



THE GLOBAL LPG PARTNERSHIP

Key learnings from LPG sector development in
Morocco, Senegal & Côte d'Ivoire

ARDA virtual LPG workshop

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Renzo BEE

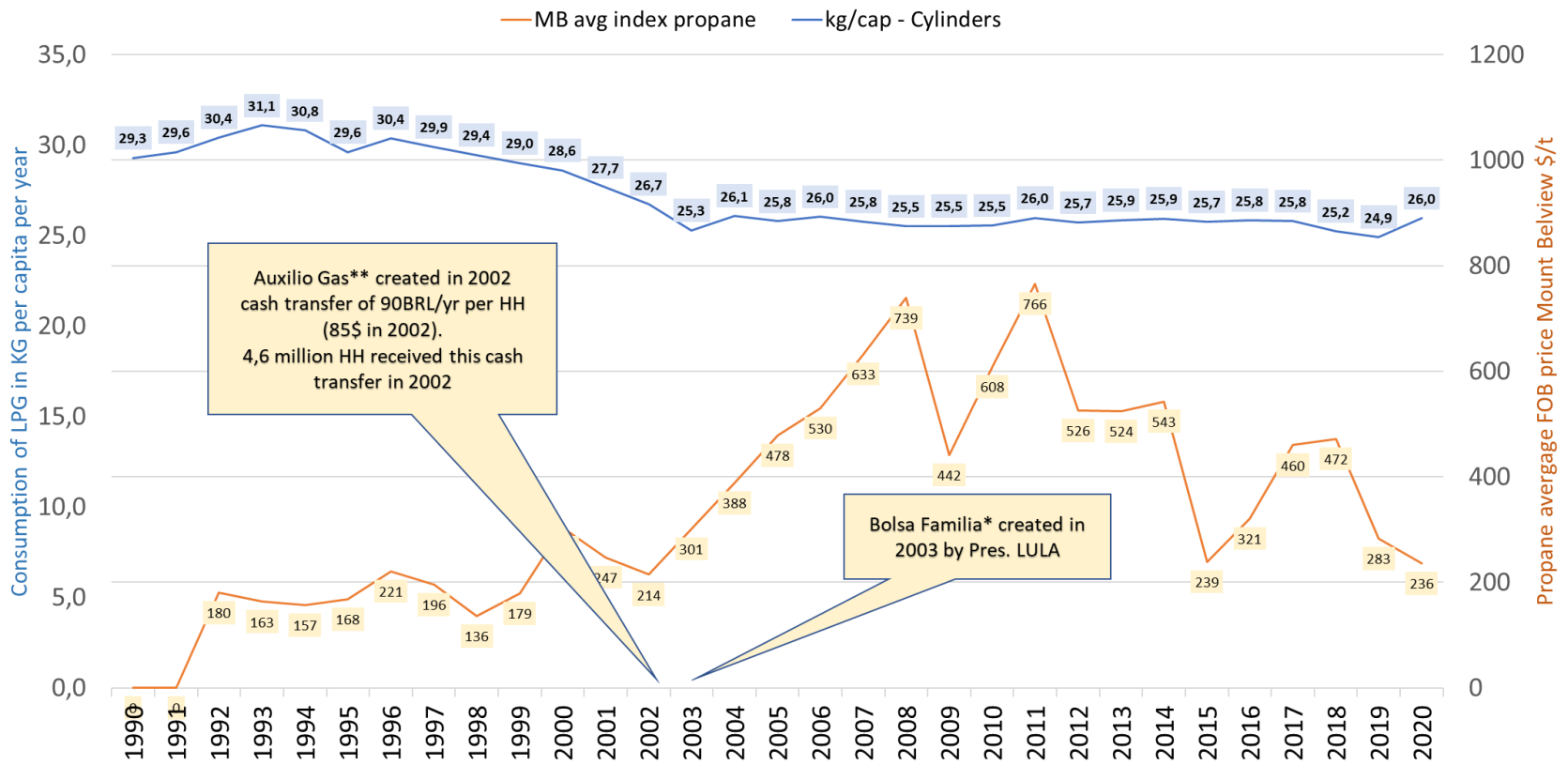
Chairman, Policy, Regulation & Development Advisory Group, GLPGP
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LPG Markets – Demand Appraisal

- Segments: Cylinders – Bulk – Autogas
- In the tropical belt (in SSA), LPG in cylinders is used mainly for cooking
- Outside the tropical belt (Morocco): LPG is used for cooking and for heating where NG is not available
- Most developing countries do not have reliable and cheap electricity, and LPG is generally the modern fuel replacing biomass
- Cooking (3 meals max per day) limits the quantity of LPG per capita per year
- Actual data gives 25kg/capita/year as the limit for cooking
- When the kg/capita is above 25, LPG is also used for water heating and space heating (e.g., Morocco, Tunisia, Egypt, Algeria)
- Very few governments track the number of cylinders in use and the growth in the number of cylinders



BRAZIL Domestic LPG consumption (<13kg cylinder) in kg per capita per year (Sindicat-ANP)

