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## THE ENERGY TRANSITION: EXPECTATIONS AND REALITIES IN AFRICA

Sub-theme 2:

**Nigerian Electricity Distributors' Challenges  
and Human Capital**

**Speaker: Mr. Rotimi Adebari**

**6<sup>th</sup> June, 2023**

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# Background

- Power Holding Company of Nigeria (PHCN), government-owned utility privatized on November 1, 2013
- 11 DisCos, 6 GenCos and 1 TransCo
- DisCos – 60 percent private majority/40 percent government
- Performance Agreements with specified performance targets were the basis of sale
- Nigeria has 16,384 MW of installed electricity generation capacity, however, only about 4,000 MW is distributed, with a supply gap of ~12,384 MW against Nigeria's potential demand of about 16,300 MW\*

\*Power Africa Fact Sheet

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# DisCo Challenges

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# DisCo Challenges

- Lack of Access to Capital
- Inadequate Metering
- Misalignment of Technical and Commercial Elements of the Electricity Value Chain
- No access to grants for embedded renewable system integration
- Revenue Shortfall/Inefficient Billing and Collection Systems
- Misalignment of DisCo Actual ATC&C Losses and Multi-year Tariff Order

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# DisCo Challenges – Cont.

- Electricity Theft and Electricity Infrastructure Vandalism
- Gas/Generation/Transmission Constraint
- Distribution Electricity Franchise Encroachment
- Inconsistent Regulatory and Policy Environment
- Customers' Apathy to Meeting Energy Consumption Obligations or Bills

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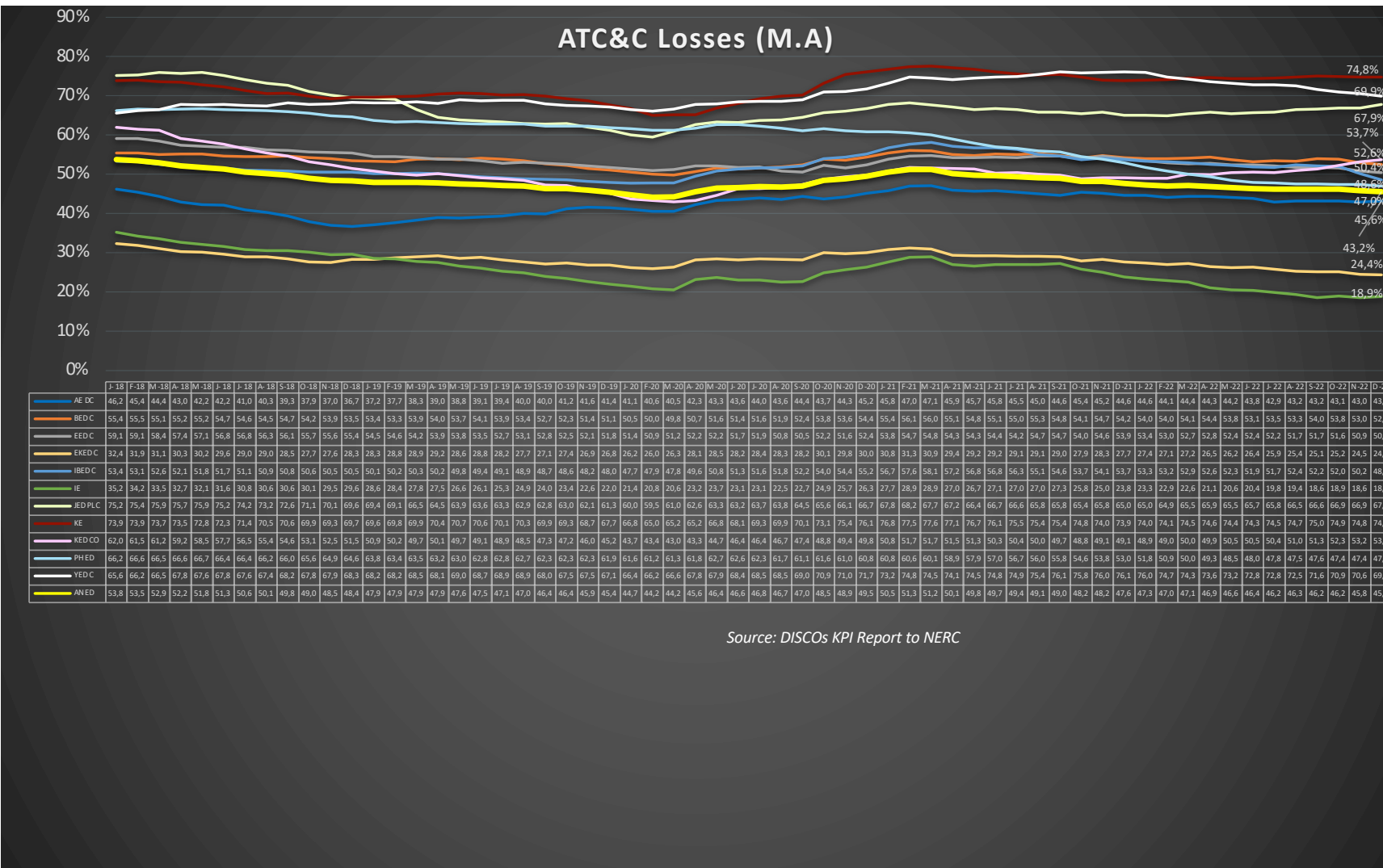


