

Making Electricity Subsidies Work

Cross-Country Lessons for Philippine Energy Policy

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Philippine Institute for Development Studies

Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

The Policy Problem: Why This Matters Now

₱28.6B

UCME expenditure projected 2024
(from ₱7.05B in 2020 — +306%; DOE
MEDP 2024-2028)

>60%

Households qualify for Lifeline Rate
in most regions

3x

Senior Citizen Discount expansion
proposed under HB 11400

The Philippines' Three Major Cross-Subsidy Programs Are Under Simultaneous Pressure

- **Fiscal pressure:** Costs escalating faster than electrification needs justify.
- **Targeting failure:** Subsidies leak to non-poor households and economically viable areas across all three programs.
- **Institutional fragmentation:** Three programs, multiple agencies (DOE, ERC, DSWD, NPC, PSALM).

Research Design & Analytical Framework

Methodology

Systematic literature review: 50+ peer-reviewed studies, World Bank, ADB, IMF, IEA, OECD publications (2015–2025)

Thematic synthesis: pattern identification across three mechanism types: increasing block tariffs, cross-subsidies, time-variant pricing

Philippine contextual analysis: ERC proceedings, DOE reports, Francisco (2024) on Lifeline Rate targeting, Abrigo and Ortiz (2024) on elderly electricity demand

Analytical Framework

Targeting

Who benefits, and how accurately? Does eligibility correlate with welfare need?

Funding

How is the subsidy financed? What efficiency and equity costs does it impose?

Objectives

What goals are pursued? Are design features coherent with those goals?

PART I

International Evidence on Electricity Subsidy Design

What does global evidence say about mechanism choice and targeting performance?

Three Subsidy Mechanisms: Evidence and Lessons

Increasing Block Tariffs (IBT)

+ Strength

Conservation incentive; simple to implement

✗ Key Problem

Equity assumption fails in developing countries: multi-family meter-sharing and informal connections break the consumption–poverty correlation (Whittington 1992; Burger & Jansen 2014)

→ *Lesson: Calibration requires household welfare data; not just a consumption threshold*

Cross-Subsidy Mechanisms

+ Strength

Off-budget; no legislative appropriation needed

✗ Key Problem

Raises business electricity costs; geographic distortions when bounded by utility service areas; “reform trap” concentrated beneficiaries block reform while diffuse cost-bearers lack political salience (Chattopadhyay 2004; Inchauste & Victor 2017)

→ *Lesson: Fiscal scope must be bounded with explicit revenue-neutrality enforcement*

Time-Variant Pricing

+ Strength

Grid efficiency gains; potential consumer savings

✗ Key Problem

Requires smart meters, consumer information, and load flexibility — prerequisites lacking in most Philippine distribution areas (Faruqui 2010; Jessoe & Rapson 2014)

→ *Lesson: A medium-term option as RE integration creates new grid management needs*

Cross-Cutting Lessons from International Evidence

Core finding: Design quality, especially targeting accuracy and fiscal sustainability, determines welfare performance more than mechanism choice.

Targeting failure is universal

1

Single-dimension criteria without welfare verification generate systematic leakage. South Africa, Ethiopia, Peru, Spain all document significant inclusion errors under consumption-based or demographic targeting.

Political economy favors expansion, not reform

2

Concentrated beneficiaries organize to defend subsidies; dispersed cost-bearers lack salience. Loss aversion (Samuelson & Zeckhauser 1988) makes benefit reduction politically costly regardless of the equity rationale.

Fiscal sustainability is an afterthought — until crisis

3

Indonesia's energy subsidies reached 2.8% of GDP before emergency reform was unavoidable. Proactive gradual adjustment is always less disruptive and more equitable than crisis-driven action.

Hybrid means-testing consistently outperforms

4

Combining Proxy Means Test welfare verification with consumption criteria improves targeting accuracy and fiscal efficiency. Pakistan, Peru, and Colombia demonstrate feasibility in developing-country contexts.