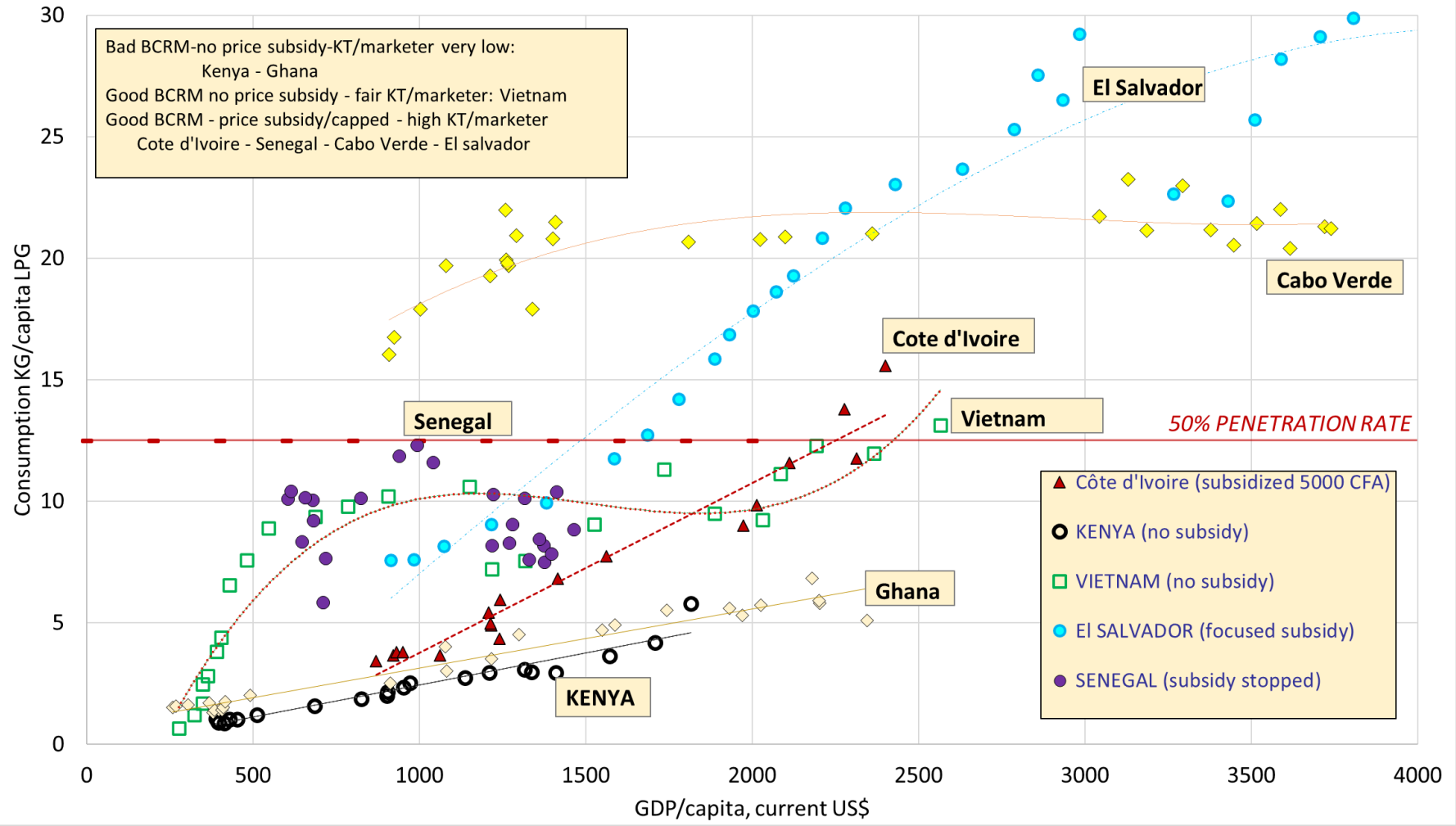


* Lula formed the conditional cash transfer program called Bolsa Família by combining Bolsa Escola**** with Bolsa Alimentação*** and Cartão Alimentação and Auxilio Gas** (a transfer to compensate for the end of federal gas subsidies)
 ** Programa Auxílio-Gás (Decreto nº 4.102, de 24 de janeiro de 2002 - Governo Fernando Henrique Cardoso)
 *** Bolsa Alimentação (Medida Provisória nº 2.206-1, de 6 de setembro de 2001 - Governo Fernando Henrique Cardoso)
 **** Bolsa Escola (Lei nº 10.219, de 11 de abril de 2001 - Governo Fernando Henrique Cardoso)



