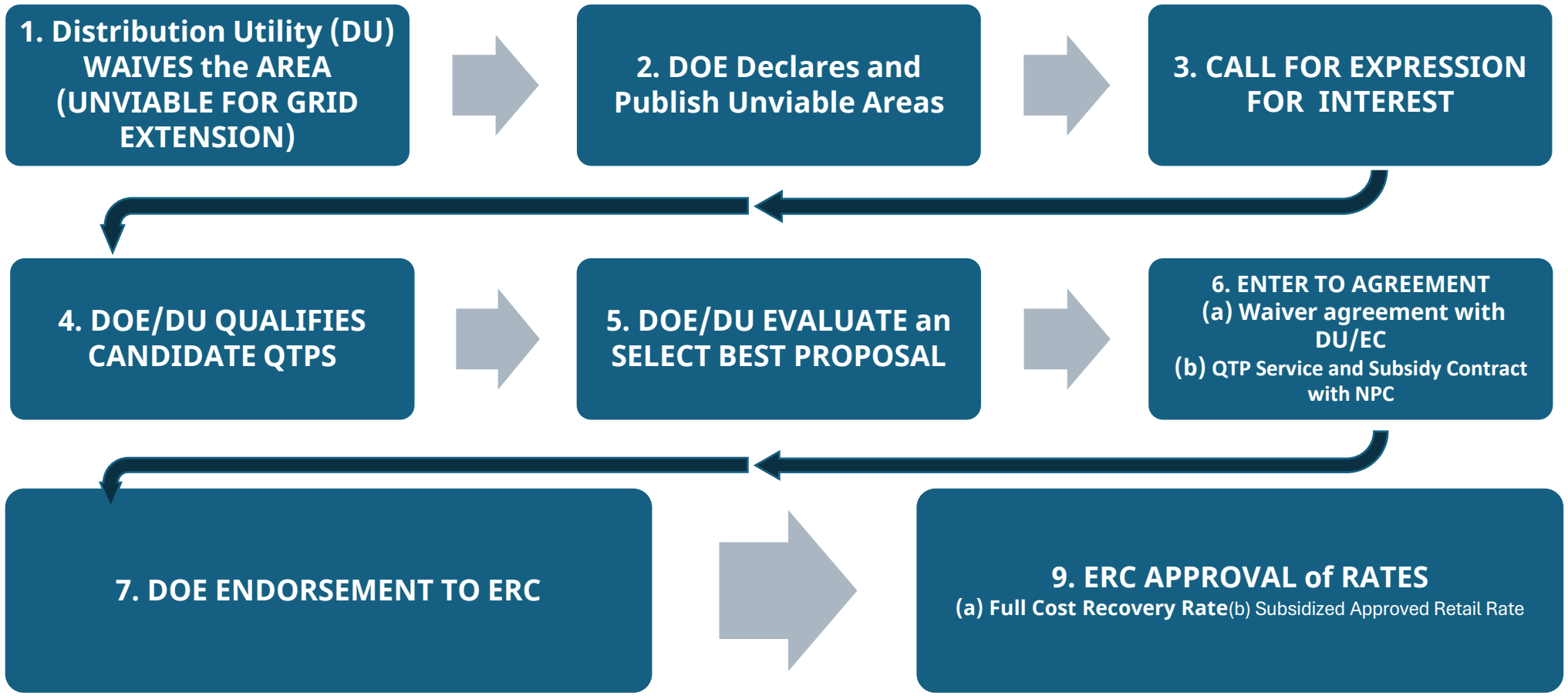


PH EVOLUTION OF REGULATORY FRAMEWORK

RA 9136 (EPIRA)

QUALIFIED THIRD PARTY (QTP)

COMPETITIVE SELECTION PROCESS (CSP)



PH EVOLUTION OF REGULATORY FRAMEWORK

REPUBLIC ACT 11646

MICROGRID SERVICE PROVIDER (MGSP)

COMPETITIVE SELECTION PROCESS (CSP)

