



TELECOMS & ENERGY

When the Tower Powers the Village

Why the state should lean on telecom operators
— and how to structure what they could not do alone

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Two Worlds That Touch Without Seeing Each Other

At the entrance to thousands of unelectrified African villages stands a generator that runs twenty-four hours a day. It is fenced, guarded, refueled with diesel by a dedicated logistics chain, and maintained under a service contract with a guaranteed availability above 99.8%. It powers an antenna. It does not power the village.

The orders of magnitude are well known. The GSMA counted more than 240,000 telecom towers in sub-Saharan Africa, of which roughly 145,000 in off-grid areas and 84,000 in areas with an unreliable grid: the majority of the fleet has no dependable power supply. The fleet has grown since, and a 2025 analysis puts at more than half a million the towers still dependent on diesel across the continent. An off-grid site burns on the order of 13,000 liters of diesel a year, for an annual energy bill above 21,000 dollars and close to 35 tonnes of CO₂. Energy accounts for up to 40% of the network OPEX of an African mobile operator. At continental scale, the telecom industry is already, without ever intending it, one of the largest decentralized producers of electricity — and one of the most expensive.

This continental picture is not scenery. It describes a physics and an economics that stop at no border: everywhere the rural tower burns diesel, everywhere energy is the network's largest cost item, everywhere the neighboring village has no power. What changes from one country to the next is the institutional arrangement: who carries the coverage obligation, who owns the towers, which funds exist, which regulator arbitrates. And on that terrain, **Cameroon is not the average: it is the acute case**. Operators there put the share of energy at around 60% of their network OPEX, one and a half times the continental average. The heaviest line in their operating account is also the only one no one has ever pooled.

Yet a few hundred meters from those generators, access to electricity in rural Cameroon remains marginal. The Rural Electrification Agency electrifies, project by project, a few hundred localities per donor financing cycle. PERACE targets 519 by 2027, on World Bank and EIB funding. At that pace, and given demography, the gap does not close.

The two worlds touch geographically and ignore each other industrially. It is the most obvious and least exploited deposit of value in Central Africa's electricity-access policy.

The thread of this note fits in one sentence, and it is worth stating upfront: **the telecom operator is not an electric utility in waiting. It is the customer that rural electrification never had: solvent, under contract, already installed at the edge of the village, and already paying more per kilowatt-hour than any household ever will. The whole question is why the country is not selling it that kilowatt-hour.**

This Is Not an Economist's Idea

It must be said plainly, because it changes the nature of the subject: **telecom operators and tower companies have tried this themselves**. This is not a theoretical proposal that would have to be sold to them. It is an ambition they have already voiced, funded, piloted — and abandoned.

Their reasons were good, and still are.

For the mobile operator, rural profitability runs into a physical fact: a customer without electricity is a customer who charges a phone every other day at a reseller's stall, does not buy a smartphone, does not consume data, and does not keep an active mobile-money account. Electricity is not a CSR nicety: it is the precondition of ARPU. Where urban markets saturate and price wars compress margins, the countryside is not an area to cover out of obligation: it is

the last market left to open. And it only opens with power. Mobile money, in particular, takes root only where a network of agents has a cash float, a connection, and a light after 6 p.m.

For the tower company, the logic is more direct still. It has sunk energy capital — panels, batteries, generators, civil works — sized with a safety margin and amortized against a single tenant. Any energy sold beyond the site is marginal revenue on an asset already paid for. The trade has in fact evolved in that direction: power-as-a-service has become the core of the towerco value proposition, and telecom ESCOs (IPT PowerTech, Aktivco, Energy Vision) have established themselves as an industry in their own right, built on ten-year contracts and DFI financing. These players know how to produce electricity in difficult places. They do it every day.

A third argument emerged recently, more decisive than the first two: rural coverage does not pay for itself. IHS built roughly 400 rural towers for MTN in Nigeria and reports near-zero profit on those sites. The fixed multi-tenant lease model, effective in dense areas, collapses where demand is thin. Governments nonetheless demand geographic coverage rates of 95% and above. Selling electricity to the village is therefore not, for these players, a diversification: it is **the revenue line that makes the rural site viable**. Without it, the coverage obligation will remain a permanent negotiation between the regulator and operators dragging their feet.