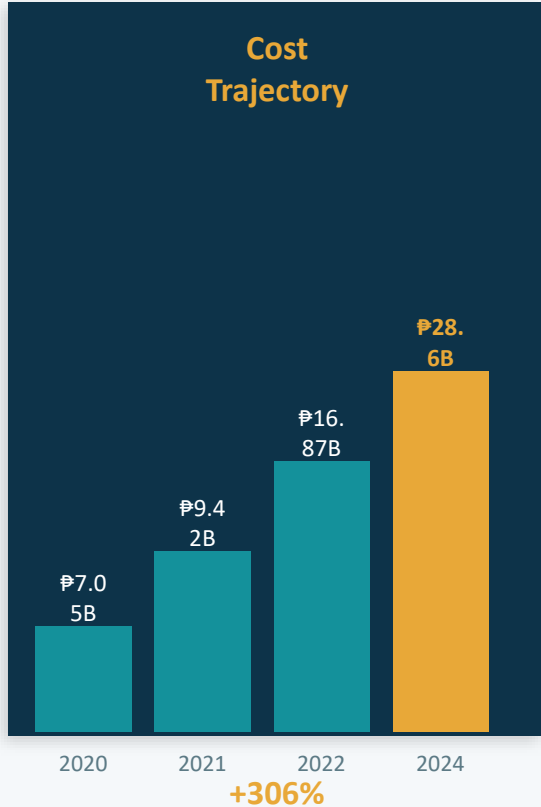
PART II

Philippine Electricity Subsidy Programs in Practice

UCME • Lifeline Rate • Senior Citizen Discount



Universal Charge for Missionary Electrification (UCME)



Leakage to viable areas

Palawan & Mindoro receive UCME subsidies despite commercially stable operations. ERC Resolution 21 (2011) has no performance-based reclassification criteria.

Cost-plus moral hazard

Producers have no incentive to minimize generation costs; the full gap between actual costs and consumer tariffs is covered by the subsidy.

Institutional fragmentation

Claims route NPC→ERC→PSALM with sequential lags. No formal DOE-ERC memorandum specifies jurisdictional boundaries.

Access ≠ Affordability

UCME subsidizes generation infrastructure only. Off-grid poor households receive subsidized supply but still face unaffordable tariffs; base generation cost in missionary areas is higher and cross-subsidy recovery is thin.

Source: DOE MEDP 2024-2028 (Fig. 26 & Sec. 5.3); 2024 value is projected total (NPC-SPUG + NPPs/MGSPs); Escresa & Glova (2024); Francisco (2024)

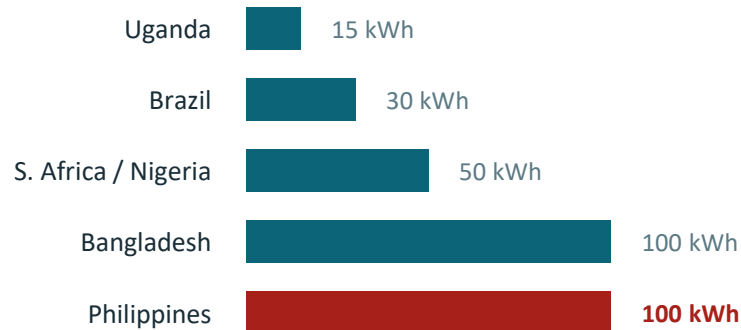
Lifeline Rate: A Classic Targeting Failure

>60%

of households qualify
for Lifeline Rate at
the regional level
— many are non-poor

Francisco (2024)

International Lifeline Threshold Comparison (kWh/month)



← Among the world's highest thresholds; amplifying inclusion errors

Why Consumption-Based Targeting Fails

Low consumption ≠ low income when poor households share meters (Whittington 1992). Geographic distortion: areas with high Lifeline concentrations impose elevated electricity costs on local businesses, deterring investment in high-poverty areas (Francisco 2024; Ravago et al. 2019).

Fiscal Sustainability Gap

2015 PricewaterhouseCoopers analysis documented ₱0.86B in Lifeline Rate under-recoveries. No automatic revenue neutrality enforcement mechanism exists. Coverage expands continuously as electrification deepens without threshold recalibration.