(1) DOE DECLARED UNSERVED AND UNDERSERVED AREAS

IDENTIFICATION OF UNSERVED AND UNDERSERVED AREAS	POSTING OF SCHEDULES AND AREAS FOR MGSP-CSP	CONDUCT OF MGSP-CSP	AWARDING OF WINNING MGSP	REGULATORY COMPLIANCES AND ENERGIZATION
• DOE PUBLISH NTER CONTAINING LIST OF UNSERVED AND UNSERVED AREAS NOT LATER THAN SEPTEMBER OF EVERY YEAR	• DOE POST THE SCHEDULE OF CSP FOR MGSP AT THE ERC AND DOE WEBSITES INCLUDING THE LIST OF AREAS FOR CSP	• DOE POST INVITATION TO BID AND TERMS OF REFERENCE FOR CSP AREAS. • DOE CONDUCTS PREQUALIFICATION OF MGSP PROPONENTS AND EVALUATION AND SELECTION OF THE WINNING MGSP WITH THE MOST RESPONSIVE BID	• DOE ISSUE THE NOTICE OF AWARD (NOA) TO THE WINNING MGSP. • THE WINNING MGSP TO ENTER A MGSP SERVICE CONTRACT (MSC) WITH THE NPC • IF MGSP-CSP FAILS, THE AREA IS ENDORSED TO NPC FOR ELECTRIFICATION	• THE WINNING MGSP COMPLY WITH PROVISION OF THE NOA AND APPLY FOR THE FULL COST RECOVERY RATE (FCRR) AND AUTHORITY TO OPERATE WITH THE ERC

(2) DU IDENTIFIED UNSERVED AREAS

IDENTIFICATION OF UNSERVED AND UNDERSERVED AREAS	ACCEPTANCE OF PROPOSAL FOR DU IDENTIFIED AREAS	CONDUCT OF MGSP-CSP	AWARDING OF WINNING MGSP	REGULATORY COMPLIANCES AND ENERGIZATION
• DOE PUBLISH THE NTER CONTAINING LIST OF UNSERVED AREAS IDENTIFIED BY THE DU IT PLAN TO ELECTRIFY WITH MICROGRID SYSTEM.	• THE DOE EVALUATE MICROGRID SYSTEM PROPOSALS IT RECEIVED AFTER LAPSE OF 30 DAYS FROM POSTING. • THE DOE PUBLISH ALL THE QUALIFIED PRICE OFFERS	• THE DU TENDER A LOWER ALL-IN PRICE OFFER AFTER THE DOE'S PUBLICATION OF ALL QUALIFIED PRICE OFFERS IT HAS RECEIVED. • IN THE EVENT THAT THE DU TENDERS LOWER OFFER, IT SHALL BE DECLARED AS WINNING MGSP. ELSE IT SHALL BE AWARDED TO THE MGSP WITH THE LOWEST ALL-IN PRICE OFFER	• DOE ISSUE THE NOTICE OF AWARD (NOA) TO THE WINNING MGSP. • THE WINNING MGSP TO ENTER A MGSP SERVICE CONTRACT (MSC) WITH THE NPC • IF MGSP-CSP FAILS, THE AREA IS ENDORSED TO NPC FOR ELECTRIFICATION	• THE WINNING MGSP COMPLY WITH PROVISION OF THE NOA AND APPLY FOR THE FULL COST RECOVERY RATE (FCRR) AND AUTHORITY TO OPERATE WITH THE ERC

PH EVOLUTION OF REGULATORY FRAMEWORK

REPUBLIC ACT 11646

MICROGRID SERVICE PROVIDER (MGSP)

COMPETITIVE SELECTION PROCESS (CSP)

(3) UNSOLICITED PROPOSAL FOR NOMINATED UNSERVED & UNDERSERVED AREAS

IDENTIFICATION OF UNSERVED AND UNDERSERVED AREAS	REVIEW AND ACCEPTANCE OF COMPLETE PROPOSAL	CONDUCT OF CSP FOR MGSP THROUGH SWISS CHALLENGE	AWARDING OF WINNING MGSP	REGULATORY COMPLIANCES AND ENERGIZATION
• DOE MAY ACCEPT UNSOLICITED PROPOSALS FOR AREAS, IT DECLARED AS UNSERVED OR UNDERSERVED	• DOE FACILITATE THE EVALUATION OF COMPLETENESS OF PERTINENT DOCUMENT OF THE MICROGRID SYSTEM PROJECT PROPOSAL	• THE DOE DECLARE THE QUALIFIED PROPOSAL OF A MGSP-PROPONENT AS THE ORIGINAL PROPOSAL AND FACILITATE INVITATION FOR SUBMISSION COMPARATIVE PROPOSAL FROM OTHER MGSP-PROPONENT	• UPON EVALUATION OF COMPARATIVE PROPOSALS, THE DOE DECLARE ORIGINAL PROPONENT AS THE WINNING MGSP INCASE , NO COMPARATIVE BID WAS RECEIVED OR THE COMPARATIVE PROPOSAL FAILED TO MEET THE REQUIREMENT. • THE WINNING MGSP TO ENTER A MGSP SERVICE CONTRACT (MSC) WITH THE NPC	• THE WINNING MGSP SHALL COMPLY WITH PROVISION OF THE NOA AND APPLY FOR THE FULL COST RECOVERY RATE (FCRR) WITH THE ERC AS WELL AS WITH AUTHORITY TO OPERATE • THE WINING MGSP SHALL COMPLETE THE CONSTRUCTION OF THE MICROGRID SYSTEM WITHIN 18MONTHS FROM THE APPROVAL OF THE ERC OF FCRR

SALIENT FEATURES OF TERMS OF REFERENCE

Legal



Owned by corporations, partnerships, consortiums, joint ventures, or entities registered under Philippine law, including foreign corporations.

