



# ERERA FORUM 2012 ARREC



November 20 - 21 Novembre  
Dakar - Senegal

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**TAKING ADVANTAGE OF THE SMART GRID TO EXTEND AND OPTIMIZE  
ELECTRICITY MARKET REFORMS IN WEST AFRICA**

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**HOW SMART DO YOU WANT YOUR GRID?**

by

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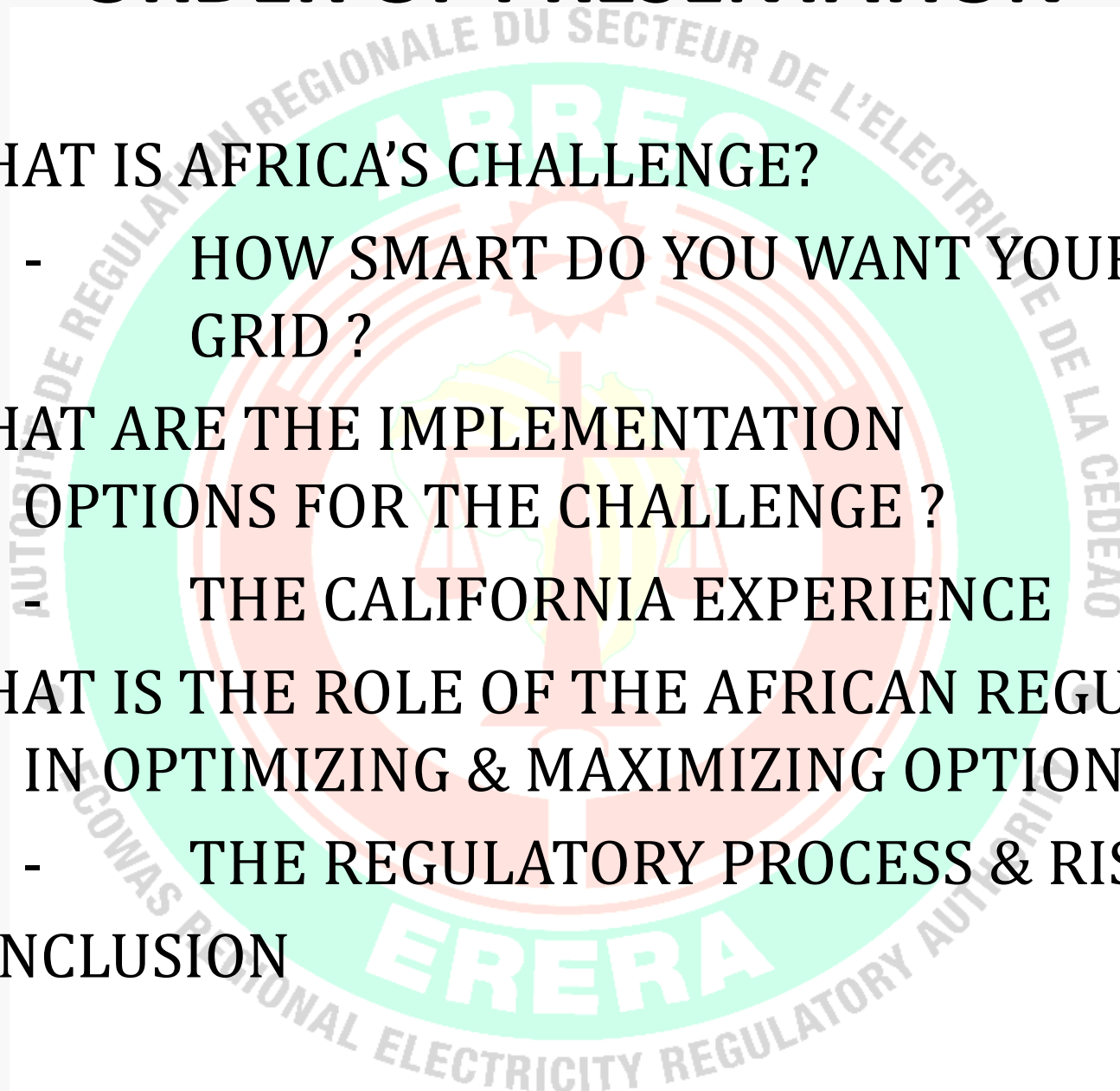