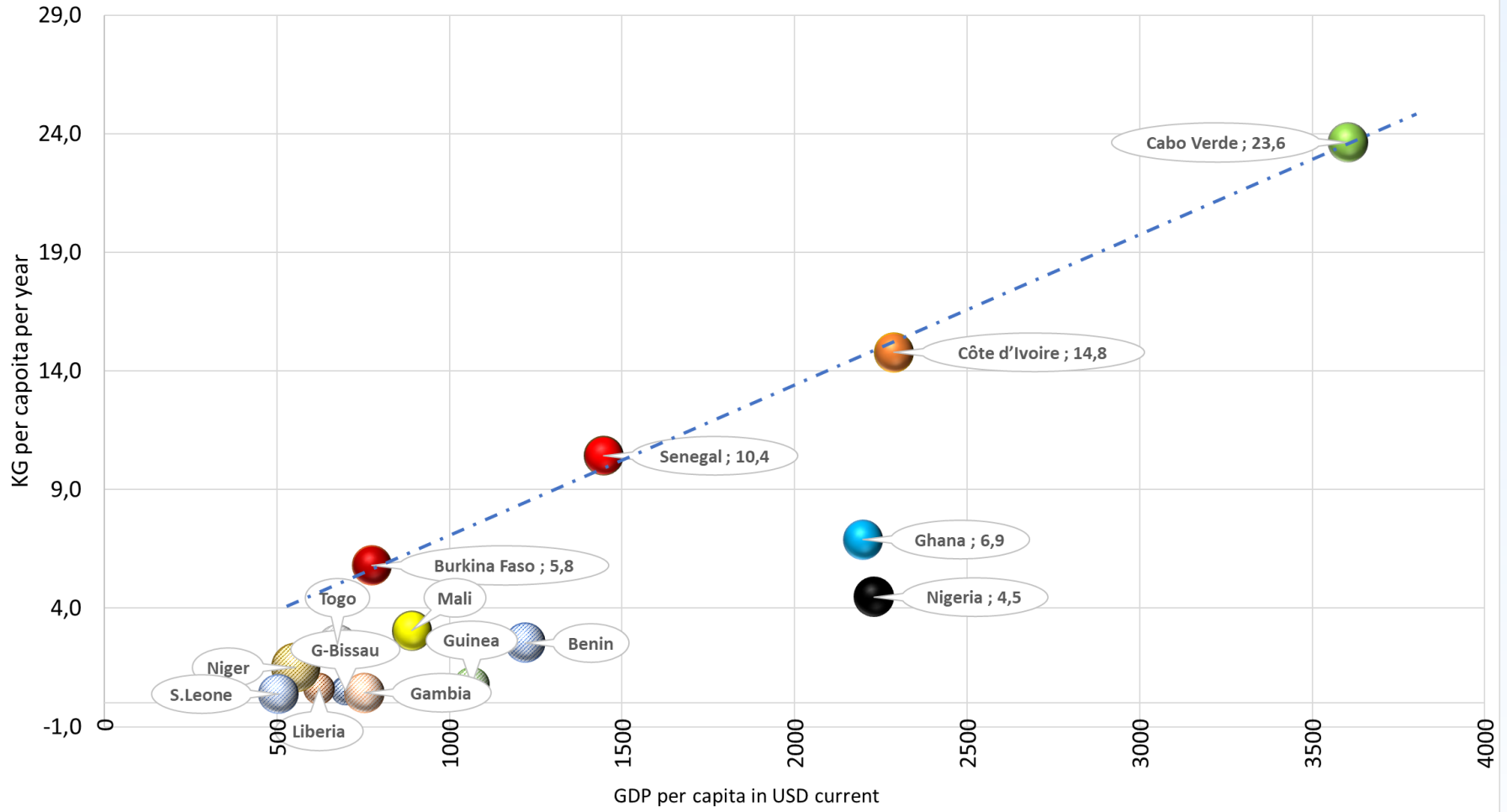
LPG Demand Assessment 1990-2020

Consumption KG/cap vs GDP/cap





LPG MARKETS OF ECOWAS 2019 KG PER CAPITA VS GDP/CAP



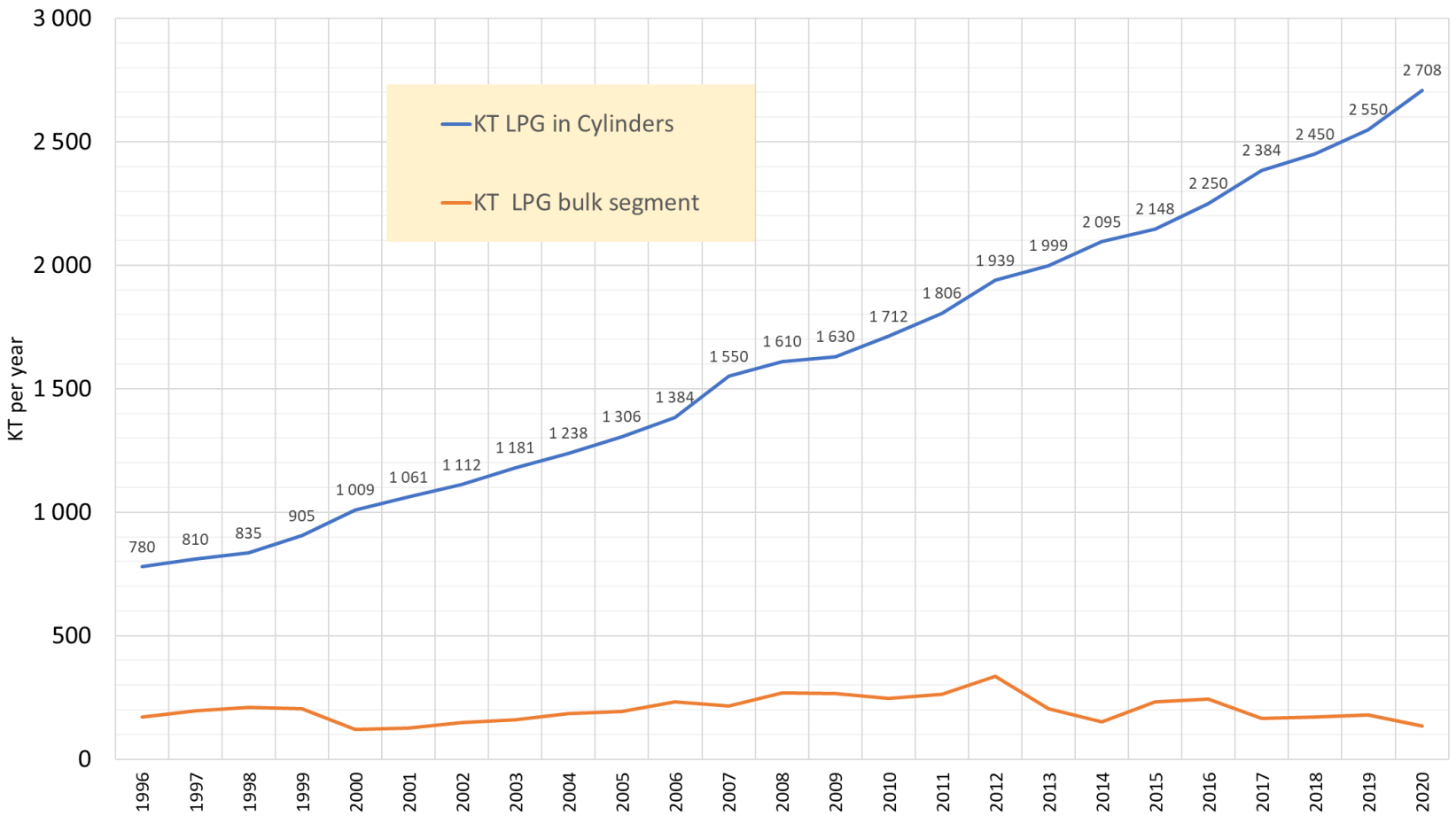
Morocco





MOROCCO LPG

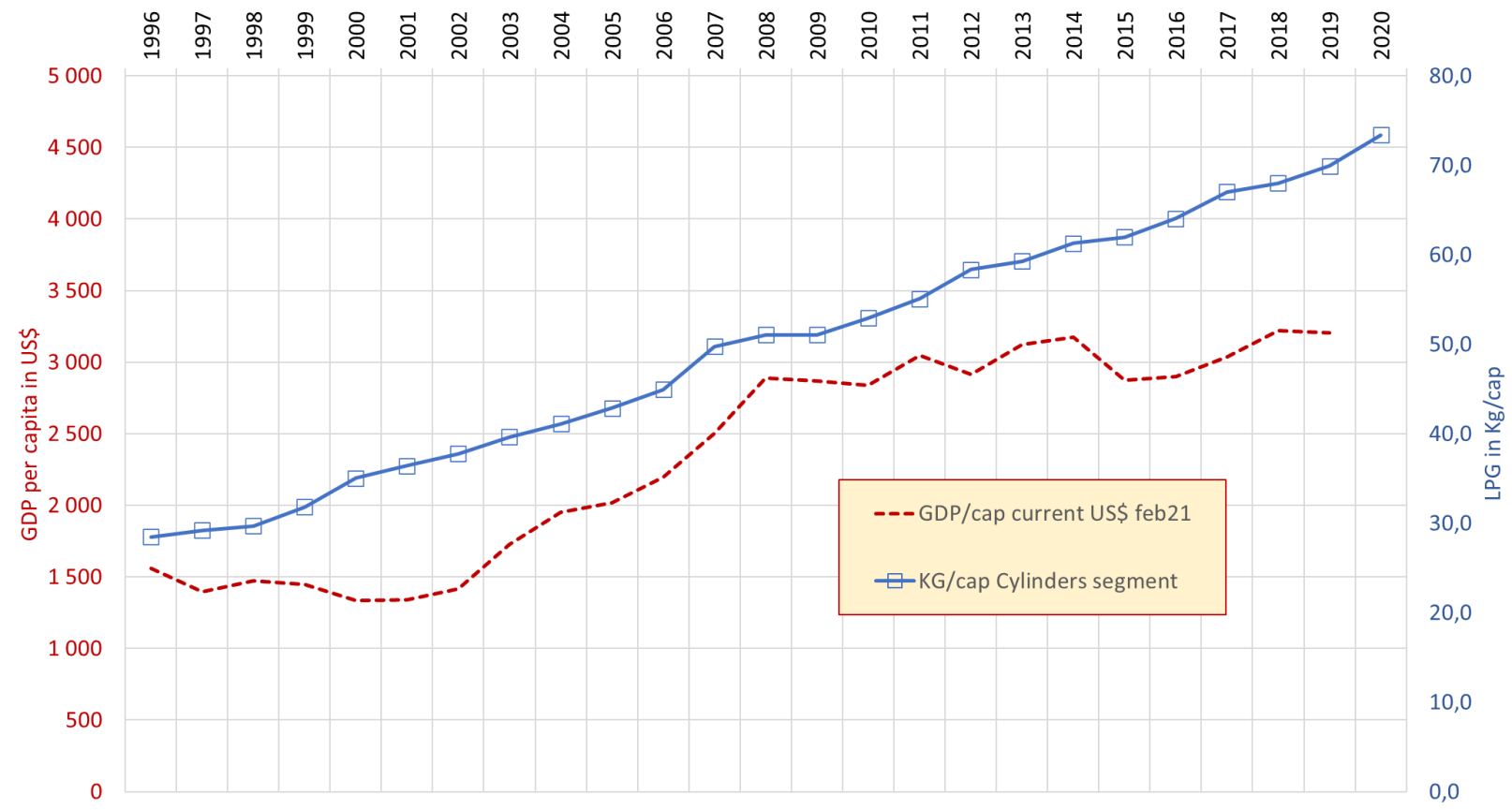
Cylinders and Bulk segment





MOROCCO LPG 1996-2020

Cylinder LPG in Kg/cap vs GDP/cap



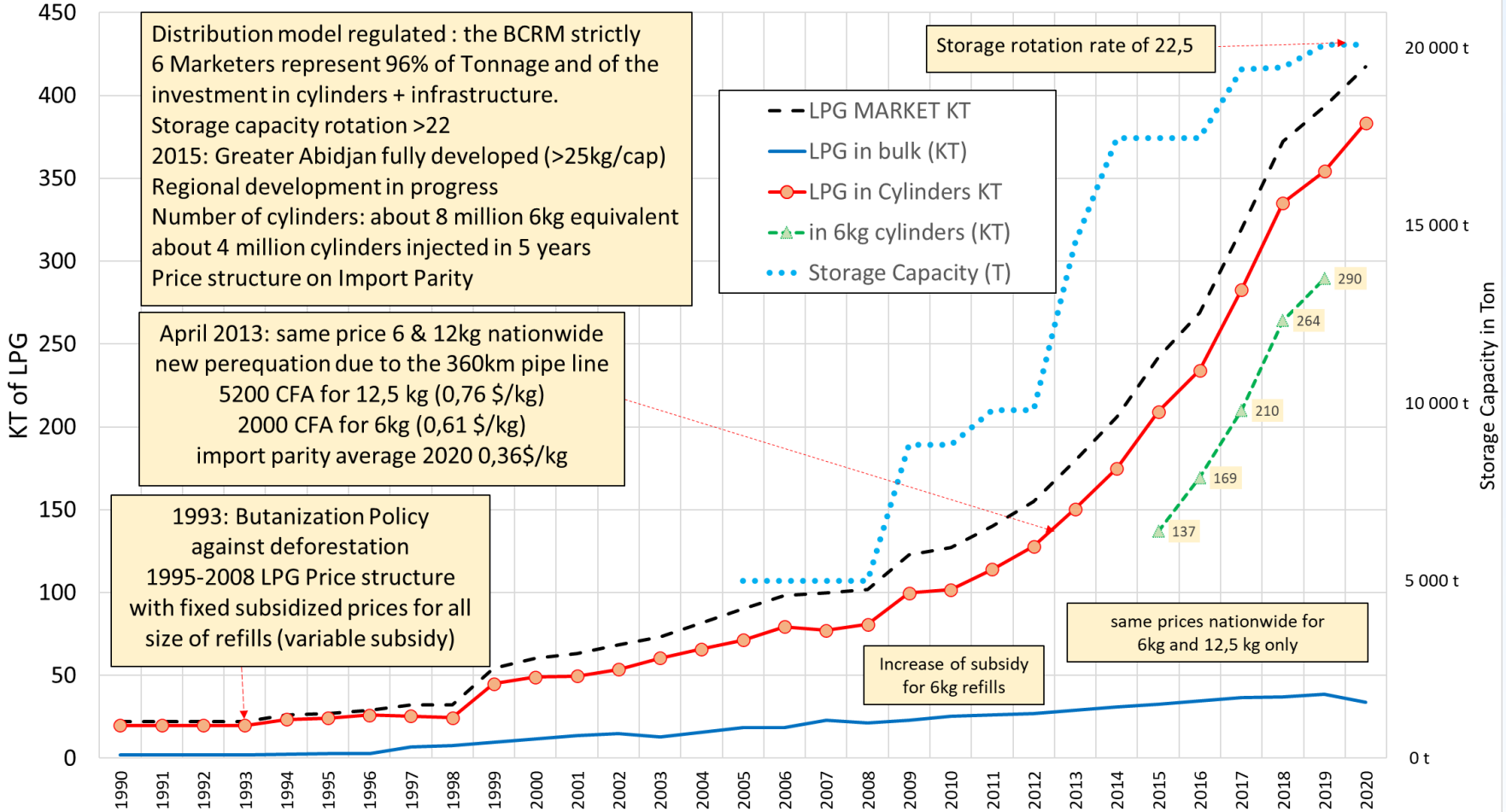
MOROCCO	Year 2020		
Cylinder Market 2020 KT	2 708 kt	Average	
Number of LPG Marketers (group)	9	301	KT/marketer-group
	5 companies represent 89% of the market		
Number of LPG Marketer licences	13	208	KT/marketer
Number of Brands	17	159	KT/brand
Number of cylinders 12 kg equiv	28	0,8	cylinder/capita
Number of Distributors	650	4	KT/distributor
Number of retail outlets (estim)	100 000	27	T/outlet
Number of Filling Plants	38	71	KT/filling plant
Number of Filling plants shared between marketers	19%	50% of the filling plants are shared - 5 companies control 89% of the filling	
Filling capacity 2 shifts (KT)	3 200 kt	Filling capacity saturated at 85%	
Import and filling plant storage capacity	311 000 t	rotation rate of 8,7	
SOMAS common facility	underground cavern of 200KT capacity - 6 marketers own the company		
SALAMGAZ common facility	filling company of 11 filling plants owned by 4 companies, out of which 3 marketers		
Gross Margin value chain / Price structure	204 \$/t	supply margin not included	
End user price of 12kg refill since 1990	3333 Dh/t	subsidized since 1980 at 0,36 \$/kg	