# Current Status

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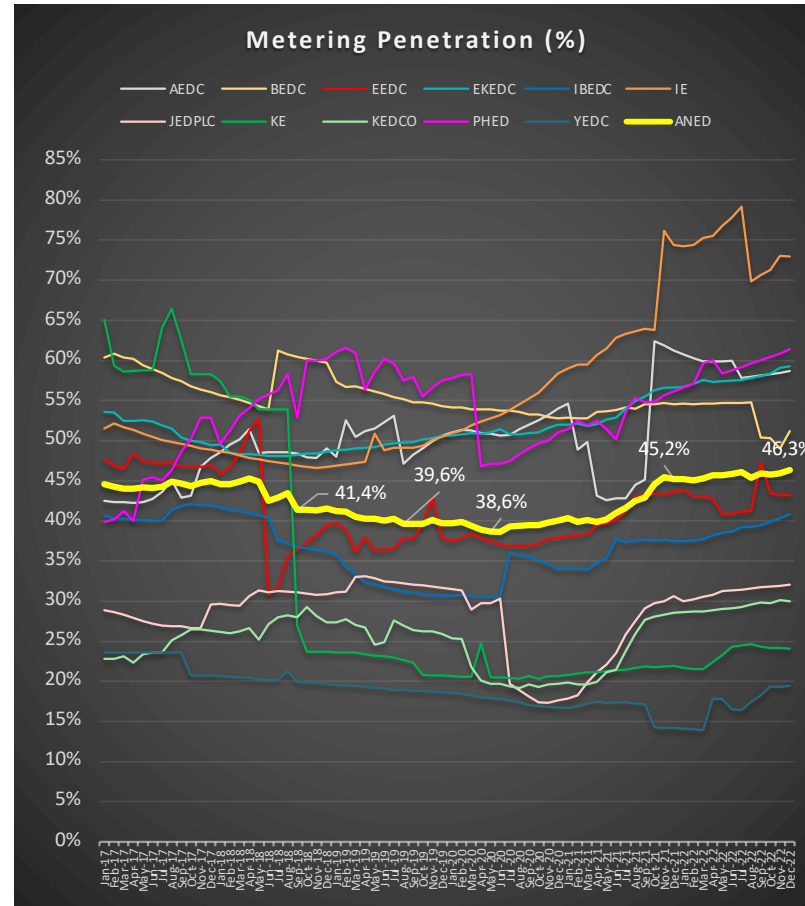
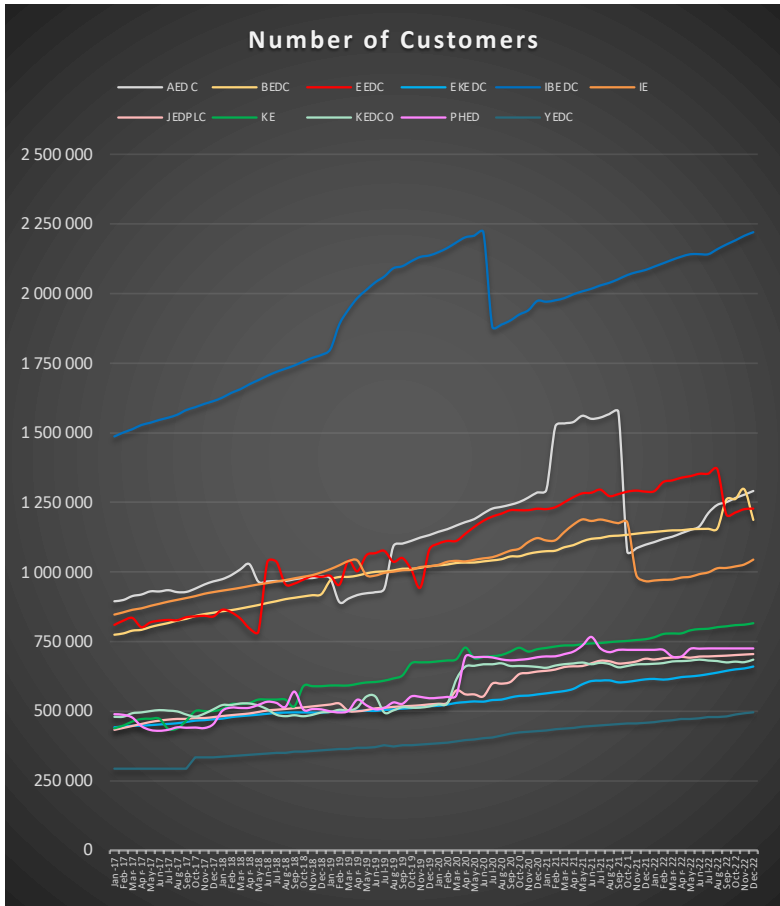
Source: DISCOs KPI Report to NERC