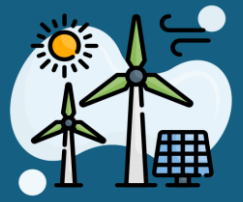
Financial/ Technical



Minimum working capital (Liquid Asset less Current Liabilities) is 100% of the financial commitment for the first contract year

2-year experience or equivalent

RE Share



Renewable Energy (RE) integration (minimum 35% share).

Scope



Supply, construction, installation, operation, and maintenance of Microgrid Systems

Duration



20-year Cooperation Period.
18-month project development duration.

Objective



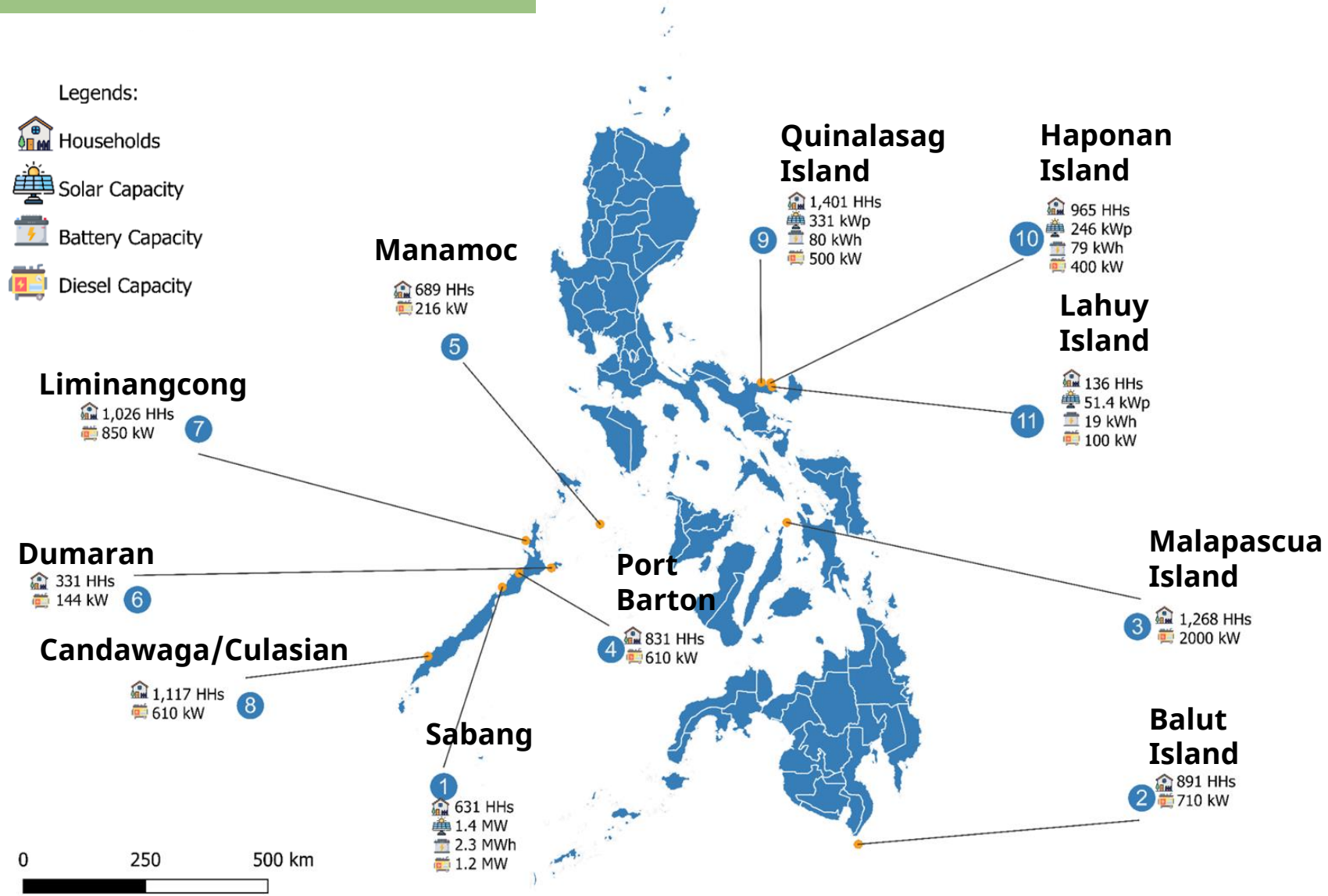
Provide 24/7 electricity to unserved/ underserved areas.