Cote d'Ivoire



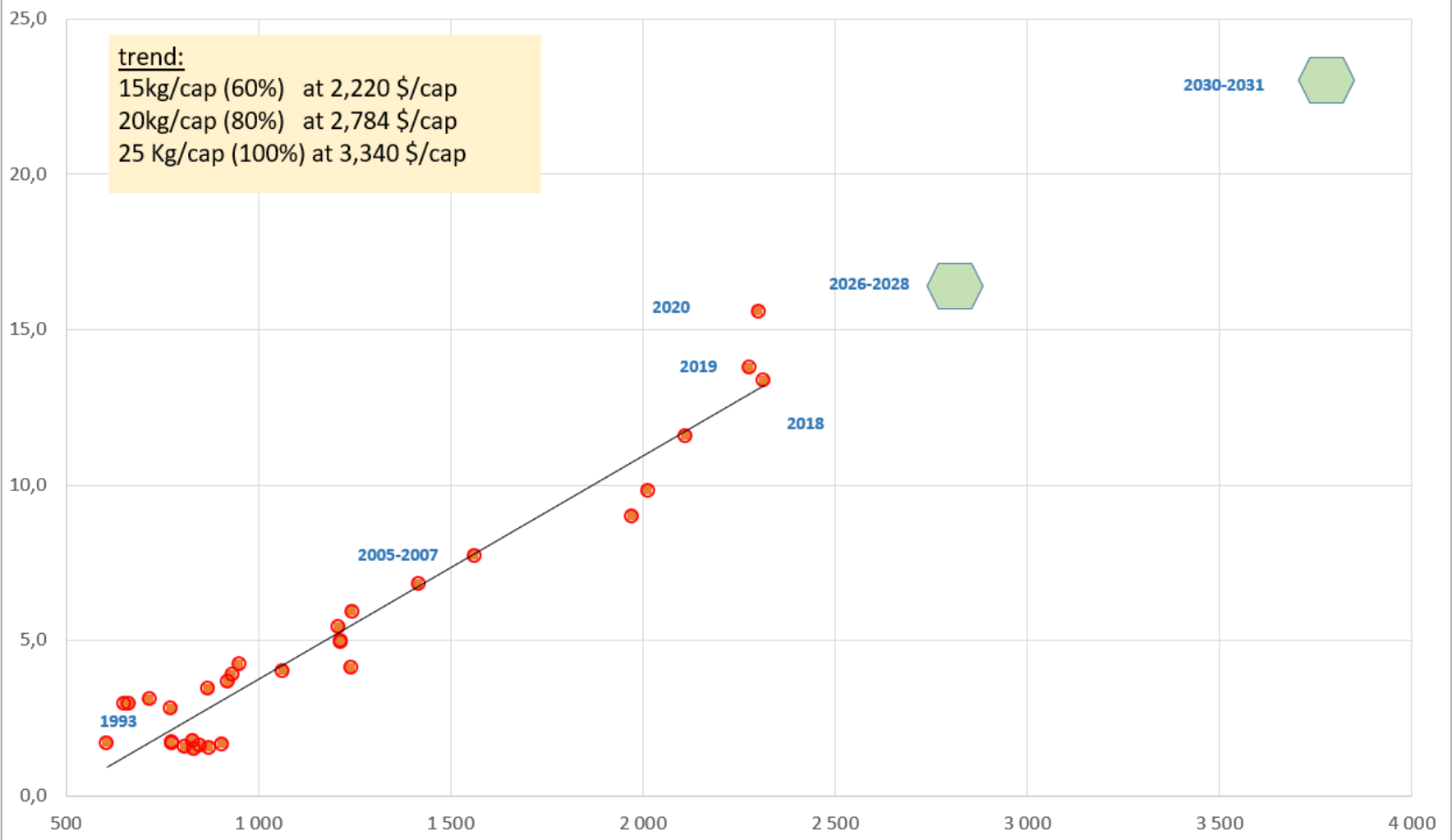
COTE D'IVOIRE LPG Market (1990-2020)