Senior Citizen Discount: Demographic Pressures and Design Gaps

Program at a Glance

| | |
|---------------------------|--|
| Legal basis: | RA 9994 (Expanded Senior Citizens Act 2010) |
| Current discount: | Minimum 5% on consumption up to 100 kWh/month |
| HB 11400 proposal: | 15% discount, up to 200 kWh — House-approved June 2025, pending Senate |
| Eligibility: | Filipino citizens aged 60+; no means-testing |
| Funding: | Cross-subsidy from non-senior consumers |
| 31% overlap: | Lifeline Rate beneficiaries who also qualify for this discount |

No Means-Testing

Benefits flow equally to poor and wealthy elderly. Age ≠ poverty need. Abrigo & Ortiz (2024) document elderly households consume more electricity than younger ones — making per-beneficiary costs higher and more elastic to benefit expansion.

HB 11400 — Fiscal Time-Bomb

Tripling the discount to 15% and doubling threshold to 200 kWh without actuarial projections, means-testing, or fiscal mechanism analysis. This is the most immediately actionable reform issue in this study.

Administrative Redundancy

31% of households file separate applications for both Lifeline and SCD. Parallel verification systems impose costs on utilities; an immediate consolidation opportunity.

International Precedent

Most countries address elderly welfare through pension systems or integrated social protection, not sector-specific cross-subsidies (World Bank 2018). The Philippines is moving in the opposite direction.

Cross-Cutting Systemic Problems: Three Programs, One System

Examined together, the three programs reveal systemic failures requiring coordinated — not isolated — reform responses.

1

Single-Dimension Eligibility Without Welfare Verification

All three programs rely on one criterion — consumption, geography, or age — without complementary means-testing. This generates systematic leakage regardless of implementation quality. South Africa, Ethiopia, and Spain face identical problems.

2

Escalating Costs Without Automatic Correction

No built-in adjustment mechanisms: UCME projected to quadruple by 2024 vs. 2020 baseline (DOE MEDP 2024-2028); SCD is poised to quadruple under HB 11400; Lifeline coverage expands continuously as electrification deepens without threshold recalibration.

3

Institutional Fragmentation

Three programs, multiple agencies (DOE, ERC, DSWD, NPC, PSALM), no unified verification platform. Duplicate processes for the 31% overlap population impose costs and create coordination gaps.

4

Cumulative Competitiveness Burden

Combined cross-subsidy costs contribute to Philippine electricity prices among the highest in ASEAN (Ravago & Hall 2022). Geographic distortions from utility-bounded cost recovery deter investment in high-poverty regions, reinforcing spatial inequality.

PART III

An Integrated Reform Agenda

What the Philippines should do? How to get there?

UCME Reform: From Cost-Plus to Performance-Based

1

Viability reclassification

Quantitative criteria (load factor, operating cost ratios, economic indicators). Areas meeting viability thresholds enter a degression schedule with UCME support declining annually to zero.

2

Benchmark-based subsidies

Replace cost-plus reimbursement with technology-specific benchmark costs set by ERC. Utilities achieving below-benchmark costs retain savings; those exceeding benchmarks absorb the excess. Eliminates moral hazard.

3

Streamlined administration

Single-window UCME disbursement through PSALM with ex-post ERC audit for routine claims. Formal DOE-ERC memorandum of agreement specifying jurisdictional scope.

4

Diversified financing

Reduce per-kWh levy burden by incorporating general tax revenues, concessional development finance (from development banks or donors) for renewable infrastructure, and clearer private sector franchise pathways.

Lifeline Rate Reform: From Consumption-Based to Welfare-Based

Core Fix: Add welfare verification (Listahanan/4Ps) alongside — not instead of — consumption thresholds. The infrastructure already exists.