Award to Lowest all-in Most Responsive Qualified MGSP Offer

MICROGRID DEVELOPMENT AND DEPLOYMENT IN THE PHILIPPINES

11 MICROGRID SYSTEMS: Existing and OperationaL

RA 9136 (EPIRA)
QUALIFIED THIRD PARTY (QTP)



2,561 kW
Total Solar Capacity

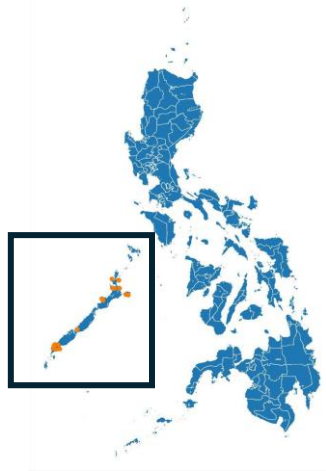
2,287 kWh
Total Battery Capacity

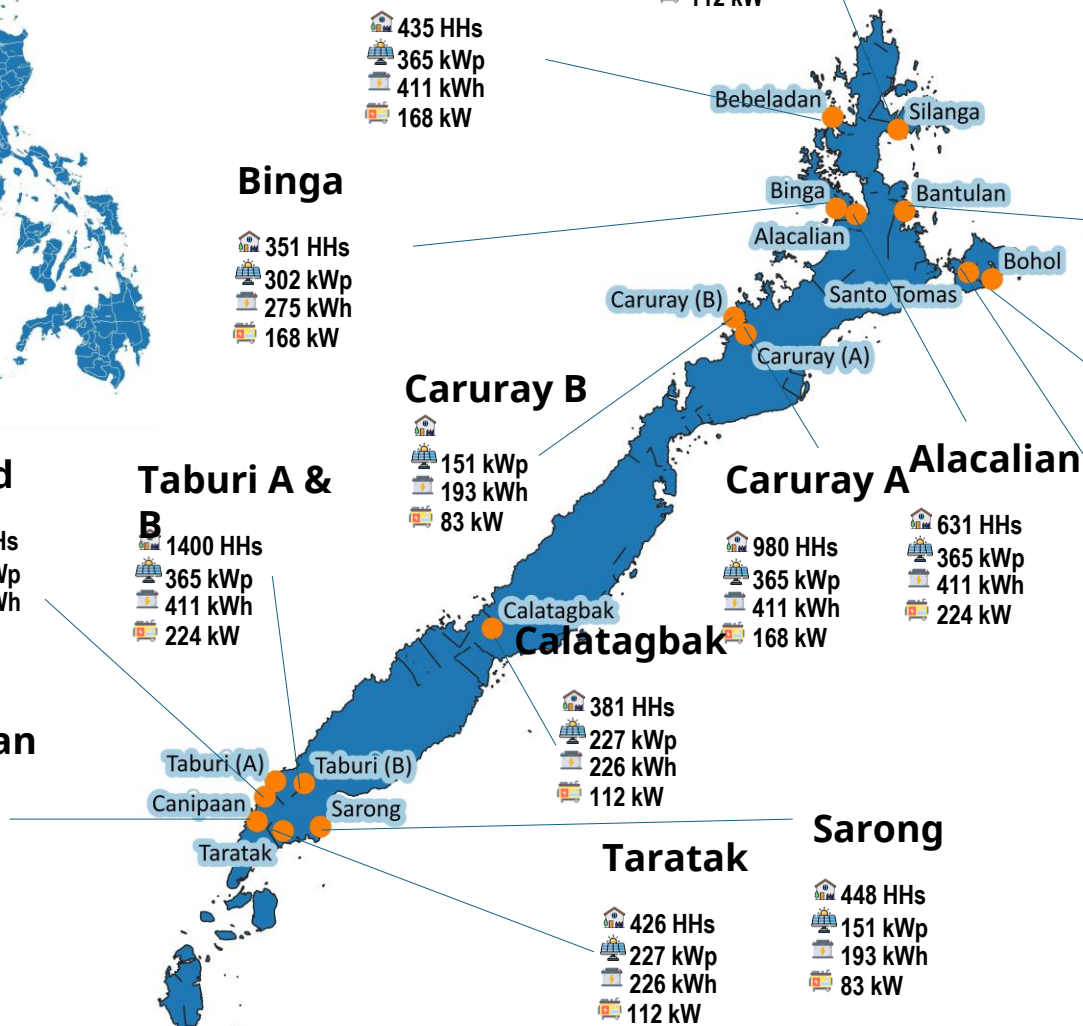
7,057 kW
Total Diesel Capacity

9,090 HHs
Total Number of Energized Households

16 MICROGRID SYSTEMS: ON-GOING DEVELOPMENT

RA 9136 (EPIRA)
QUALIFIED THIRD PARTY (QTP)