source DGH - Beenergy





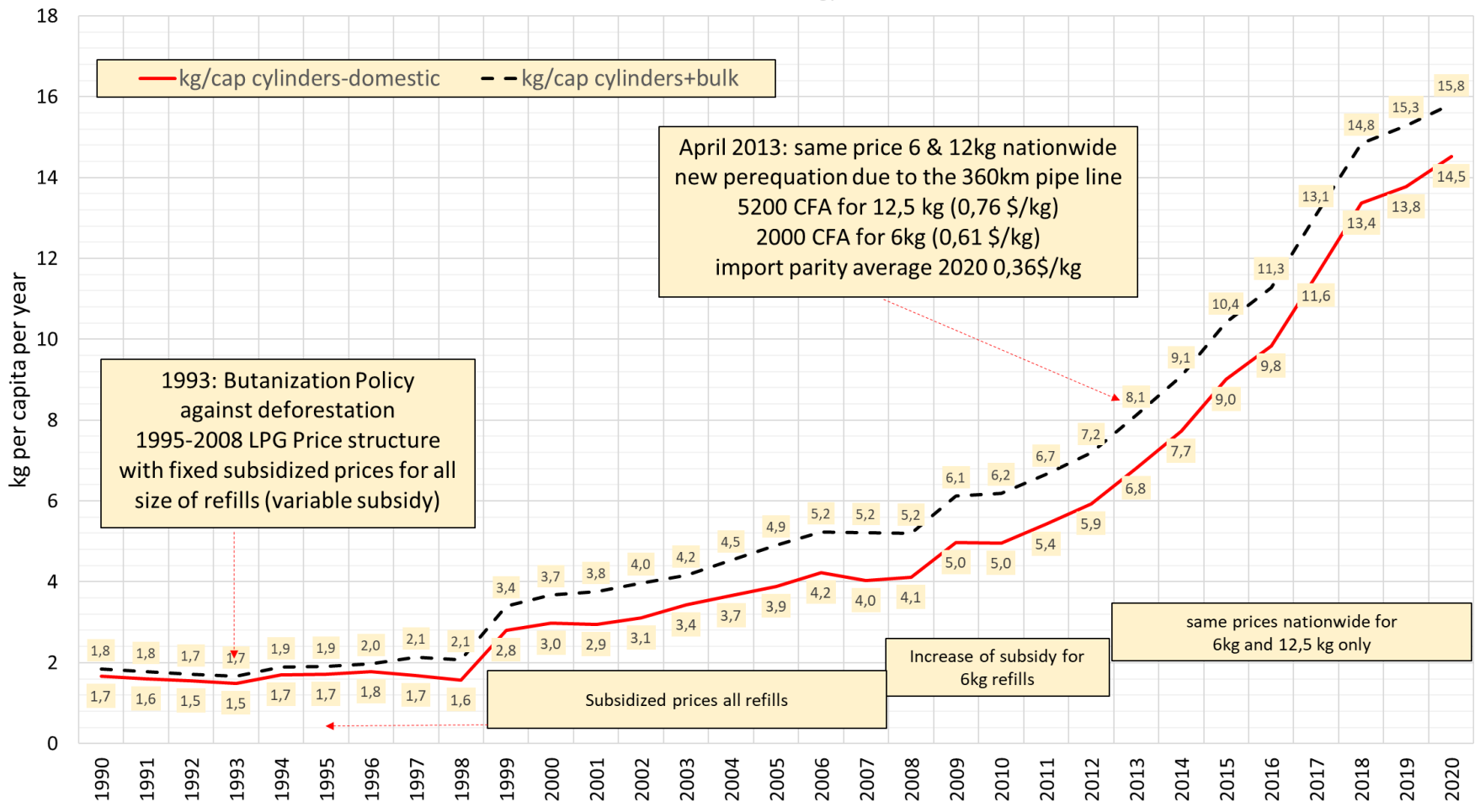
COTE D'IVOIRE LPG growth potential: kg/cap LPG Cylinders vs GDP/cap (2019)