And a fourth, today the most powerful of all: solarization. We devote a full section to it, because it is not one more argument. It is the one that makes the others inevitable — and the one that imposes a deadline.

These players therefore had the need, the asset, the field presence, the retail distribution network and the collection channel. And they broke their teeth on it.

Why They Failed

Three reasons, in this order of importance.

1. The law does not provide for what they wanted to do.

A tower company may sell electricity to a mobile operator: that is a service between two firms, settled by contract. Let it sell one kilowatt-hour to a household, and it becomes an electricity distributor: a concessioned, licensed, tariffed activity, carrying public-service obligations and supervised by a regulator that is not its own. No text provides for the intermediate case: an existing production asset, already installed, wishing to sell its surplus within a limited perimeter around the site.

Faced with that void, the decision of any telecom investment committee is predictable: one does not put at risk a national license worth several hundred billion for an incidental revenue line in a legal gray zone. The project dies in legal review. That is not timidity; it is rationality. **The absence of a framework did not slow these initiatives: it killed them before they were born.**

2. They did not know the energy trade.

This is the most expensive reason, and the least admitted. Powering a BTS and powering a village are two trades that share nothing but the electrons.

A BTS is a single customer, under contract, solvent, with a flat and predictable load, paying monthly in local currency, whose willingness to pay is absolute because the service depends on the power. A village is three hundred customers, a load curve concentrated between 6 and 10 p.m., agricultural seasonality, a collections operation to build,

connections to finance, fraud to manage, appliances to get into homes, productive demand to stimulate, and community relations to maintain for twenty years.

The two trades also run on two clocks. A telecom investment is judged over three years. A rural distribution asset amortizes over fifteen to twenty. A telecom CFO looking at a mini-grid business plan sees a degraded IRR, an inverted cash cycle and an aberrant capital intensity. He says no. He is right, at his time scale. **Hold on to that sentence: it is where the solution lies.**

Add to this a governance mistake made again and again: these initiatives were housed in CSR departments, innovation labs or under-capitalized "Energy" subsidiaries, with no energy P&L, no dedicated balance sheet, no trade team. One does not build an electric utility inside a transverse department of a telecom group.

3. They tried to occupy the wrong role.

This is the synthesis of the first two. These players believed their contribution was to *operate* the service. Yet their strategic asset was never operations. It lies elsewhere, and it is considerable: **a solvent anchor load, a collection channel, scoring data, a balance sheet.** The day they tried to become electricity companies, they stopped being useful.

The Right Equation: Three Roles, Not One

The model exists, it has been documented for a decade, and it has a name: the *Anchor-Business-Community* model. A mini-grid is sized around an anchor client — the tower — which guarantees a significant share of revenues, and simultaneously serves the surrounding businesses and households. Gham Power in Nepal with NCell from 2015, Électricité de Madagascar with Telma in 2018, BBOXX in Bukavu, Husk Power and PowerGen across several markets: the concept is proven. What is missing is not the technical proof. It is the structure.

The starting economics are simple. In a classic rural mini-grid, 100% of revenues depend on a diffuse, uncontracted customer base with weak ability to pay. Hence the dependence on subsidy and a prohibitive cost of capital. With a tower as anchor, 30 to 50% of revenues come from a corporate counterparty, under a ten-to-fifteen-year contract, indexed, paid monthly. That single shift makes the project debt-financeable and turns the residual risk into a manageable one.

Provided that each party holds its role:

The telecom world is the anchor client, and it counts two players, not one. The tower company signs the power purchase contract and carries the site-load risk; the mobile operator commits the duration and brings the payment channel. Neither operates. The next section returns to this, because confusing the two is the first structuring mistake.

- **The energy operator is the licensee.** It invests, operates, bills, collects, and carries the distribution risk. That is its trade, its balance sheet, its horizon.
- **The state is the architect.** It plans, licenses, finances what it alone must finance, and secures the one risk no one else can carry: that of its own future decisions.