At the end of 2022, 8 DisCos have been able to return to the path of improvement in their ATC&C loss indicators and, remarkably, Ikeja Electric has achieved a new record below 20% by the end of 2022

## Quarter 4 -2022 ANED KPI Report



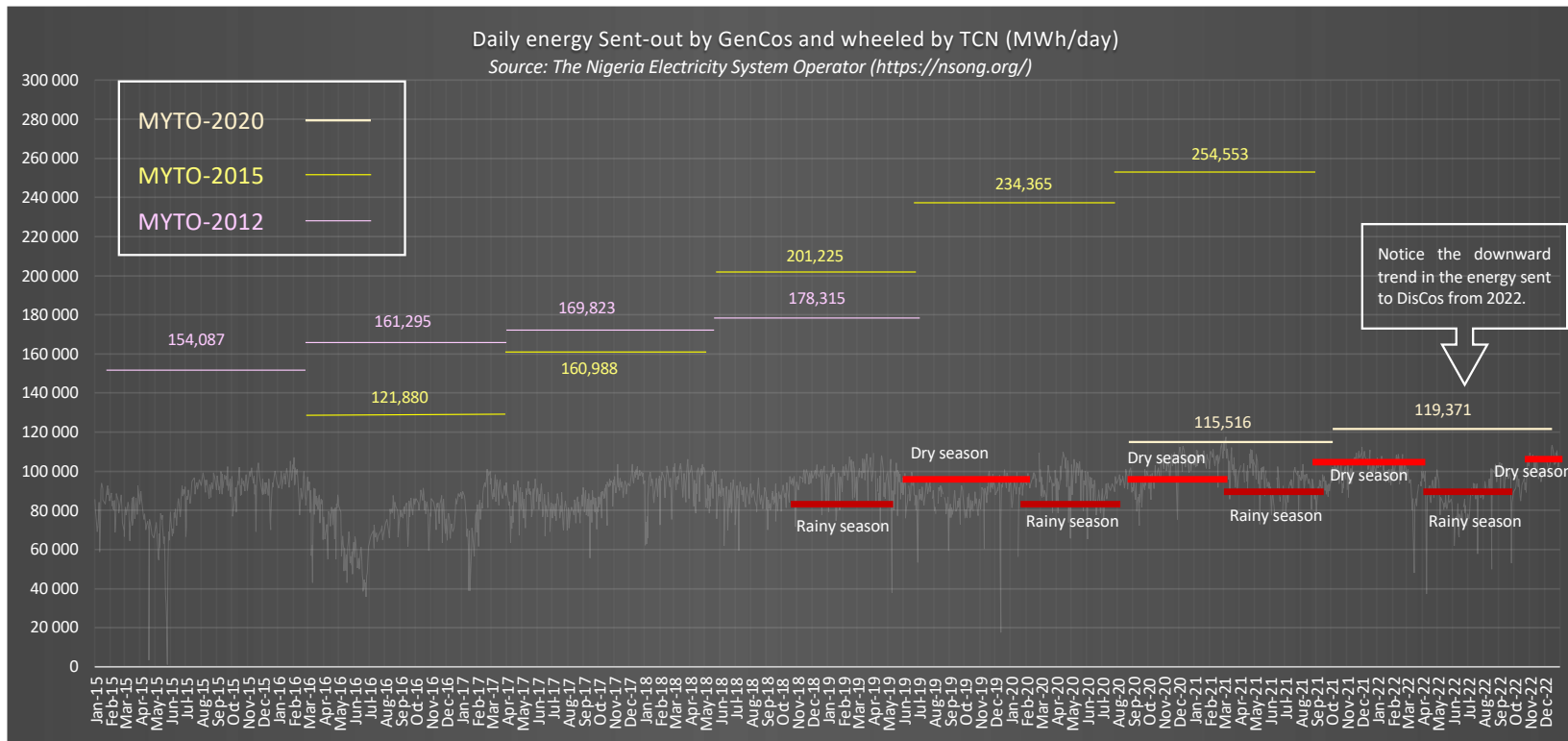




At the end of 2022, NESI accounted for over 11 million customers and the metering penetration continues to slightly increase, resulting in a slight change from the end of last year (+1.1% increase) which requiring significant investment in metering.

