AGENCE SENEGALAISE D'ELECTRIFICATION RURALE « ASER »

« Electricité Partout et pour Tous, pour un développement durable »

« Linking Carbon Markets and Climate Finance in African Countries »

SENEGALESE RURAL ELECTRIFICATION PROGRAM CASE

KATOWICE, 6 december 2018

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OVERVIEW

1. INTRODUCTION
2. IMPLEMENTATION PROGRESS OF THE RE PROGRAM & BARRIERS
3. DESCRIPTION OF THE ASER CARBON FINANCE PROJECT and THE LINKAGE WITH CLIMATE FINANCE

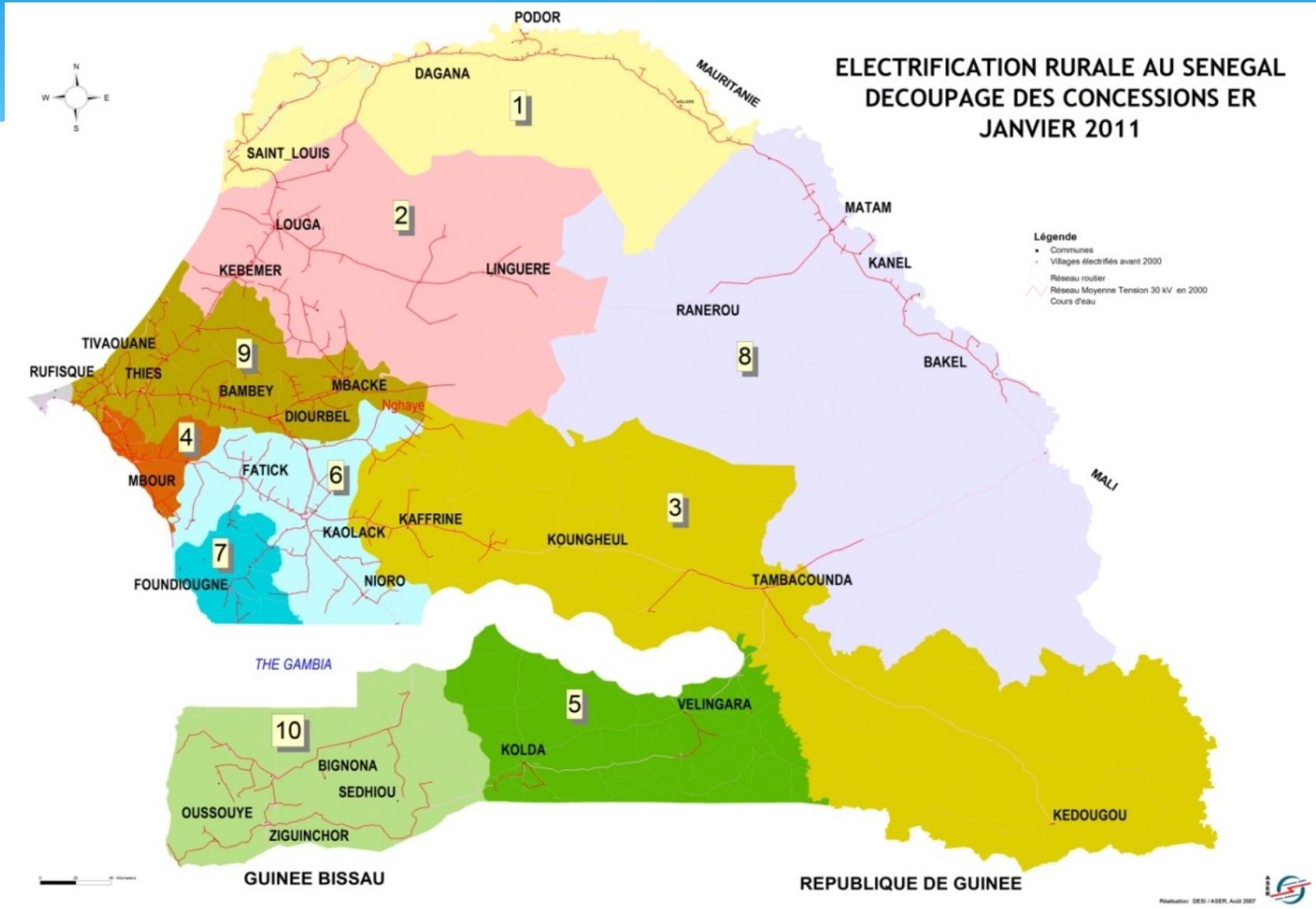
1. INTRODUCTION

- Senegal has signed PA, INDC submitted and is under revision for NDC,
- NDC mentions The potential use international market mechanisms