Hybrid Model A: Stratified Subsidy

Maintain 100 kWh threshold but stratify subsidy by welfare status:

- Listahanan-verified extremely poor → full subsidy at marginal distribution cost
- Verified poor → 50% rate subsidy
- Non-poor qualifying households → no subsidy

Hybrid Model B: Dual Track

Two parallel eligibility paths:

- Welfare track: fixed monthly discount (₱200–500) for Listahanan-verified poor, up to a reasonable cap
- Consumption track: reduced 50 kWh threshold for non-verified households to minimize leakage

Geographic Distortion Fix

National subsidy pooling: redistribute Lifeline costs across utilities by formula (proportional to total residential customers) rather than bounding recovery within each utility's service area. Mirrors universal service fund mechanisms in telecommunications.

Phased Implementation

- Phase 1 (Yrs 1–2):** Data-sharing agreements, pilot in 2 to 3 utilities
- Phase 2 (Yrs 3–4):** Deploy hybrid system using operational verification platform
- Phase 3 (Yr 5+):** Complete transition; calibrate thresholds from pilot evidence

Senior Citizen Discount Reform: From Age-Based to Need-Based

⚠ **HB 11400 (House-approved June 2025, pending Senate): Tripling discount to 15% and doubling threshold to 200 kWh, without actuarial projections, means-testing, or fiscal sustainability analysis.**

Graduated Means-Testing

Cross-reference applicants with FIES income data and 4Ps beneficiary status:

- Poor elderly → full 15% discount
- Lower-middle income → 10% discount
- Middle-income and above → no discount

4Ps beneficiaries auto-qualify with no separate application

Benefit Structure

- Absolute monthly cap (e.g., ₱500 maximum regardless of consumption level)
- No increase the maximum consumption threshold
- Mandatory annual actuarial projections incorporating demographic trends and consumption patterns

Administrative Integration

Unified application for Lifeline Rate + SCD: single submission, verification, renewal cycle. DSWD-ERC consolidated database eliminates duplicate utility verification for the 31% overlap population.

Senate Deliberation Strategy

PIDS, ERC, and DOE should submit consolidated position proposing means-testing amendments. Frame as improvements — “ensuring the expanded discount reaches those who genuinely need it” — not outright opposition.

Integrated Reform Roadmap: Sequencing Matters

Principle: Address unacceptable leakages first. Improve targeting before reducing benefits. Frame reform as “better reaching those truly in need.” (Inchauste & Victor 2017; IMF 2013)

Years 1–2

Data Integration & Defensible Corrections

- Establish unified FIES–4Ps–utility database (DSWD, PSA, DOE, ERC)
 - Remove UCME subsidies from commercially viable areas
 - Remove Lifeline benefits from demonstrably wealthy households
 - Exclude high-income elderly from SCD
 - Pilot lifeline means-testing in 2–3 distribution utilities
- **Goal: demonstrate equity gains, build reform credibility**

Years 3–4

Deploy Hybrid Targeting Systems

- Launch integrated Lifeline eligibility using Listahanan verification
 - Implement SCD means-tested tiers with unified application process
 - Begin UCME degression for commercially viable areas
 - Establish national subsidy pooling for geographic distortion correction
- **Monitor: targeting accuracy, leakage rates, fiscal trajectory**

Years 5+

Calibrate, Evaluate & Sustain

- Complete transition to means-tested Lifeline; phase out consumption-only track
- Annual SCD actuarial projections; calibrate thresholds from pilot evidence
- UCME automatic viability reviews every 3 years with performance benchmarks
- Full M&E framework with public fiscal sustainability dashboard

The Philippine Advantage: Existing Institutional Assets

The challenge is operational integration — not capability development. The infrastructure already exists.

FIES

Family Income & Expenditure Survey (PSA)

Regular household welfare data with income, expenditure, and appliance ownership — the empirical basis for threshold calibration and targeting evaluation. Most comparable developing countries lack equivalent survey infrastructure.

4Ps

Pantawid Pamilyang Program (DSWD)

Operational means-tested benefit delivery at scale, with Listahanan household targeting data and payment mechanisms directly adaptable to electricity subsidy targeting.