# INTRODUCTION

- APPEARING FOR THE NATIONAL ASSOCIATION OF REGULATORY UTILITY COMMISSIONERS [NARUC] ON BEHALF OF THE NARUC PRESIDENT
- FUNDING FOR OUR PARTICIPATION WAS PROVIDED BY USAID
- OPINIONS EXPRESSED IN THIS PRESENTATION ARE THOSE OF THE AUTHOR AND SHOULD NOT BE CONSTRUED OR MISCONSTRUED AS REPRESENTING THE POSITION OF NARUC OR THE CALIFORNIA PUBLIC UTILITIES COMMISSION

# ORDER OF PRESENTATION

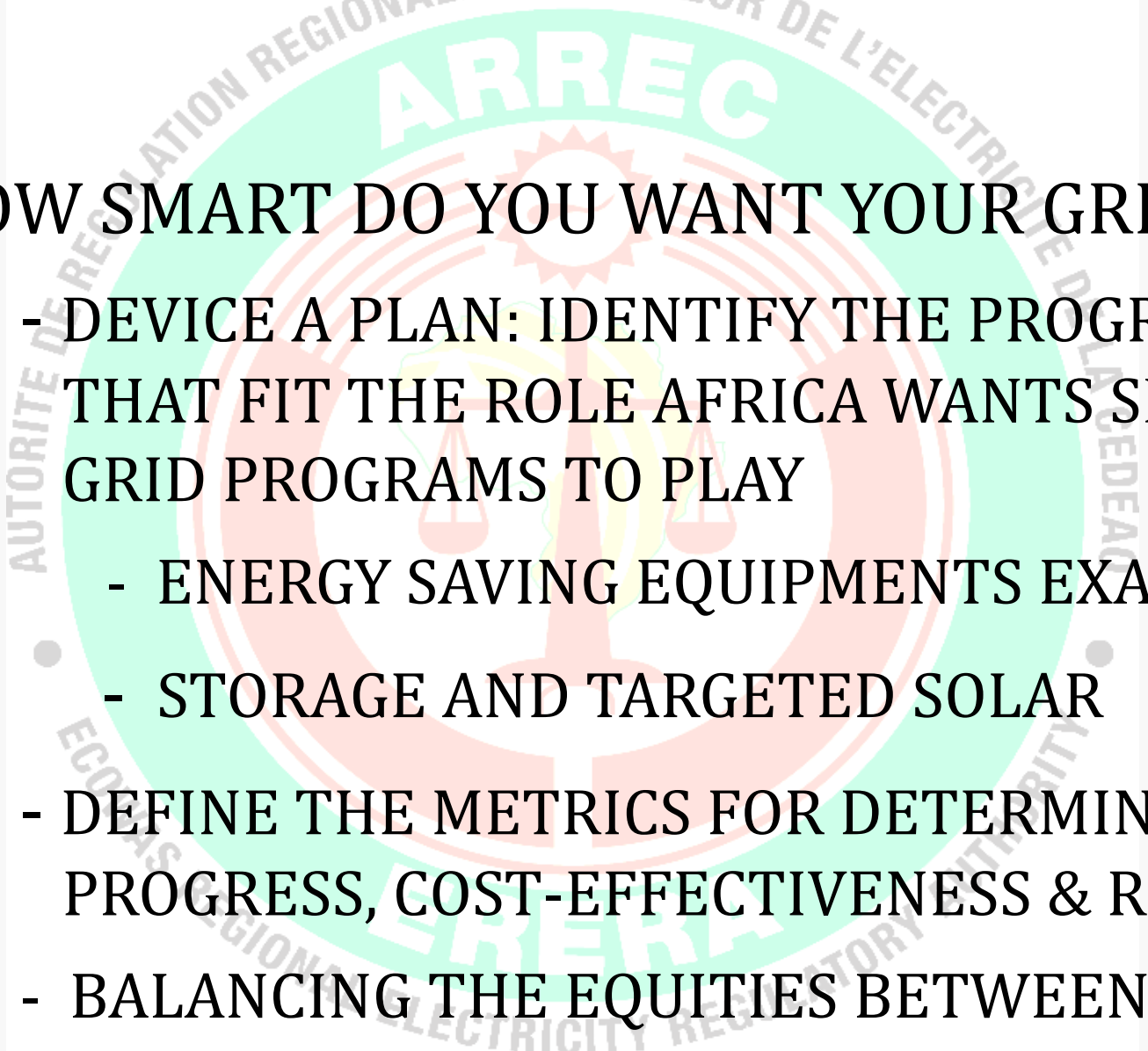
- WHAT IS AFRICA'S CHALLENGE?
  - HOW SMART DO YOU WANT YOUR GRID ?
- WHAT ARE THE IMPLEMENTATION OPTIONS FOR THE CHALLENGE ?
  - THE CALIFORNIA EXPERIENCE
- WHAT IS THE ROLE OF THE AFRICAN REGULATOR IN OPTIMIZING & MAXIMIZING OPTIONS ?
  - THE REGULATORY PROCESS & RISKS
- CONCLUSION