ACCESS TO ELECTRICITY IS A KEY ISSUE IN THE COUNTRY

- In 2017, Rural Electrification rate of **40%**
- The new National RE Program Targets **of 60%** in 2019 and **Universal access** in 2025,
- Phase 1 of the program : Energency program (2015-2019) targeting a RE rate of 60% in 2019
- Phase 2 of the program : Universal access program (2020-2025)
- Strategy based on a PPP and implementation of RE concessions (10)

Concession territories



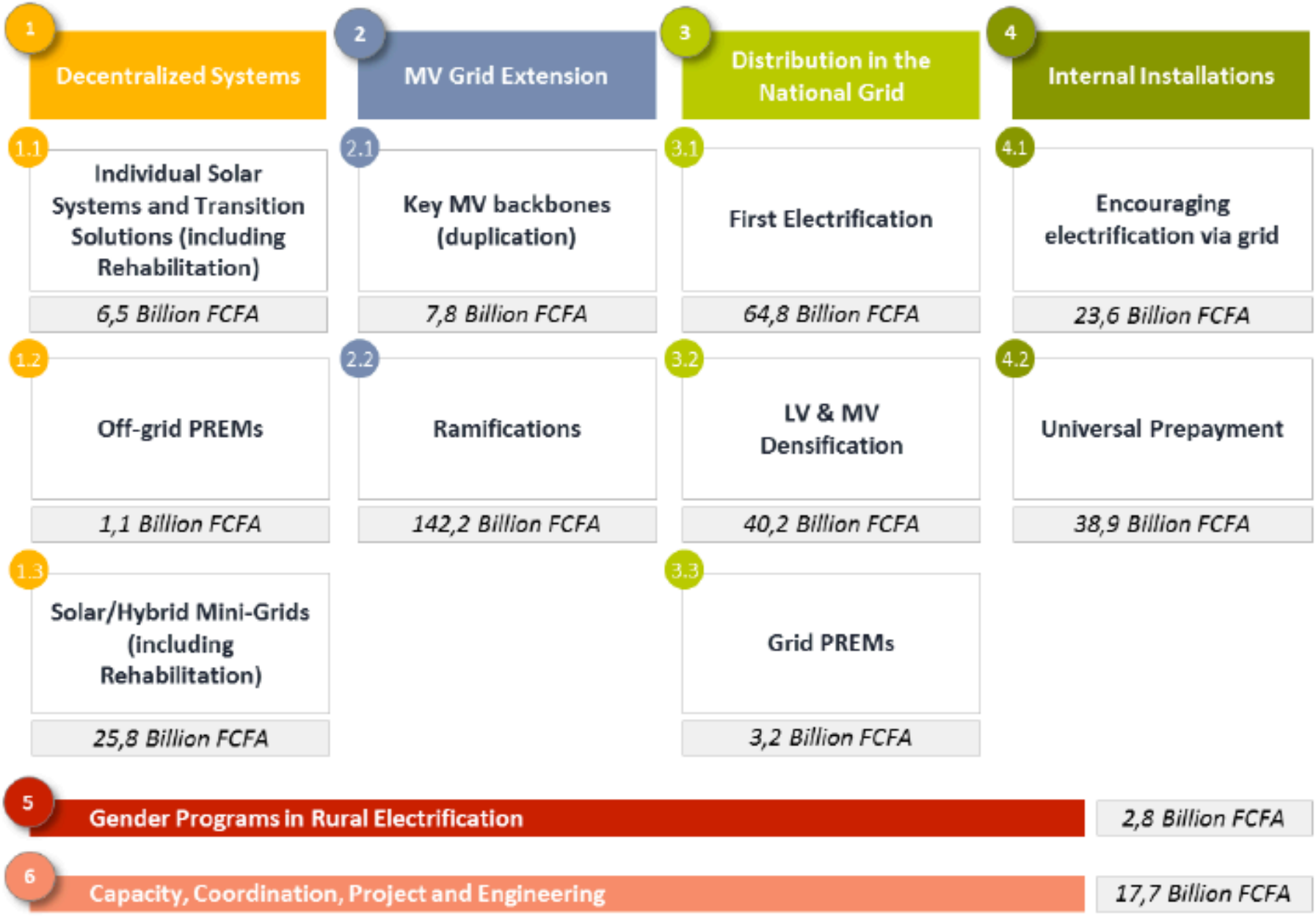


Figure 5.3 – Proposed Axis and Initiatives for the Additional Plan for Universal Access

Table 7.1 – Investment needs per implementation Program and Axis/initiative (Billion FCFA)

Source: GESTO Analysis

	PROGRAMS AND COMPONENTS	1st Program "Consolidation"	2nd Program "Coverage"	3rd Program "Completion"	Total
1.	**DECENTRALIZED SYSTEMS**	**16,57**	**9,27**	**7,61**	**33,44**
1.1	Individual Solar and Transitional Solutions (including Rehabilitation)	3,62	1,86	1,05	6,53
1.2	PREM off-grid	0,52	0,44	0,16	1,12
1.3	Solar / Hybrid Mini-grids (including Rehabilitation)	12,43	6,96	6,39	25,78
2.	**MV GRID EXTENSION**	**64,84**	**77,85**	**7,33**	**150,02**
2.1	Key "Dorsales" (duplication)	0,04	0,46	7,33	7,83
2.2	Ramifications	64,80	77,38	-	142,19
3.	**DISTRIBUTION IN THE NATIONAL GRID**	**42,64**	**37,42**	**28,18**	**108,24**
3.1	First electrification	36,70	28,09	-	64,80
3.2	Densification LV & MV	4,10	7,92	28,18	40,20
