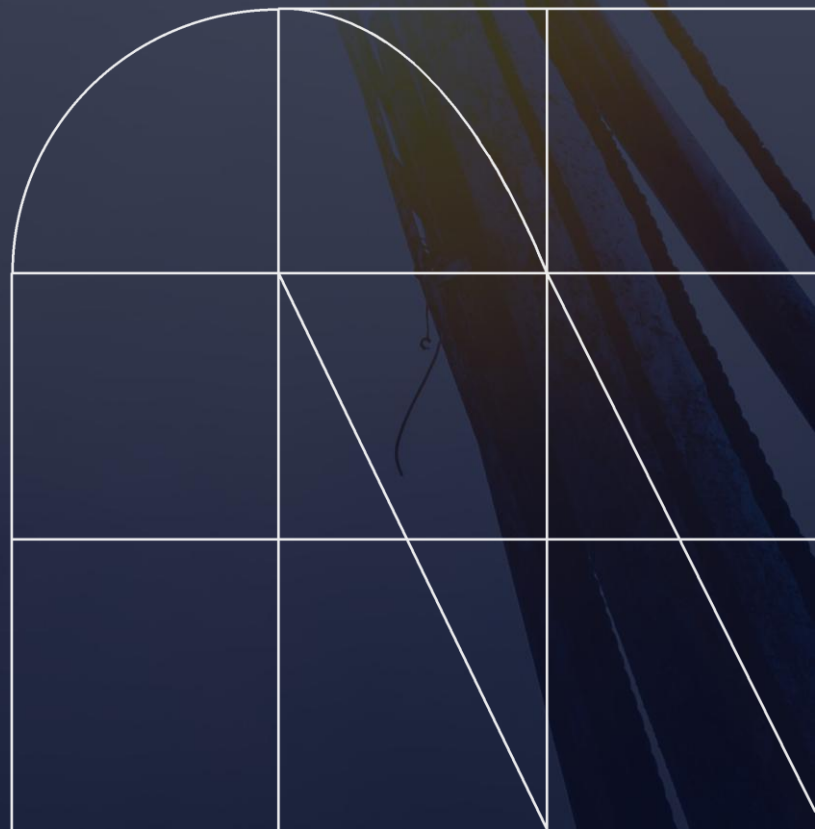


EXECUTIVE PERSPECTIVE · ENERGY DISTRIBUTION

Investing where the network needs it most

How Brazilian distribution utilities can connect asset health, criticality, network risk and delivery capacity to make better investment decisions.



“ Where should we intervene first to achieve the greatest risk reduction and performance improvement with the resources and delivery capacity available?”

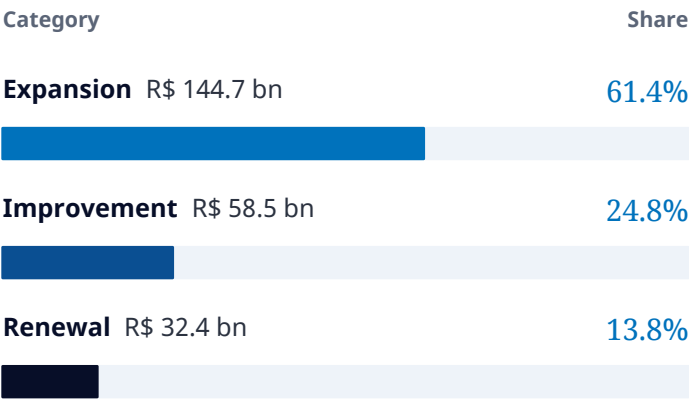
A. At a glance

The challenge is not only to invest more. It is to decide better.

Brazil’s main distribution utilities forecast approximately **R\$ 235.6 billion** in investment between 2025 and 2029. The plan combines expansion, improvement and renewal — three needs that compete for the same capital, the same engineering capacity and the same delivery capacity.^[1]

R\$ 235.6 bn

MME [1]



Percentages calculated on the total published by the MME; rounded to one decimal place.



B. What the evidence says

Asset health is the starting point, not the decision

The Distribution Development Plan (PDD), submitted to ANEEL every year, divides investment into three basic types: **Expansion, Improvement and Renewal**.^[2] This structure turns prioritisation into a portfolio problem: the utility must decide how much to invest in each category and, within each one, which interventions should come first.

A condition ranking, on its own, does not answer that question. Two assets in similar condition may require different decisions once criticality, redundancy, consequence of failure, climate exposure, cost, lead time, operational alternatives and delivery capacity are taken into account.



Compare interventions

Repairing, maintaining, monitoring, refurbishing, replacing, reinforcing, reconfiguring or deferring should all be assessable against the same set of evidence and constraints.

Optimise the portfolio

The goal is not simply to prioritise the asset in the worst condition, but to select the combination of interventions that delivers the greatest risk reduction and value within the real limits of the business.



Reducing risk with a clear line to network outcomes

ANEEL monitors continuity through collective indicators such as **DEC** and **FEC**, and sets regulatory mechanisms linked to service quality.^[3] This makes it possible to connect investment logic to reliability outcomes without reducing the decision to a single KPI.