Four questions then remain open, and they are the only ones that matter: who speaks for the tower, why now, who pays for what, and under what licensing regime.

Who Speaks for the Tower

The objection came to us from the tower companies themselves, and it is well founded. This note has so far spoken of the "telecom world" as one bloc, when a rural site in fact brings together two companies, two balance sheets and two objective functions. One owns the tower, the land and the energy. The other owns the antennas, the license and the subscribers. To confuse them is to pick the wrong counterpart — and therefore the wrong contract.

What the tower company says — and it is right

The coverage obligation is not its own: it is written into the mobile operator's license, and the towerco merely follows its rollout. But energy is its trade. It is the towerco that sizes, buys, installs, refuels and maintains on-site production; the towerco that carries the diesel cost and the availability risk; the towerco that negotiates the ESCO contracts and the financing that goes with them. When a rural site loses money, it is on its P&L. When a technical solution cuts energy CAPEX or OPEX, it is the towerco that found it.

It concludes that it must be the lead counterpart of any energy project around its sites. **On the energy asset, it is right — and the state would be wrong to talk to anyone else.** Discussing the generator with the mobile operator means addressing the party that has precisely outsourced that problem.

What that is not enough to establish

It cannot be the sole counterpart, and the reason is not one of legitimacy: it is the function it performs that forbids it. **It optimizes the energy cost of a site. The village is not in its objective function.** A player mandated to cut CAPEX and OPEX per site will always size the system for the antenna and treat the village as surplus to be offloaded. That is the very mistake this note argues against, and the same logic already encountered with the distribution network: it is the right builder; it is not the right specifier.

Three things escape it, and they are structural.

The duration of the anchor load does not belong to it. Its own revenue depends on a lease with the mobile operator. If the latter decommissions the site or does not renew, the load disappears. A lender financing fifteen years of mini-grid does not stop at the towerco's balance sheet: it looks through it, all the way to the mobile operator's occupancy commitment. Without that commitment aligned with the term of the power purchase contract, the anchor anchors nothing.

The revenue that justifies going beyond the antenna is not its own. Electrifying the village produces ARPU, data subscriptions, active mobile-money agents, handsets that get charged. That value lands with the mobile operator. If the towerco negotiates alone, it brings only its energy savings to the table, and the project shrinks to what those savings can finance — that is, to the antenna. The village needs the party who will harvest the market to be in the room.

The collection channel belongs to the mobile operator. The prepaid meter is topped up in mobile money. The towerco has neither the channel, nor the agent network, nor consumption data usable for credit scoring.

On energy, the tower company is the first counterpart, and the contract is signed with it. On the market, the mobile operator is indispensable, and its commitment is what makes the structure bankable. Neither of the two operates the grid: that is the trade of neither.

The vehicle that carries both

A generation-and-distribution SPV, formed around the site, allocates these contributions without confusing them.

- **The energy operator holds the majority.** It is the licensee. It operates, bills, collects, and carries the distribution risk.
- **The tower company contributes its existing energy assets** — production, storage, civil works — valued at net book value, and becomes a shareholder up to that contribution. This is the most direct answer to its own demand: its sunk capital stops being amortized against a single tenant and becomes a share in a business selling to three hundred customers. It also signs the site's power purchase contract, and remains the technical lead on production.
- **The mobile operator enters through commitment rather than cheque:** a site-occupancy commitment aligned with the term of the power purchase contract, the payment channel made available at cost, access to consumption data. A minority stake is possible; it is not necessary.
- **The Rural Electrification Agency is the contracting authority for the distribution network**, which remains public property and does not enter the SPV's balance sheet.
- **The state approves the tariff and issues the portfolio license.**

Each party brings what it has and pays for nothing it lacks. The towerco brings steel already paid for, the mobile operator brings time and a channel, the energy operator brings the trade and the balance sheet, the state brings the network and the rules. It is the only allocation in which no one finances someone else's strategy.

Solar Needs the Village

The solarization of telecom sites is today the sector's main engine of transformation, more powerful than all the previous arguments combined: group-level decarbonization commitments, investor pressure, the cost and volatility of diesel, refueling logistics, fuel theft on the order of 10 to 15% in many markets. Yet the GSMA observes that 88% of off-grid or bad-grid sites in low- and middle-income countries still run on a non-renewable source. The intent is massive. Execution lags.