16 Microgrid Systems: Ongoing Development

3,803 kW
Total Solar Capacity

4,207 kWh
Total Battery Capacity

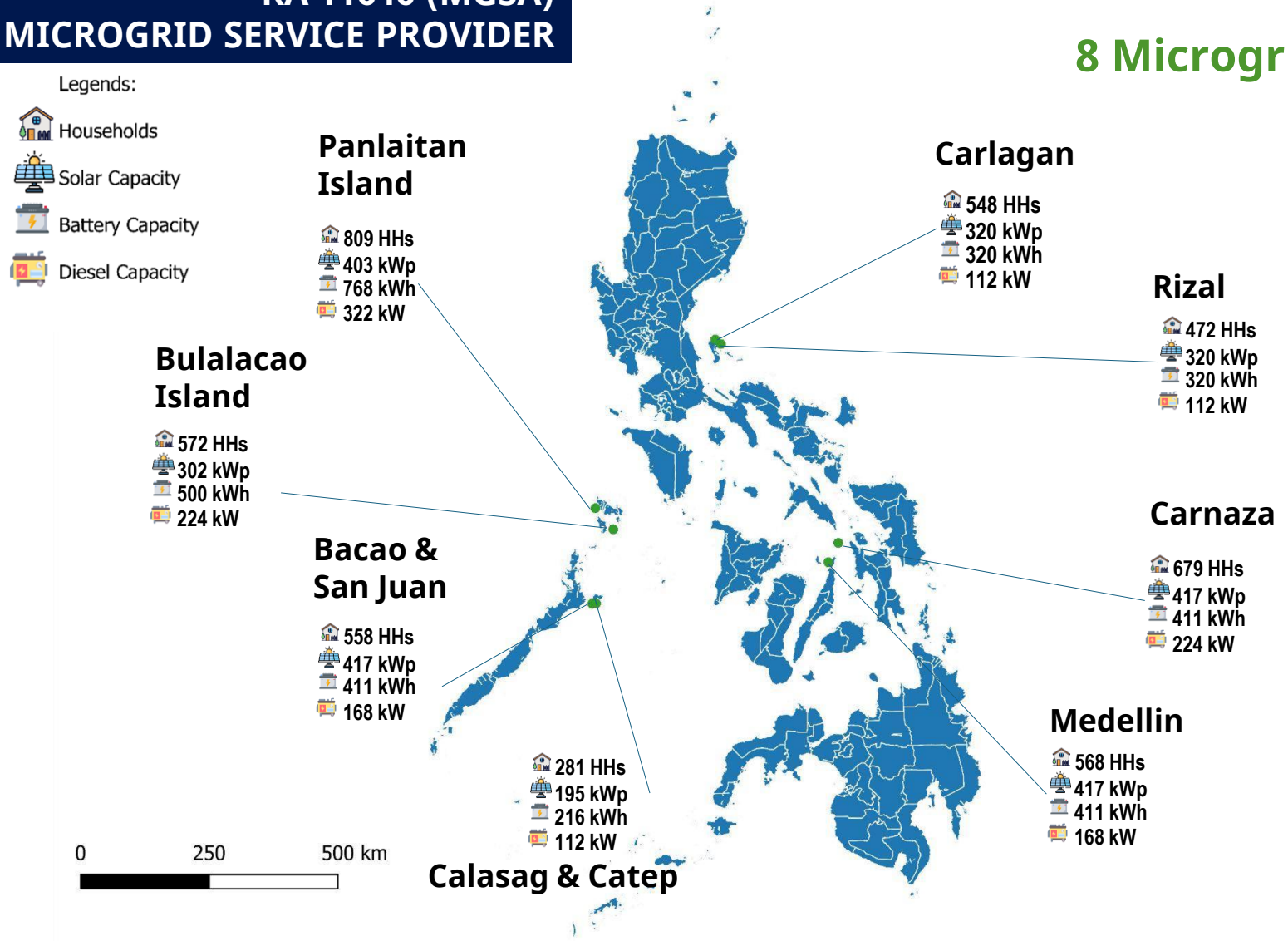
2,309 kW
Total Diesel Capacity

7,100 HHs
Total Target Households to be Energized

On **01 September 2022** Palawan Electric Cooperative awarded 16 QTP/Microgrid Service Provider to Maharlika Consortium and their Special Purpose Vehicle, Archipelago Renewables Corporation, to advance rural electrification in Province of Palawan.