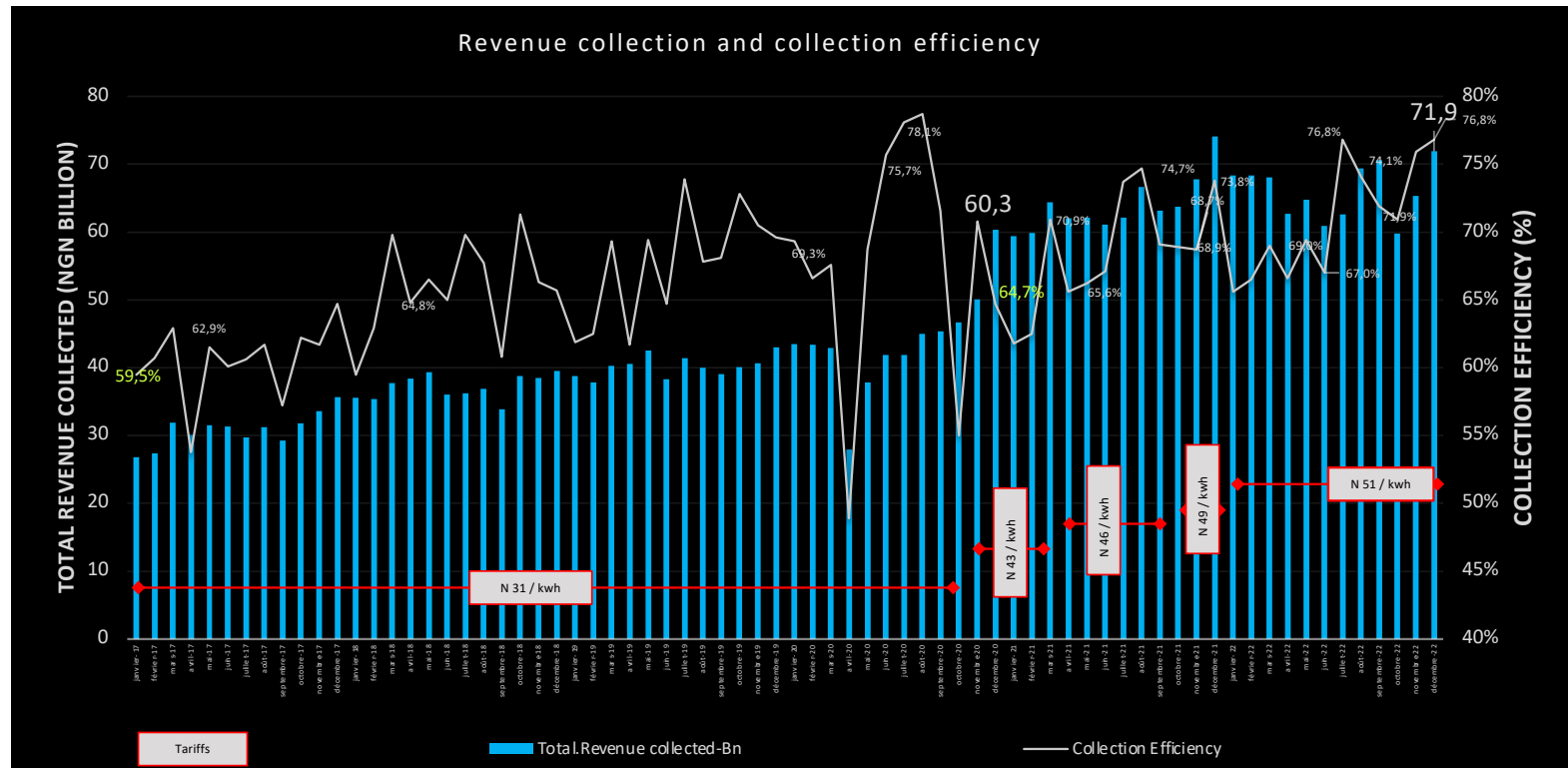
Quarter 4 -2022 ANED KPI Report

The daily energy sent-out by the GenCos and wheeled by TCN by the end of 2022, was on average **93,346.98 MWh** (3,889.46 MW), which is a **-5.9%** decrease from 2021 (99,185.63 MWh; which was an average of 4,132.73 MW daily).



... under MYTO 2020, NERC projected that the daily energy sent-out should be around 126,000 MWh/day, which is not feasible and is inconsistent with NESI's historical power supply trend. This paradox artificially reduces the cost-reflective tariff creating a shortfall that increases NESI's liquidity crisis.

DisCos have withstood tariff increases well since November 2020 and have improved Collection Efficiency close to 71% on average, since then.



... in any case, there was a considerable increase in the Collection Efficiency the last quarter of 2022 from Q3.

Quarter 4 -2022 ANED KPI Report





# Key Takeaways and Recommendations

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# Key Takeaways and Recommendations

- Need for access to finance
- Implementing cost-reflective tariffs that adequately cover the costs of electricity distribution and encourage revenue generation, allowing for sustainability, productive and allocative efficiencies.
- Bilateral procurement of power by all DisCos
- Unbundling of the state-owned transmission company and independence of the System Operator
- Enhance and increase metering initiatives

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# Key Takeaways and Recommendations – Cont.

- Strengthen efforts to reduce ATC&C losses through infrastructure upgrades, technology adoption, and measures to combat electricity theft.
- Improve billing and collection systems
- Encourage private sector participation and investment to boost funding for CAPEX and metering projects.
- Enhance regulatory oversight and enforcement to ensure compliance, financial discipline, and accountability within the power sector.

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# DisCo Capacity Building - Issues and Needs

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# Issues

- Aging workforce
- Not enough skilled/specialized personnel for the multiplicity of positions that exist across the DisCos
- Inadequate or insufficient funding available for capacity building and training due to DisCo liquidity challenges





# Capacity Building Needs

To determine DisCos' capacity building needs and issues, a Training Needs Assessment (TNA) was conducted in 2018.