It lags for a physical reason. **Solar is not dispatchable, and a rural site's load is flat.** Precision matters here, because it decides everything. In urban areas, an antenna's load breathes with traffic, with swings of up to 70% between the night trough and the peak. In rural areas, traffic is low and consumption is dominated by auxiliaries running continuously: rectifiers, cooling, transmission. The curve flattens. A rural antenna consumes almost as much at three in the morning as at noon — while the sun delivers only five to six useful hours. **The hardest site to solarize is precisely the one that is off-grid.** Solarizing a rural site for the BTS alone means oversizing a battery bank to get through the night — the most expensive and shortest-lived asset in the whole structure, with a ten-year life — and throwing away the midday surplus. The generator stays on standby to hold the SLA. The economics are mediocre. It is one of the reasons 88% of sites have not switched.

Add the village, and the physics changes sides.

A village whose productive uses are stimulated — mill, husker, cold chain, pumping, welding, workshop — consumes **during the day**, exactly when the solar field overflows. The kilowatt-hour curtailed at noon becomes revenue. The battery, shared across three complementary load curves (the antenna's flat one, the household's evening peak, the workshop's daytime one), becomes amortizable again. And the reverse is true: the backup generator that the telecom SLA requires anyway gives the village a quality of service no stand-alone rural mini-grid could ever fund on its own.

Two consequences follow.

The first is methodological. **Stimulating productive demand stops being a social accompaniment policy and becomes a technical constraint of the structure.** Without daytime load, the solar does not work. The village is not the project's beneficiary: it is one of its components. A business plan that treats productive uses as an optional annex is a wrong business plan.

The second is a calendar — and it is the real message of this section. **The conversion wave is under way, now.** Orange has already solarized more than 8,000 sites, close to 20% of its regional fleet; IPT PowerTech, Aktivco and Energy Vision run thousands of sites under contracts of about ten years; the IFC invested 45 million dollars in a telecom ESCO in 2026. But every site solarized today is solarized **for the BTS alone**: a field sized just so, a battery calibrated on a flat load, a panel with no spare feeder, land taken at the strict minimum. Resizing it in five years will cost more than doing it once. Every ten-year ESCO contract signed without an extension clause is one locality closed for ten years.

The state has a window, and it closes at the pace of the conversions. It is the only urgency in this note, and it does not depend on the state.

Who Finances Is Not Who Builds

The regulator will ask one question before all others, and that question has buried every rural concession program: **at what price the kilowatt-hour?**

This is the breaking point. A stand-alone private mini-grid posts a tariff several times the national one. No minister will publicly defend a villager paying five times what a resident of Bonanjo pays. The anchor client solves part of the equation. It does not solve all of it.

The second part plays out in the financing structure, and in a distinction that is systematically confused: **financing a network and building it are two different acts, and there is no reason for the same party to carry both.**

The approach we defend fits in one line. **The state finances the distribution network (lines, substations, connections) — on the order of 15% of CAPEX. The operator builds it, because it will operate it, but to national grid standards, to prepare the future interconnection.**

Why the state should finance

Three effects, in increasing order of importance.

The tariff. Fifteen percent of CAPEX taken off the private balance sheet is fifteen percent of the asset base that stops being remunerated at the private cost of capital and passed through to the bill. The tariff effect is not mechanically fifteen percent: it depends on the weight of capital charges in the full cost — a majority weight in a solar mini-grid, where fuel is zero. Combined with the anchor revenue, which absorbs a share of fixed costs before the household even enters the equation, it moves the residential tariff from an indefensible multiple to a debatable gap. That is all the regulator asks for: a number it can defend.

The duration. The distribution network is the worst asset in the private structure. It has the longest life — thirty to forty years against ten for a battery bank — and therefore demands the most stretched amortization, while carrying the lowest technical risk. Taking it off the private balance sheet brings the investor's amortization horizon down to that of its production equipment. **Here we meet again, exactly, the problem of the two clocks: an investment**

committee that rejects a twenty-year file can look at a ten-year one. The financing structure does not just lower the tariff: it makes the file legible to players whose trade this is not.