8 MICROGRID SYSTEMS: ON-GOING DEVELOPMENT

RA 11646 (MGSA)
MICROGRID SERVICE PROVIDER



8 Microgrid Systems: Ongoing Development

2,790 kW
Total Solar Capacity

3,357 kWh
Total Battery Capacity

1,442 kW
Total Diesel Capacity

4,500 HHs
Total Target Households to be Energized

WHY MICROGRIDS MATTER : THE PHILIPPINE CONTEXT

MICROGRID SYSTEM PROVIDER EXPERIENCE

~3000 consumers & **200,000+** tourists/year respectively

650 connection points

USD 9.5 Million total CAPEX









SABANG RENEWABLE ENERGY CORPORATION

"The Largest Hybrid Microgrid In The Philippines"

1,200 kWp

2,400 MWh

1,400 kW

14 kms



Source: SREC

MICROGRID SERVICE PROVIDER EXPERIENCE

SABANG RENEWABLE ENERGY CORPORATION

"The Largest Hybrid Microgrid In The Philippines"



Source: SREC

MICROGRID SYSTEM PROVIDER EXPERIENCE

2,574
consumers

2,574
connection points

USD 3.77
Million
total CAPEX

FP ISLAND ENERGY CORPORATION

Microgrid Power: Uninterrupted by Typhoons

750
kWp

696
MWh

1,900
kW

75.8
kms







Source: FPIEC

MICROGRID SYSTEM PROVIDER EXPERIENCE

FP ISLAND ENERGY CORPORATION

Microgrid Power: Uninterrupted by Typhoons



MICROGRID SYSTEM PROVIDER EXPERIENCE

MANILA ELECTRIC COMPANY

Microgrid Power: DU Operated Microgrid System

MERALCO microgrid facility in Cagbalete now energizes 1,192 households and provides a steady source of electricity to the numerous beach resorts that anchor this thriving tourism hub. This electrification project brings transformative changes to the local community.

Teachers at the island's public schools no longer need to travel to the mainland by boat just to photocopy and print documents.

Meanwhile, local fisherfolk benefited from reliable cold storage equipment to preserve their catch, strengthening the food supply chain and revitalizing Cagbalete's economy.

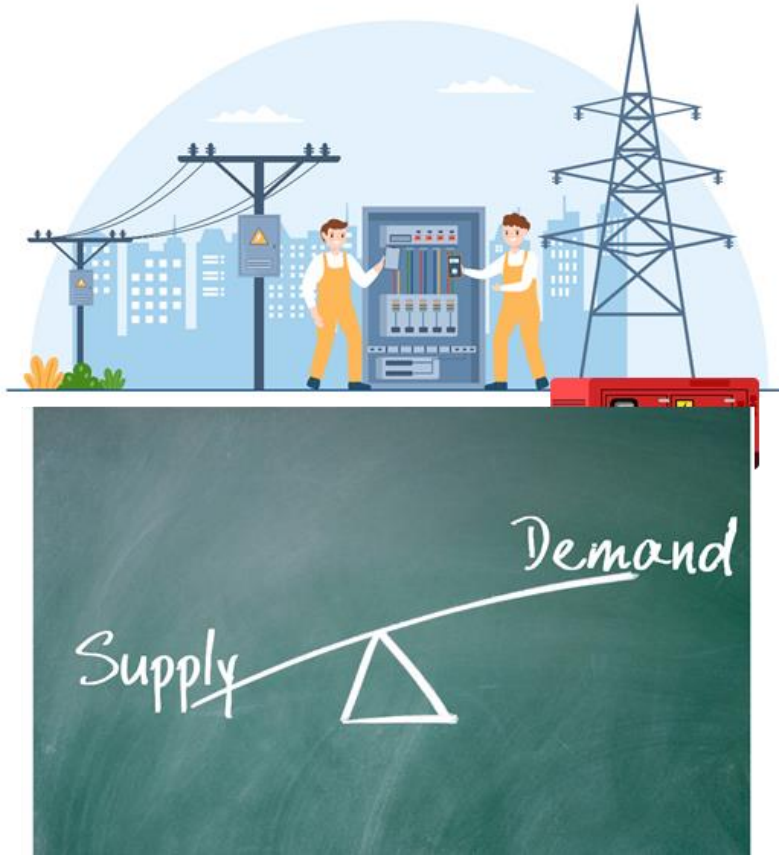


Source: MERALCO

CHALLENGES IN MICROGRID DEVELOPMENT

CHALLENGES IN MGSP IMPLEMENTATION

- Dependence on Diesel Generators and Limited Supply Capacity
- Abrupt Increase in Demand
- Load Shedding and Power Interruptions
- Insufficient Government Resources
- Private Sector's Low Appetite
- Regulatory concerns
- Financing support