NOTABLE INFORMATION FROM TNA	FIGURE / %
Total Number of Staff in 10 DisCos	21,755
Staff in 14 Critical Job Roles	20,333
Energy Sales Representatives	36%
Linesworkers	21%



# Capacity Building Needs – Cont.

## 14 Critical Job Roles

Technical	Commercial	Support Services
<b>Linesworker</b>	Billing Officer	Legal & Regulatory
Cable Jointer		Energy Management
Protection Control & Metering (PC&M)	Customer Service Officer	Health Safety & Environment Manager
Distribution Substation Officer (DSO)	Key Account Management Officer	Information Technology
Network Planner	<b>Energy Sales Rep</b>	Talent Management
Electrical Fitter		



# Capacity Building Needs – Cont.

## Key Areas Requiring Capacity Building

S/N	TOPIC	TARGET PARTICIPANTS
1	Insight into best regulatory practice (tariff setting) African Countries	Regulatory
2	Managing Regulatory Risks in Utilities	Regulatory
3	Revenue Improvement Strategies	Commercial
4	How to reduce incidents of fatalities on our networks	HSE, Linesworkers
4	Energy control and fraud detection	Management, Commercial
5	Asset performance management	Management
5	Investors bankability and project financing	Investors, Management
6	Efficient loss reduction approach	Investors, Management
7	Advanced maintenance & application of modern software in network distribution operation	Technical
8	Technical loss identification	Technical

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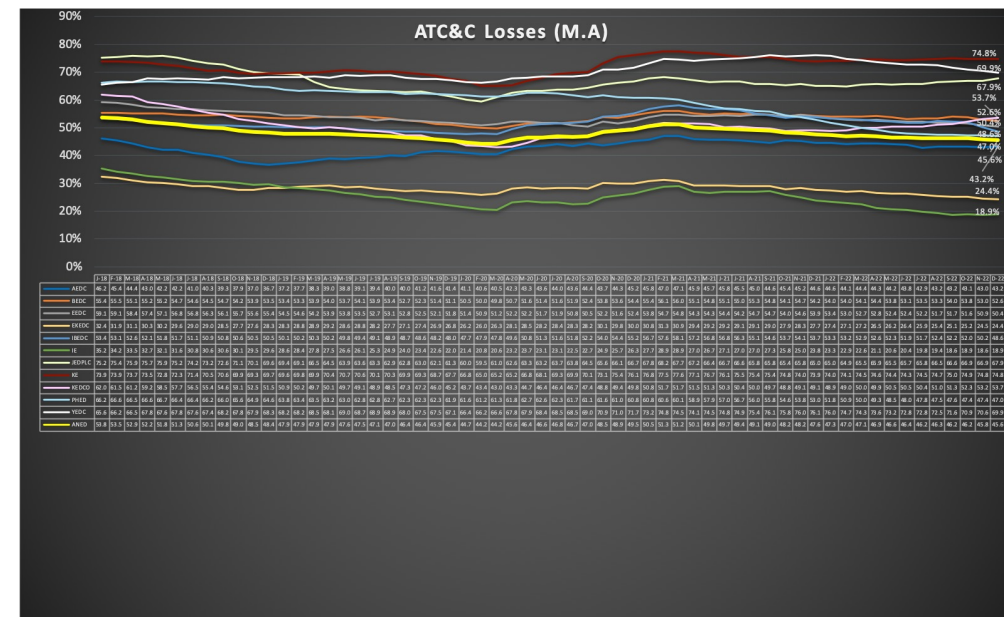
# Key Takeaway and Recommendation

## Correlation Between Capacity Building and ATC&C Losses

DISCO	NO. OF APPLICATIONS	SCHOLARSHIPS AWARDED
IKEJA	79	79
IBADAN	64	64
EKO	50	50
PHED	40	40
KANO	24	24
ENUGU	24	24
ABUJA	13	13
BENIN	8	8
<b>TOTAL</b>	<b>300</b>	<b>300</b>

APUA/ANCEE Scholarship 2018/2019

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Nigerian DisCos' ATC&C Losses (Jan 2018 – Dec 2022)

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One machine can do the  
work of fifty ordinary men.  
No machine can do the work  
of one extraordinary man.



~ Elbert Hubbard

## THANK YOU

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