Ownership. This is the decisive point. The day the main grid arrives, the stranded asset is the line. The generator and the panels can be dismantled, resold, redeployed to another site; the pole cannot. If the state has financed and owns the distribution network, there is no stranded asset, no compensation negotiation, no buy-back clause impossible to draft. There is a connection.

Why the operator should build — but not to its own hand

The operator builds because it will operate. It is the only party whose twenty-year interest coincides with the quality of the works: every kilowatt-hour lost on the line is a kilowatt-hour it produced and will not bill. When the public authority finances *and* has the works built through a lowest-bidder public tender, the operator inherits a network it did not specify: undersized conductors, approximate earthing, routes dictated by the most convenient land. It will carry the losses and the outages for twenty years, and be judged on a quality it did not determine. Disputes over the acceptance of rural works are not the exception: they are the rule.

But it does not build to its own standards. This precision is not an engineer's detail: it is what justifies the entire financing structure.

Left to its own optimization, an operator would build the cheapest network that serves three hundred subscribers for twenty years: a voltage level chosen for the island, conductor sections computed on today's load, protections calibrated for one local source and one only, poles at the strict minimum, proprietary metering, the shortest possible route. That network would work perfectly. And the day the medium-voltage line arrives, it would have to be rebuilt.

What the country is buying is something else: a network compliant with the national distribution code, at standardized voltage levels, with a protection plan compatible with the arrival of an upstream source, spare capacity, metering interoperable with the concessionaire's systems, a route that anticipates the future injection point, and an as-built file acceptable on handover day. **It costs more than what the operator needs. That is exactly why the operator should not be the one paying for it.**

Public financing of distribution is not a disguised subsidy. **It is the state's purchase of an over-specification of which the state is the sole beneficiary.** The operator pays for the network it needs; the state pays for the gap between that network and the country's.

And since it pays for it, it owns it. Which closes the loop: the day the main grid arrives, there is no stranded asset, no compensation, no works to rebuild. There is an asset the state owns, compliant from the first pole, and a connection operation.

The administrative vehicle already exists: delegated contracting authority, technical specifications approved by the regulator, a unit price schedule validated *ex ante*, disbursement against verified work statements and technical audit, the asset entered in the public inventory and made available to the operator by agreement. The contractual price schedule neutralizes the over-specification risk of an operator building with money that is not its own; the prospect of twenty years of operations neutralizes the opposite risk.

Two conditions must be written down, or the structure turns against itself. **The regulator must require that the subsidy go to the tariff, not to the margin,** by explicitly excluding publicly financed assets from the remunerated asset base. And a handover-condition standard must be enforceable: a public asset operated by a third party always degrades faster than an owned one.

Where the donors come in

The role of the DFIs follows from this architecture, and it may be its most underrated advantage.

Financing a public distribution asset is not subsidizing a private operator. The nuance is not cosmetic: it removes the debate on competitive distortion, the political objection to public money paid to a foreign operator, and the heaviness of conditional-subsidy mechanisms. What the donor is asked to do is finance public infrastructure, owned by the state, compliant with national standards, measured in connections delivered. That is exactly what it knows how to do and prefers to do.

Nor is this a hypothesis: **it is the architecture of PERACE**. Grid extension financed by the World Bank and the EIB, works destined for the operator. We propose applying it to the tower-anchored mini-grid. Likewise, the revolving connection fund set up by the Rural Electrification Agency with ENEO, which has financed more than 135,000 connections to date, is an existing instrument, one that works, and no technical reason confines it to the national concessionaire.

The state does not need to invent an instrument. It needs to decide that its own instruments apply to another perimeter.

One License, Not Forty

There remains an obstacle the energy sector inflicts on itself — and whose remedy the telecom sector has known for twenty-five years.

Today, every mini-grid is a dossier: one authorization, one review, one tariff to approve, one decision. At the scale of a 50 kW site, the transaction cost of the procedure exceeds the value of the asset. An operator cannot build a portfolio of forty localities if it must carry forty reviews, forty approval risks and forty timelines. No lender finances that: one finances a portfolio, not a collection of permits any of which may never come. And the regulator, for its part, drowns in files it lacks the means to review.