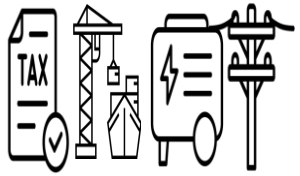
ENABLING POLICIES & INVESTMENT OPPORTUNITIES

INCENTIVES FOR MGSP INVESTMENTS



REPUBLIC ACT NO. 9513

- Renewable Energy Act of 2008
- Income Tax Holiday
- Duty-free importation of machinery, equipment and materials
- RE Cash incentives for missionary electrification



EXECUTIVE ORDER NO. 226

- EO 226 incentives (import duty exemption, income tax holiday) are applied to the non-renewable energy components (diesel generation and distribution)



EXECUTIVE ORDER NO. 30

- Creating the Energy Investment Coordinating Council in Order to Streamline the Regulatory Procedures Affecting Energy Projects

REPUBLIC ACT NO. 11032

- Ease of Doing Business Act of 2018



REPUBLIC ACT NO. 11234

- Energy Virtual One-Stop Shop (EVOSS) Act
- Department Circular No. DC2019-05-0007 EVOSS Implementing Rules and Regulations

INVESTMENT OPPORTUNITIES

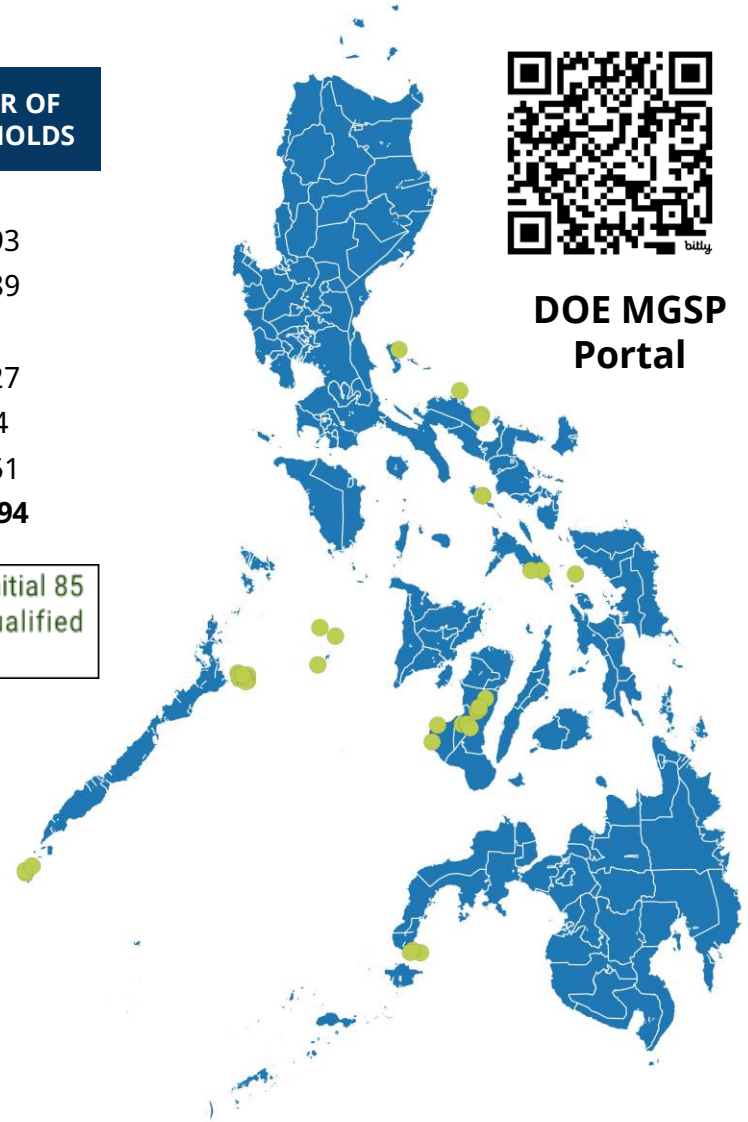
2024-2033 National Total Electrification Roadmap (NTER)

Summary of DOE Declared Unserved Areas		
Major Island	**Number of Areas**	**Number of Households**
Luzon	53	6,573
Visayas	216	10,0015
Mindanao	2	82
Total	**271**	**16,670**

Summary of DOE Declared Underserved Areas		
Major Island	**Number of Areas**	**Number of Households**
Luzon	35	7,581
Visayas	2	674
Mindanao	2	130
National Power Corporation Purely Served Areas	64	11,822
Total	**122**	**20,207**