At the same time, the 2025–2031 concessions agenda includes incentives for **efficient asset management**, modernisation of facilities and the evolution of quality metrics. The 20 concessions covered represent 62% of the distribution market and more than 55 million customers.^[4]



In August 2026, ANEEL brought together government, industry players and experts to discuss extreme weather events and strategies for the sector's security, reliability and resilience.^[5]

A historically non-priority asset can become critical when the climate, topology, load or supply alternatives change.

C. Implications and scenarios

The portfolio has to be a living one

The Brazilian network is also changing. ANEEL’s Public Consultation 033/2026 proposes modernising connection rules for distributed solar generation, storage, electric vehicles and flexible loads, with greater emphasis on observability, operability and controllability.^[6]

That is why the investment portfolio must be recalculable whenever demand, connections, distributed generation, topology, asset condition, strategic projects, costs or delivery capacity change.



The best decision in the model has to fit the real world

A portfolio can look mathematically optimal and still be impossible to deliver. Crew capacity, contractors, materials, outage windows, geographical dependencies, permits and lead times need to be formal inputs to prioritisation.

Risk-based prioritisation

- Condition and probability of failure
- Criticality and consequence
- Resilience and future exposure
- Alternatives and timing

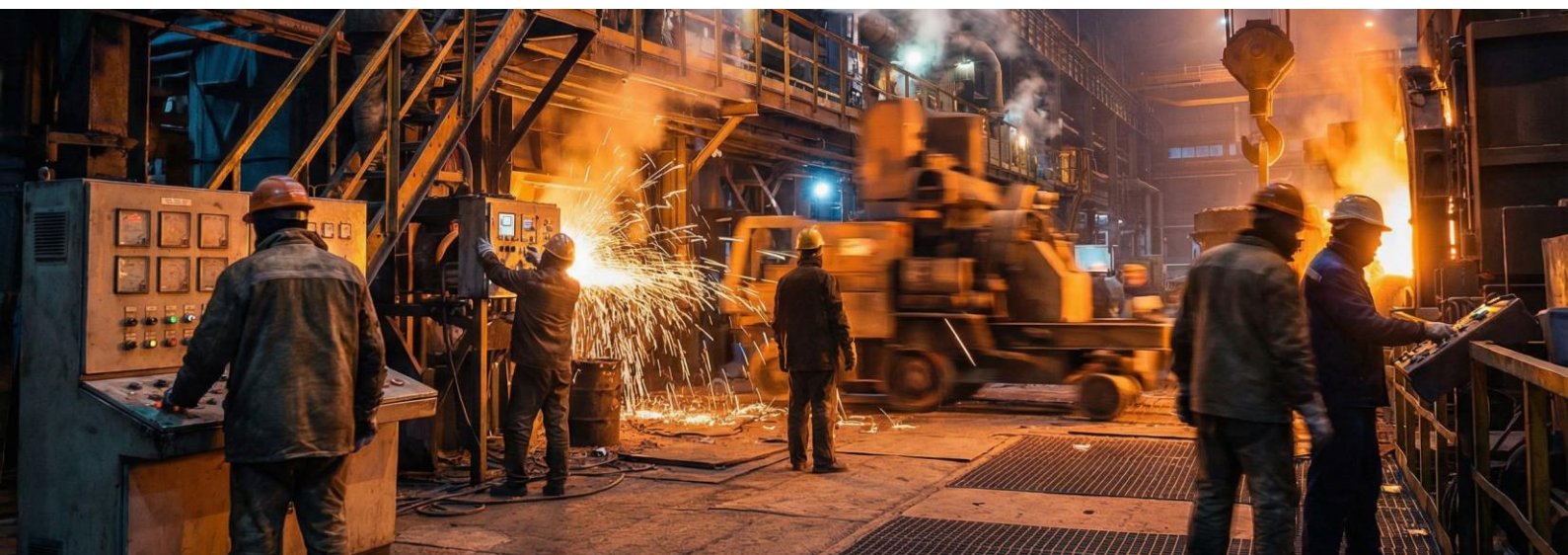
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Delivery constraints

- Workforce capacity
- Contractors and supply chain
- Outage windows and access
- Dependencies and annual budget