No one asks a mobile operator for one authorization per antenna. It is issued a national license with obligations, and it declares its sites. There is no reason rural electricity should proceed otherwise.

What this requires: a **portfolio license**, issued to an operator over a perimeter (a region, a set of districts, a class of assets under a power threshold), comprising:

- a single tariff schedule for the whole portfolio, approved once, revised by a written formula;
- a single set of terms of reference: construction standards, quality of service, extension obligations, reporting;
- a site **declaration**, not an authorization: the operator notifies, the regulator audits after the fact;
- one counterpart, one renewal, one revision.

The most important effect is budgetary. **A portfolio license enables internal cross-subsidization.** Comfortable localities carry marginal ones within the same perimeter — exactly what the national operator does at country scale. That reduces the public subsidy per site. And it allows the state to assemble lots mixing attractive and difficult localities, instead of auctioning villages one by one and finding that no one bids on the bad ones.

That is precisely where the rural concession programs stopped.

Two Funds Financing the Same Failure

The country has two instruments dedicated to the same cause. Neither works, and they fail in exactly symmetrical ways.

The FST has money and no results

The Special Telecommunications Fund was born of the 1998 law, became operational only in 2006, and is fed by contributions from operators and network providers, raised to 3% of pre-tax turnover by the 2010 electronic communications law and the decree of 26 June 2012, with collection entrusted to the telecoms regulator (ART). It is divided into windows, including the universal-service window, and its priority projects are decided by the Prime Minister on the proposal of the minister in charge of Telecommunications, after the binding opinion of a validation committee.

On paper, it is the country's only mechanism endowed with a dedicated, recurring resource indexed to the growth of a growing sector. No infrastructure fund dreams of better.

In practice: laborious collection, to the point that the regulator had to organize seminars to remind contributors of obligations that are nonetheless legal; a fund tapped for purposes remote from its *raison d'être*, since a 2005 decree had it pay 2.5 billion FCFA a year for five years to the development of the postal sector; and a flagship program, the Multipurpose Community Telecentres, whose target ran to thousands of units by 2020, which counted about 231 in 2015, and which stopped pending an audit.

The diagnosis fits in one sentence. **The FST financed telecom objects in villages without electricity.** A telecentre without power is a building. The fund did not fail for lack of means: it failed because it was financing the symptom of a problem that belonged to the other fund.

The rural energy fund has a mandate and no money

The 1998 architecture created the regulator and the Rural Electrification Agency, with a rural energy fund meant to mobilize financing and award subsidies to eligible projects, and locally initiated calls for projects supposed to be launched once or twice a year. The agency designed rural concession tender programs. **They never started, for lack of financing available to pay the subsidies that were to attract private operators.**

Deprived of a resource, the agency became what it could be: an execution unit for donor projects, stringing programs together at the pace of financing cycles — 166 then 184 localities on Exim Bank of China, 87 on Afreximbank, 26 on Spanish funds, the RUMPI zone on European funds interrupted for security reasons, PERACE on the World Bank and the EIB. Each program is estimable. None constitutes a policy, because none survives its financing. The agency says it itself: it suffers from insufficient funding.

The diagnosis is the exact mirror of the first. **A fund without a resource does not subsidize. An agency without a fund executes other people's projects.** The first has the means of a policy without its object; the second has the object without the means. They have been working on the same villages for twenty-five years.

What they would do together

Put the two findings side by side: a fund that collects a permanent resource without knowing what useful thing to do with it; an agency that knows what to do without a permanent resource. They target the same localities. They pursue, to within a word, the same universal-service objective. They have never spoken to each other.

The structure deduces itself:

- **the FST's universal-service window finances the distribution network** of tower-anchored mini-grids — the 15% of CAPEX, the public asset, the one that prepares the interconnection;
- **the Rural Electrification Agency is the contracting authority**, delegates execution to the operator, and brings geographic planning, the legal framework and the relationship with energy donors;
- **the donors top up** the public share and the revolving connection fund;
- **the energy operator finances and operates** production and storage, under a portfolio license;
- **the telecom operator is the anchor client**, and its power purchase contract makes the whole financeable.