3.3	PREM Network	1,84	1,40	-	3,24
4.	**INTERNAL INSTALLATIONS**	**24,57**	**22,11**	**15,88**	**62,56**
4.1	Encouragement of electrification	8,47	6,77	8,38	23,62
4.2	Universal Prepayment	16,11	15,34	7,49	38,94
5	**PROGRAMS OF GENDER IN RURAL ELECTRIFICATION**	**1,05**	**1,05**	**0,70**	**2,80**
6	**CAPACITY, COORDINATION, PROJECT AND ENGINEERING**	**5,90**	**5,90**	**5,90**	**17,71**

The following figure splits the 2018-2025 investment according to technology with 320 Billion FCFA ($533M) being invested in grid extension. The preferred off-grid technology in terms of investment is the 100% solar mini-grids with 14,2 Billion FCFA total investment ($24M). In total, mini-grids represent an investment of 26,5 Billion FCFA ($44M).

Financing of rural electrification will be mostly Public or Public guaranteed, and therefore needs to be done in an effective way to support economic growth while pursuing a prudent debt strategy that keeps cost of borrowing at reasonable rates, as recommended by IMF. Commercial loans imply higher interests and financial costs which would make universal access more expensive for Senegal and therefore should ideally be avoided and limited to blended and more affordable solutions.

The recommended financing strategy for investments – that can maximize debt sustainability and maintain impact on State Budget at reasonable levels - is based on:

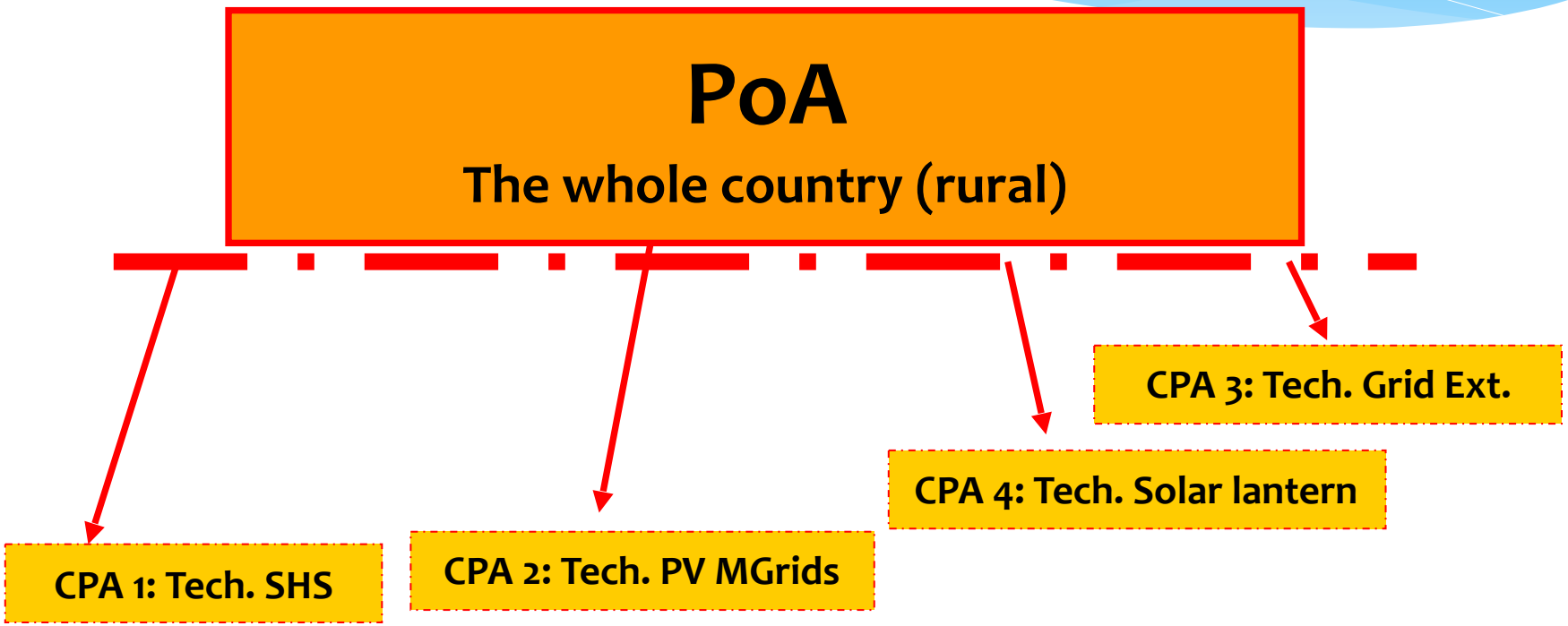
- **Maximization of Grants**, ideally those that are project specific or that can be blended with other sources and that do not represent a trade-off with other sectors. Targets of 11,6Billion/year up to 22,1Billion/year could be envisaged considering historical results and GDP growth, but require strong donor support and an active role of ASER.
- **Maximization of Concessional loans**, both bilateral and multi-lateral, if required procurement does not constrain or increase equipment acquisition costs. Macro-economic perspectives offer a potential to significantly increase public loans allocated to rural electrification up to 14,7Billion/year.
- **Selective use of Private sector blended funding opportunities** supported on public guarantees and adequate contractual structures. It is possible and desirable to use available blended funding opportunities where Commercial or Development Finance can be blended with concessional finance and grants resulting in low interest and long tenors.
- **Leveraging Climate financing opportunities.** The Paris Agreement envisages 100 Billion of climate finance for development per year by 2020. Proactive procurement and origination of climate finance opportunities can provide access to new sources of grants and concessional loans – as ASER is already pioneering in the Voucher Scheme project.