# AFRICA'S CHALLENGE

- HOW SMART DO YOU WANT YOUR GRID?
  - DEVICE A PLAN: IDENTIFY THE PROGRAMS THAT FIT THE ROLE AFRICA WANTS SMART GRID PROGRAMS TO PLAY
    - ENERGY SAVING EQUIPMENTS EXAMPLE
    - STORAGE AND TARGETED SOLAR
  - DEFINE THE METRICS FOR DETERMINING PROGRESS, COST-EFFECTIVENESS & RETURNS
  - BALANCING THE EQUITIES BETWEEN S STAKEHOLDERS AND RATEPAYERS





# AFRICA'S CHALLENGE - THE PROGRAMS

- A PLAN IS NECESSARY
  - DETERMINE LEVEL OF COMPLEXITY
  - NECESSITY NOT AVAILABILITY
  - DEPLOYMENT PLAN & CAPABILITY
  - METRICS AND COST EFFECTIVENESS
- TECHNOLOGY TYPE
  - FUNCTIONALITY NOT PROFIT
  - RELIABILITY VS. INCREASING DEMAND
- BALANCING EQUITIES - PRIVACY ISSUES



# AFRICA'S CHALLENGE THINKING OUTSIDE THE BOX

- ASK NOT [ONLY] WHAT SMART GRID TECHNOLOGIES ARE OUT THERE FOR YOU BUT ALSO WHAT TECHNOLOGIES YOU CAN DESIGN FOR YOUR NEEDS ?
- AFRICA SHOULD BE ABLE TO LOOK AT HOW ITS CULTURES AND HABITS AND BEHAVIORS CAN BE IMPROVED BY TECHNOLOGY AND THEN ASK THE SMART GRID INDUSTRY TO MAKE THE PROGRAMS THAT ADDRESS THEM ?





# THE CALIFORNIA EXPERIENCE

## THE GENESIS OF AN IDEA

- 2002 DEMAND RESPONSE PROCEEDING:
  - (R.) 02-06-001: (1) ENHANCE RELIABILITY;  
(2) REDUCE POWER PURCHASE & CUSTOMER COST (3) PROTECT ENVIRONMENT
- 2005 CALIFORNIA UTILITIES APPLICATIONS
  - FOR AMI [ADVANCED METERING INFRASTRUCTURE] ONLY
  - ONE UTILITY'S ESTIMATED COST WAS \$1.46 BILLION [NORTHERN CALIFORNIA ALONE]
  - DEPLOYMENT DISP.: UTILITY VS. 3RD PARTY