It will be objected that the FST has no vocation to finance electricity. The objection is serious and should be addressed precisely, because it is legal before being political. **Every franc spent on a distribution network beneath a tower produces, in a single operation, telecom universal service** (a rural site finally viable, a mobile-money agent open in the evening, a handset that charges, coverage that stops being an obligation to renegotiate every three years) **and electric universal service**. The FST is not being diverted from its purpose: it is taking the shortest path to it — the one it has not taken for twenty years.

The governance requires no new law. The 2012 decree already provides that the Fund's priority projects are decided by the Prime Minister, on the proposal of the minister in charge of Telecommunications, after the binding opinion of the validation committee. It suffices that the proposal be co-signed with the minister in charge of Energy and that the committee have a common eligibility grid. **One window, two ministries, one pipeline**. That is an order, not a reform.

Three Complementary Workstreams

1. Overlay two maps that already exist. The rural electrification master plan and the telecom coverage plan deal with the same villages without speaking to each other. Yet the site database of the regulator and the operators is the best rural demand-aggregation dataset available in the country: geolocated, validated, with road access, land agreements, security arrangements and a real load history. It is free. Making it available to the Rural Electrification Agency is an administrative decision, not an investment.

2. Treat collections as infrastructure. Mobile money is the rural mini-grid's collection channel: smart meter, prepayment, daily granularity. But the commission charged on the payment of a rural electricity bill is charged on a margin that does not exist. Negotiating it down, or capping it on public-utility payments, costs little to an operator that gains, in return, active accounts, consumption data usable for credit scoring and a recurring use case. It is a customer-acquisition cost, not a revenue line.

3. Standardize the tripartite structure. A model anchor contract, operating terms of reference, a delegated contracting-authority agreement, a written allocation of risks before signature. We have developed this elsewhere and will not repeat it: a risk not allocated at signature is not a risk avoided — it is a risk that flows back to the state. Volume risk to the anchor client. Distribution and collection risk to the energy operator. Public-policy risk to the state. Each its own, each priced.

The Warning

Two drifts lie in wait, and they are symmetrical.

The first would be to translate this note into a regulatory obligation: requiring telecom operators to electrify villages in exchange for their licenses. They will comply at the minimum, bill the cost to the urban consumer, and the country will inherit a few hundred installations with no operator five years on.

One does not ask a telecom operator to do the energy trade. One asks it to be the customer that makes it possible.

The second would be to hand the structuring to developers applying an imported model without contextualizing it: a tariff schedule calibrated on a density that is not ours, a collections assumption copied from a market where postal addressing exists, a load curve modeled elsewhere. We have already seen the result.

The Fulcrum

This dossier does not stumble on technique: hybridizing a site, sizing storage, laying three kilometers of low-voltage line are mastered gestures. It stumbles on structuring and on translation.

It takes someone able to hold, in the same document, the three-year IRR of a telecom committee and the fifteen-year amortization of a distribution asset; to carve a financing structure between what the state must carry, what the donor can carry and what the private sector must carry, and to demonstrate it figure by figure; to specify a network that serves a village tomorrow and the national grid in fifteen years; to write an anchor contract a lender will accept; to tell a regulator what its text must contain for a project to become financeable; and to tell an operator what its business plan does not know about the electricity trade.

That is a job of industrial intermediation, not generic consulting. It presupposes having operated electrical assets, structured project financings and negotiated with regulators — from all three sides of the table.

None of the above can be decreed. A framework is written; a structure is demonstrated. The first one that stands in Cameroon will serve as the template for all that follow, and will set by example what the texts will take years to formulate. **Whoever structures it will not have electrified a village: they will have written the standard.**

The towers are already there. The diesel is already burning. The anchor client already exists, and already pays — more than any household ever will. Sites are being solarized right now, one by one, without the village. Only one decision is missing: who finances the hundred meters of cable, to what standard, and under what license. And to demonstrate it, only one site and two signatures are missing.

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