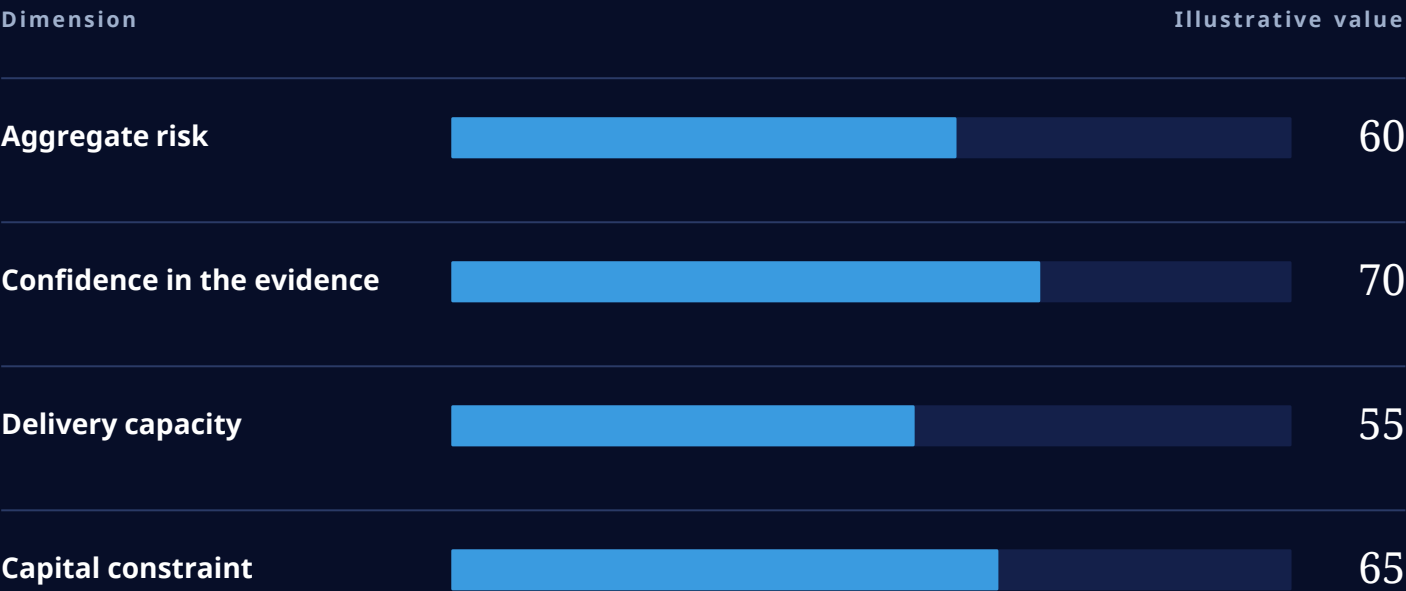
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executable portfolio



Analytical framework for portfolio sensitivity and pressure

Four dimensions determine the pressure on investment governance: the level of accumulated risk, confidence in field data, actual delivery capacity and capital constraint. Analysing them together makes it possible to calibrate the pace of budget allocation:



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illustrative index

Moderate pressure to reassess the mix of interventions and confirm delivery constraints.

NTT DATA analytical model. Parametric structure: high levels of risk and capital constraint increase the urgency of reprioritisation; greater evidence integrity and delivery robustness make the investment plan more predictable.

D. NTT DATA point of view

From Asset Intelligence to Investment Intelligence

The aim is not to automate the capital decision. It is to industrialise the chain of evidence and scenarios that allows leaders to compare alternatives, understand trade-offs and keep accountability explicit. This vision underpins NTT DATA's asset modernisation strategy for energy infrastructure [9].



CBRM Asset Health, Criticality & Risk Management

A documented 22-month programme connected condition, defects, measurements and criticality in a repeatable model for maintenance, investment planning and regulatory reporting.[7]

Risk-Based Network Maintenance Planning

Another documented case combines risk modelling, segmentation and optimisation under workforce constraints. The published result includes **a 33% reduction in kilometres monitored per year** and a 20% improvement in carbon footprint.[8]

Results from specific cases. They do not represent a guaranteed benefit or an automatic estimate for a Brazilian distribution utility.



Capital confidence comes from decision traceability

Investing where the network needs it most means connecting asset evidence, risk, alternatives, delivery constraints and outcomes in a single, governed decision model. The goal is not to produce yet another score. It is to build a repeatable capability to explain why a portfolio deserves to be funded, delivered and reassessed.



E. What leaders should do

What an investment portfolio should be able to answer

#	Question	Decision
01	What is the condition?	Asset Health
02	How important is it to the network?	Criticality
03	What is the risk?	Risk
04	What can we do?	Intervention alternatives
05	Where does each real invested create the most value?	Portfolio optimisation
06	What can we actually deliver?	Delivery constraints

90-day executive agenda: start with a real decision

●

Days 0-30

Rebuild

Choose a past decision

Rebuild asset, evidence, condition, criticality, risk, alternatives, cost, approval, execution and outcome.

Deliverable: Decision Evidence Map + baseline.

●

Days 31-60

Compare

Test alternatives under the same rules

Repair, refurbish, replace, monitor or defer with common evidence, explicit uncertainty and delivery constraints.

Deliverable: Investment Scenario Pack.

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Days 61-90

Industrialise

Create a repeatable standard

Connect models, recommendation, approval, investment planning, work order, execution and outcome capture.

Deliverable: Investment Decision Template + Governance Model + Benefits Framework.

If the budget changed by 10% tomorrow, could we show which interventions would change, which risk we would accept or eliminate, and why?



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Research cut-off: 30 September 2026

All institutional and regulatory sources were consulted and verified on 30 September 2026.

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