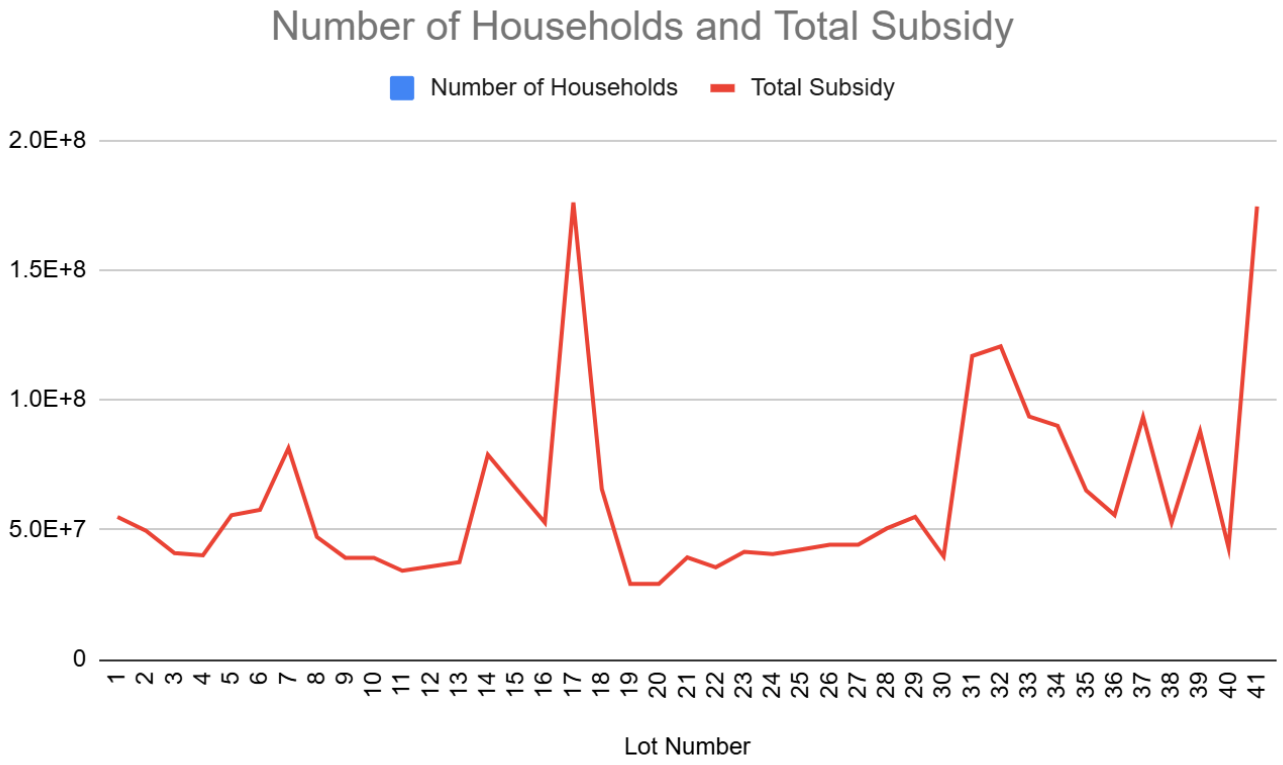
MAJOR ISLAND	NUMBER OF LOTS	NUMBER OF AREAS	NUMBER OF HOUSEHOLDS
Unserved Areas			
Luzon	22	33	6,093
Visayas	10	42	2,589
Underserved Areas			
Luzon	5	5	1,727
Visayas	1	2	234
Mindanao	3	3	1,751
Total	**41**	**85**	**12,394**

To reach the 100% total electrification, the DOE offers initial 85 unserved and underserved areas to interested and qualified bidders.



DOE MGSP Portal

Universal Charge Missionary Electrification



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Total	**41**	**85**	**12,394**
Total Estimated Subsidy Requirement for 41 Lots			**$ 43,782,408.50**

WAY FORWARD

WAY FORWARD







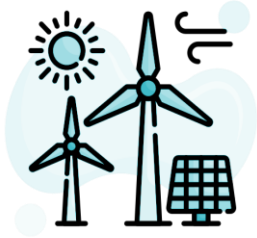
100%
Electrification by 2028



35% of power generation mix by 2030; and 50% by 2040



24/7 Power Supply



Climate proof energy infrastructure

WAY FORWARD

Policy development
- Operational Standards
- Sustainable Planning

Regulation and Permitting – further alignment

Better area profiling
- Demographic, economic
- Potential RE sources

Market sounding/ promotion

Monitoring

BAGONG PILIPINAS

DEPARTMENT OF ENERGY

THANK YOU

@DOEgovph



ENABLING POLICIES AND LAWS FOR INVESTORS