ERC

Energy Regulatory Commission

Technical expertise in sophisticated tariff design, cost recovery analysis, and subsidy program oversight — a capable regulator for hybrid targeting frameworks and benchmark subsidy design.

PSA

Philippine Statistics Authority

Household identifier systems enabling cross-linkage of FIES welfare databases with utility customer records and DSWD's Listahanan beneficiary data.

International precedent: Pakistan's integration of electricity data with Proxy Means Test databases was accomplished with institutional infrastructure comparable to what the Philippines already has.

Navigating the Political Economy of Reform

Why Reform Is Hard

Concentrated vs. dispersed interests

Beneficiaries know what they receive and organize to defend it. Dispersed cost-bearers face invisible per-unit increments and lack political salience.

Loss aversion

Populations resist perceived losses more intensely than equivalent gains (Samuelson & Zeckhauser 1988). Benefit reduction is politically costly regardless of the equity rationale.

Cost obscuration

Cross-subsidy mechanisms hide costs — compensatory surcharges rarely appear disaggregated on electricity bills, making the public unaware of what they are paying.

Cautionary tale: Indonesia's subsidies reached 2.8% of GDP before crisis forced emergency reform — far more disruptive than earlier gradual adjustment.

Six Implementation Principles from Successful Reform Experiences

1

Start with defensible corrections — remove subsidies from wealthy households and viable areas first

2

Improve targeting before reducing benefits — demonstrate equity gains first; build credibility

3

Create visible winners — use savings to lower rates for non-subsidized consumers

4

Frame as “better targeting”, not “cuts” — language matters for political acceptability

5

Grandfather existing beneficiaries — phased transitions reduce backlash

6

Publish cost transparency reports — make fiscal reality visible to the public

Five Priority Recommendations

01

Integrate welfare databases

Link FIES, 4Ps/Listahanan, and utility customer records. Technical and legal prerequisites exist — inter-agency coordination is what is needed. This is the enabling infrastructure for all subsequent reforms.

02

Address unacceptable leakages immediately

Reclassify Palawan and Mindoro (UCME); remove Lifeline benefits from demonstrably wealthy households; exclude high-income elderly from SCD. Fiscally and politically defensible as clear equity corrections.

03

Implement UCME degression mechanisms

Viability criteria and graduated support reduction. Performance-based benchmark subsidies to eliminate cost-plus moral hazard. Lifeline-equivalent discounts for qualifying off-grid households using 4Ps data.

04

Streamline administrative processes

Single-window UCME disbursement; unified Lifeline + SCD application; consolidated DSWD-ERC verification database. The 31% overlap is an immediate consolidation opportunity.

05

Introduce fiscal sustainability safeguards

Annual SCD actuarial projections; automatic program review triggers if subsidy costs exceed 2% of government revenue; revenue neutrality enforcement for Lifeline and SCD with automatic tariff adjustment mechanisms.

Overarching principle: Proactive, gradual reform with built-in sustainability safeguards is always less costly — politically and fiscally — than crisis-driven adjustment.

Conclusion:

The Window for Proactive Reform Is Open

Philippine electricity subsidies serve legitimate equity goals. The problem is not what they are trying to do — it is how they are designed. Three programs with single-dimension eligibility criteria, cross-subsidy funding, and no automatic correction mechanisms collectively undermine the competitiveness and equity objectives they are meant to serve.

International evidence is unambiguous: design quality determines outcomes more than mechanism choice. The Philippines has the institutional building blocks — FIES, 4Ps, ERC regulatory capacity — for significantly better-designed programs. The challenge is operational integration.

UCME costs are projected to quadruple relative to 2020 levels by 2024 (DOE MEDP 2024-2028). Senior Citizen benefits are poised to quadruple under HB 11400. Lifeline leakage persists despite documented inefficiencies. These trajectories require intervention.

The experiences of Indonesia, Peru, South Africa, Spain, and Colombia consistently demonstrate that early, evidence-based reform is less costly and more equitable than the alternative. The Philippines has the tools. The analysis is available. The case is made. What remains is the political will to act.