2. IMPLEMENTATION PROGESS & BARRIERS

Situation of 31 décembre 2015			
Rurale Electrification Concession	Date of entry in force	% of electrified Villages of the Priority Program (PP)	% of HH connected compared to the PP target
Saint-Louis-Dagana-Podor	March 2011	79%	14%
Louga-Linguère-Kébemer	November 2011	77%	10%
Kaffrine-Tamba-Kédougou	April 2014	47%	7%

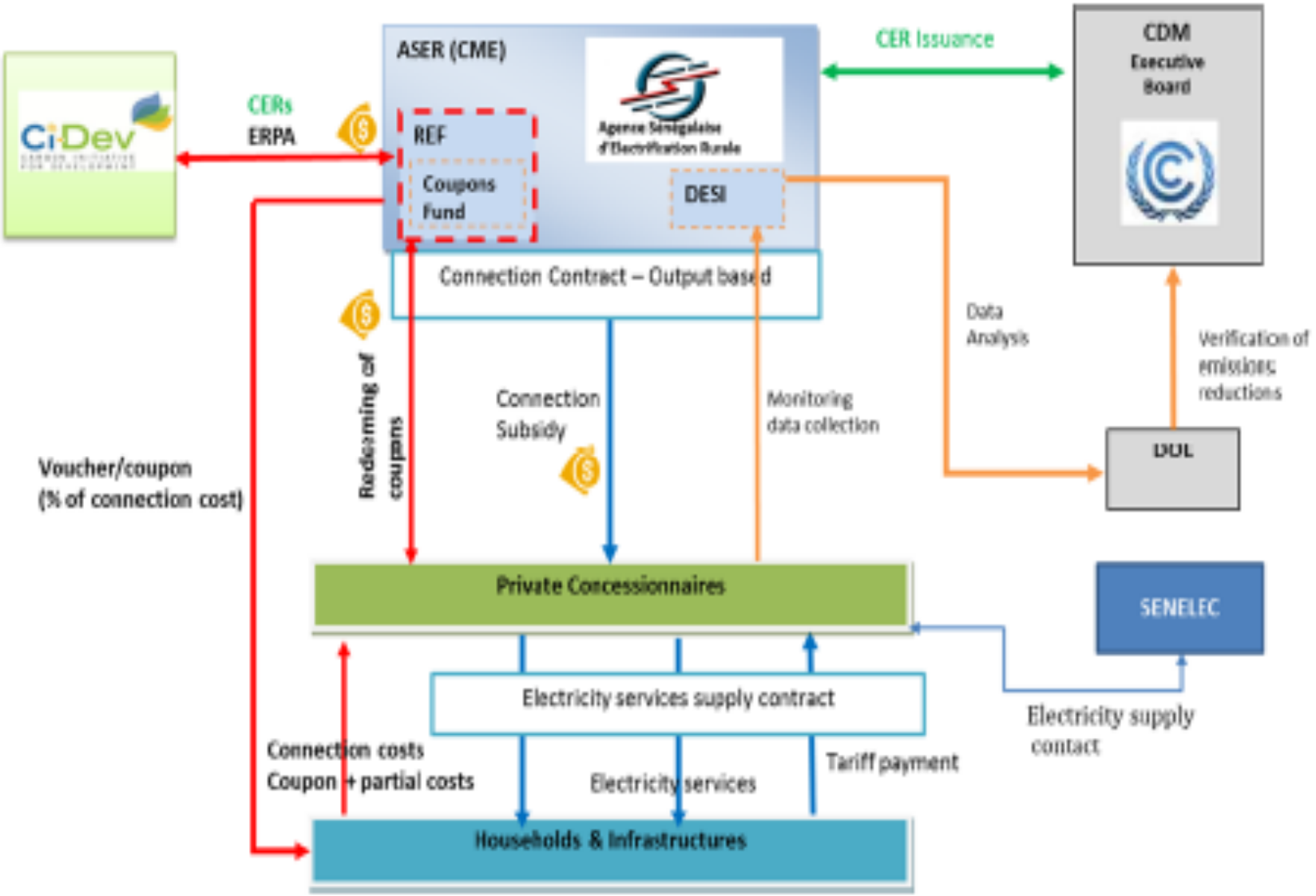
- Important investment done (many villages electrified)
- Private investment mobilised (around 51%)
- Low penetration rate (less than 20% in electrified villages, min of 60% expected in their bid)
- Main barriers: (i) Access to finance, (ii) tariff difference and (iii) high connection fee
- Financial viability of concession matters if there is not an increase of penetration rate
- The Government is taking decisions : uniform tariffs and reduction of connection fees
- To cover this financial GAP, 2 Sources : The national budget and Carbon finance