# THE CALIFORNIA EXPERIENCE:

## MORE TECHNOLOGIES MORE PROCEEDINGS

- 2008 SMART GRID RULEMAKING
  - BEYOND AMI: OTHER TECHNOLOGIES
    - PHASE 1: DEPLOY'T PLANS, PRIVACY, METRICS
    - PHASE 2: PRIVACY & JURISDICTIONAL ISSUES
- 2011- UTILITY APPLICATIONS FOR ADOPTION OF DEPLOYMENT PLANS
  - STAFF WORKSHOP PROCESS & REPORT
- 2012 SMART GRID ACCESS TO CUSTOMER INFO
  - UTILITY APPLICATIONS





# CALIFORNIA EXPERIENCE

## THE REPORT

- R.08-12-009
  - WORKSHOP REPORT CONCLUSIONS:
    - UTILITIES FILED PLANS IN 2012
    - WORKSHOPS HELD IN 2012 FOUND PLANS FLAWED AND CUSTOMER AWARENESS EFFORTS A FAILURE
    - WORKING GROUPS RECOMMENDED: (1) TECHNICAL WORKING GROUP FOR METRICS (2) OVERSIGHT GROUP FOR CYBER SECURITY
    - STILL PENDING [ENTERING PHASE 2]



# CALIFORNIA EXPERIENCE

## WHAT WE LEARNED AND ARE STILL LEARNING

- SMART GRID NOT SMART GREED
- AN EFFICIENT SMART GRID MUST DEVELOP THREE COMPONENTS - SMART CUSTOMER, SMART UTILITY & SMART MARKET [FOR A MULTI-JURISDICTIONAL COOPERATIVE OR
  - NASCENT REGULATORS - ADD SMART REGULATORS]
- Example: A Smart Utility is the one that takes proactive steps to get the customer, not just informed but also, educated and responsive to the price signals that would allow the customer to change behavior.



# ROLE OF THE AFRICAN REGULATOR: AGAIN THE PLAN

- A DETAILED ROADMAP IS IMPERATIVE
  - DON'T JUST ADOPT A PROCESS FROM ELSEWHERE OR TAKE A REPORT THAT WAS MADE FOR ANOTHER JURISDICTION BUT INITIATE YOUR OWN PROCESS FROM THE START AND STAY WITH IT
- ACT AS ONE BODY NOT MANY COUNTRIES
  - UTILITIES INITIATED THE REQUESTS WITH SEPARATE APPLICATIONS FOR THEIR ADVANCED METERING PROGRAMS AND THE COMMISSION CONSOLIDATED THE PROGRAM BECAUSE IT IS INEFFICIENT TO DO IT SEPARATELY



# **ROLE OF THE AFRICAN REGULATOR: THE VETTING PROCESS**

- **A FACT DETERMINATIVE PROCEEDING WITH TRANSPERANCY, RIGHT TO HEARINGS AND APPEALS [WORKSHOPS MAY SUFFICE]**
  - **HEAR ALL SIDES ON THIS ISSUE; IN AFRICA YOU MAY NEED TO EDUCATE ALL SIDES - THE TECHNOLOGIES ARE SO NEW AND CHANGING FAST EVEN CALILFORNIA DID NOT FULLY APPRECIATE THE IMPLICATIONS**
- **ALLOW FOR PERIODIC REVIEW AND ESTABLISH STANDARDS FOR DEPLOYMENT**
  - **COSTS, RATEMAKING AND JURISDICTION**



# CONCLUSION

- WHAT AFRICA NEEDS TO TAKE ADVANTAGE OF SMART GRID TO EXTEND AND OPTIMIZE ELECTRICITY MARKET REFORMS IS EXACTLY A CONFERENCE LIKE THIS - **LEADERSHIP**
  - BUT THIS IS ONLY THE BEGINNING
  - BEYOND CONFERENCES: HEARINGS, ETC.
  - STAKEHOLDER DEVELOPMENT (AT&T ISSUES)
  - COUNTRY PUCs AS CRITICAL PARTNERS AND STAKEHOLDERS
  - BENCHMARKS [NOT JUST IMPLEMENTATION]