3. Description of RE CDM PoA



- *01 POA & several CPAs (CDM Project Activity)-* AMS-III.BL (Integrated methodology for electrification of communities) used.
- AMS-III.AR Version 05.0 Substituting Fossil Fuel Based Lighting with LED/CFL Lighting Systems
- *every CPA is microscale)*
- *one CME :* **ASER,** *OTHER STAKEHOLDERS :* **Concessionaires and customers**
- *Crediting Period:* **10 years,** lifetime of the PoA (07/06/2011 to 06/06/2039)
- ***PoA registered as PoA 10411 in May 2018***

ASER CDM PoA Organization and Financial Flow

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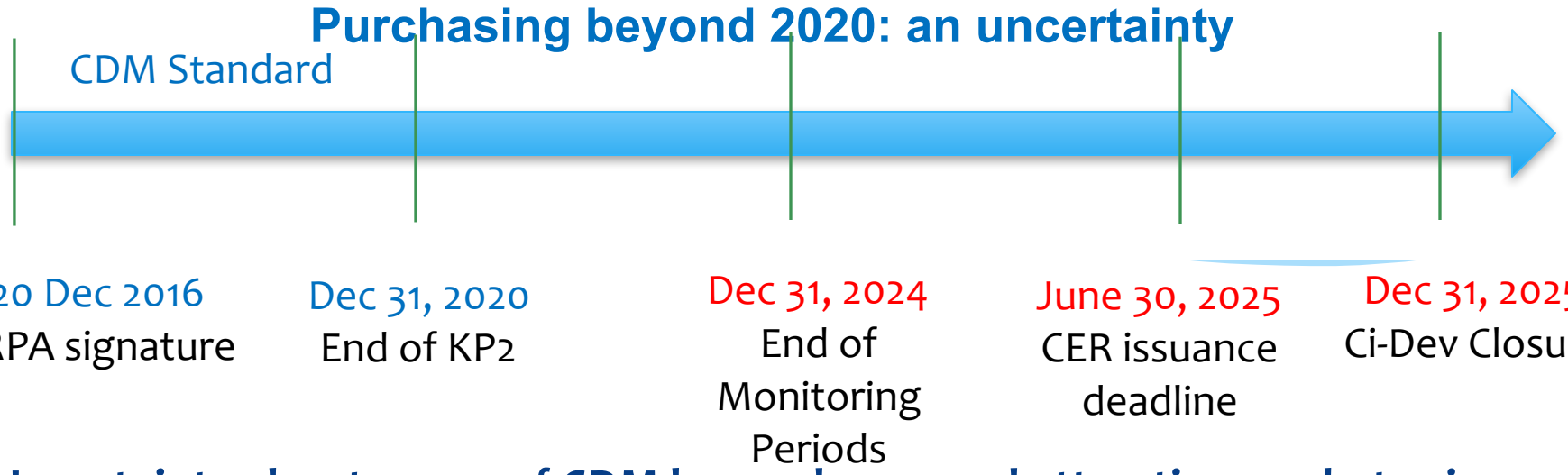
3. WHY LINKING CF & RBCF?



- **Uncertainty about usage of CDM beyond 2020 and attractive market prices,**
- **Senegal RE program needs carbon revenue support Or Climate Finance beyond 2020 in order to Cover the important financial needs of the RE Universal Access Program (,**
- **Strong, rigorous MRV Infrastructure and Governance in place from CDM experience,**
- **Part of carbon credits can be used to fulfil NDC committments, if a National Crediting framework is in place.**

A key source of low cost funding in the years to come will be "Climate Financing" where a target exists to mobilize 100 Billion USD for development every year. Rural electrification avoids deforestation, usage of querosene and improves the capability of populations to adapt to the impacts of climate change. Furthermore, solar based mini-grids join the benefits of rural electrification with the mitigation potential of renewable energies.

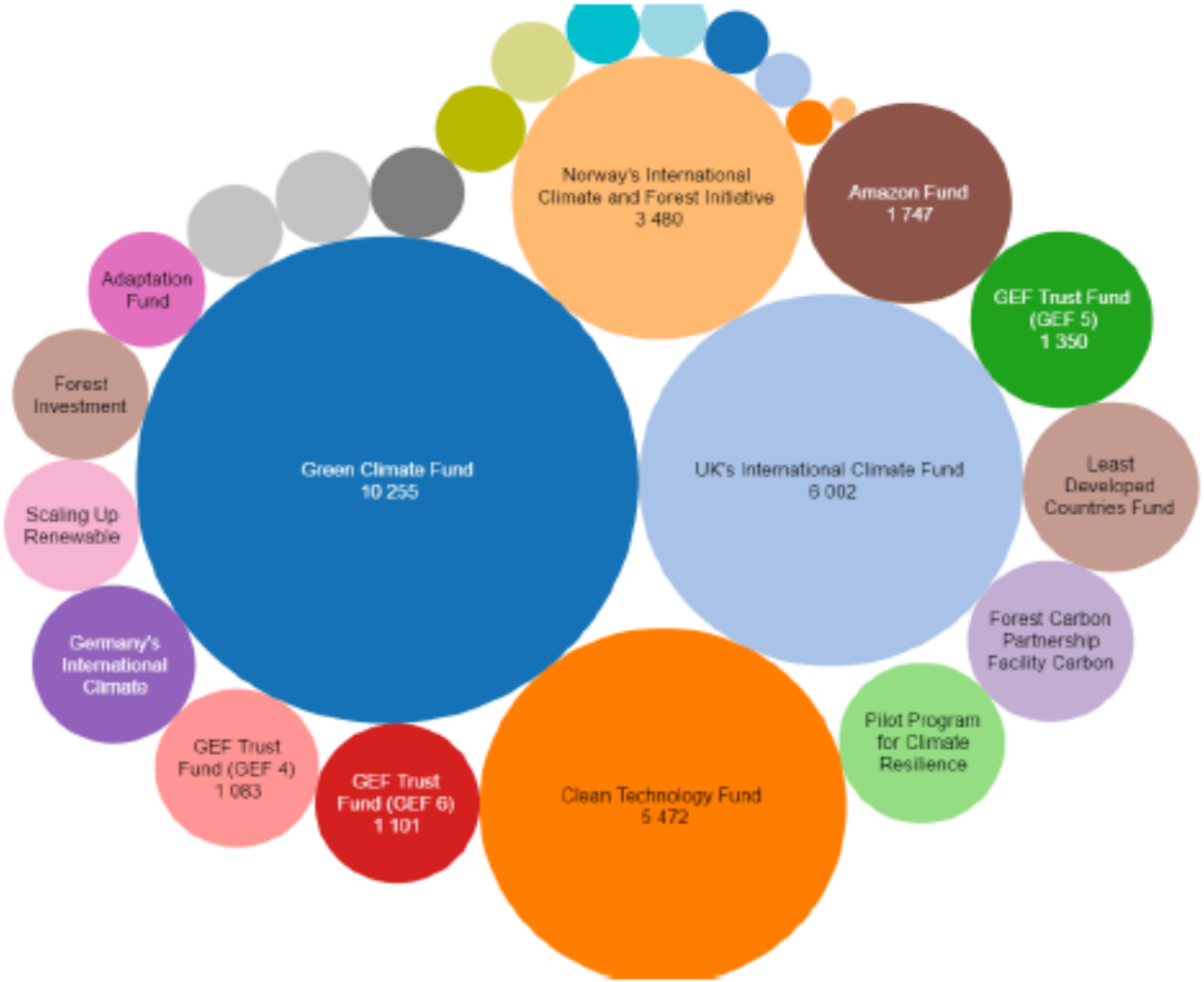


Figure 8.7 –Climate finance funds. (Source: www.climatefundsupdate.org)

My Key Message to share:

« Linking Markets and Climate Finance can unlock the potential of developping access to modern energies in rural areas and derisk private investment while enabling NDC implementation. »

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THANKS FOR YOUR ATTENTION

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