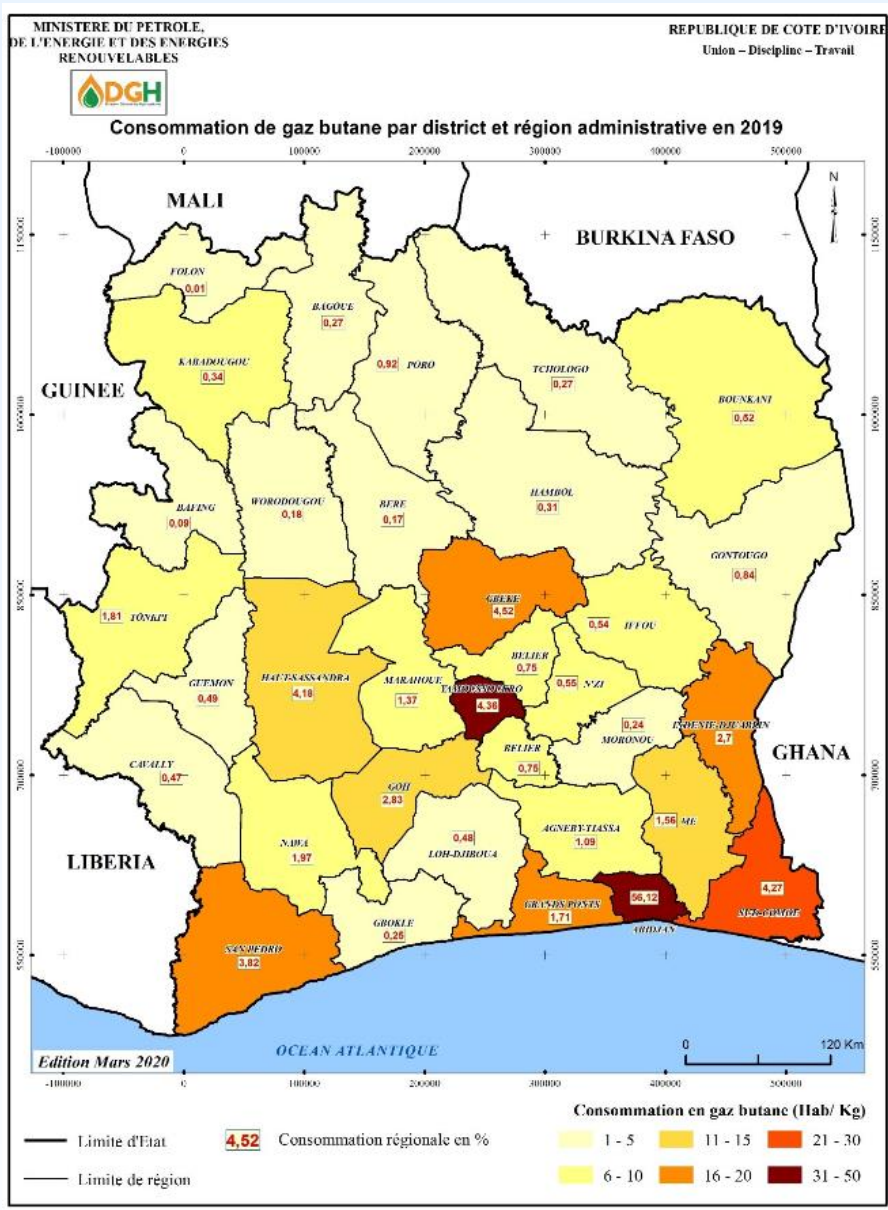




COTE D'IVOIRE LPG consumption in kg/capita per year

source DGH - Beenergy





Cote d'Ivoire LPG map of consumption

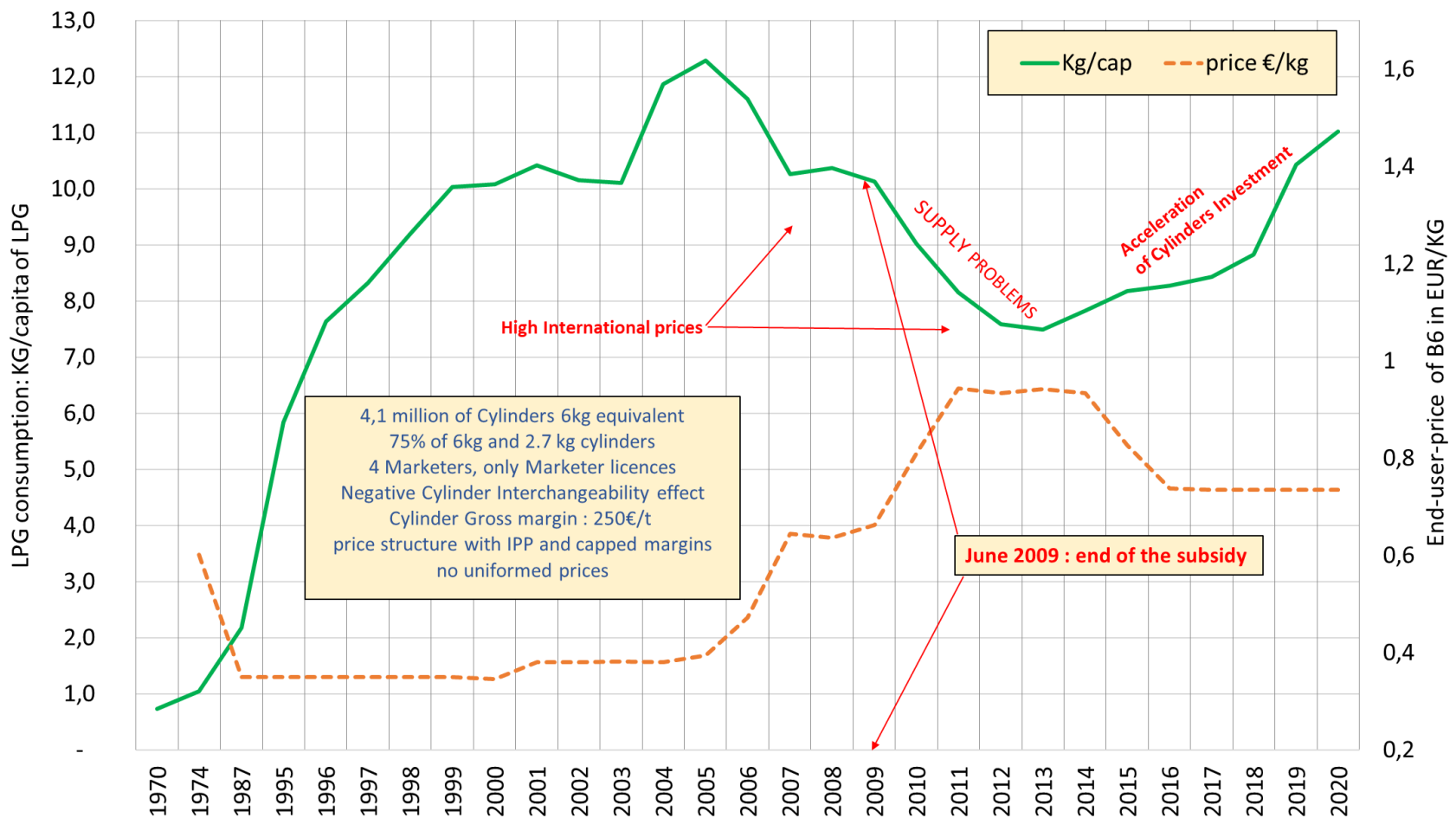
- An expansion from the city capital area.
- Regional development improved with the perequalization of the primary and second transportation
- Investment in regional filling capacities not yet at the level of the greater Abidjan

Sénégal



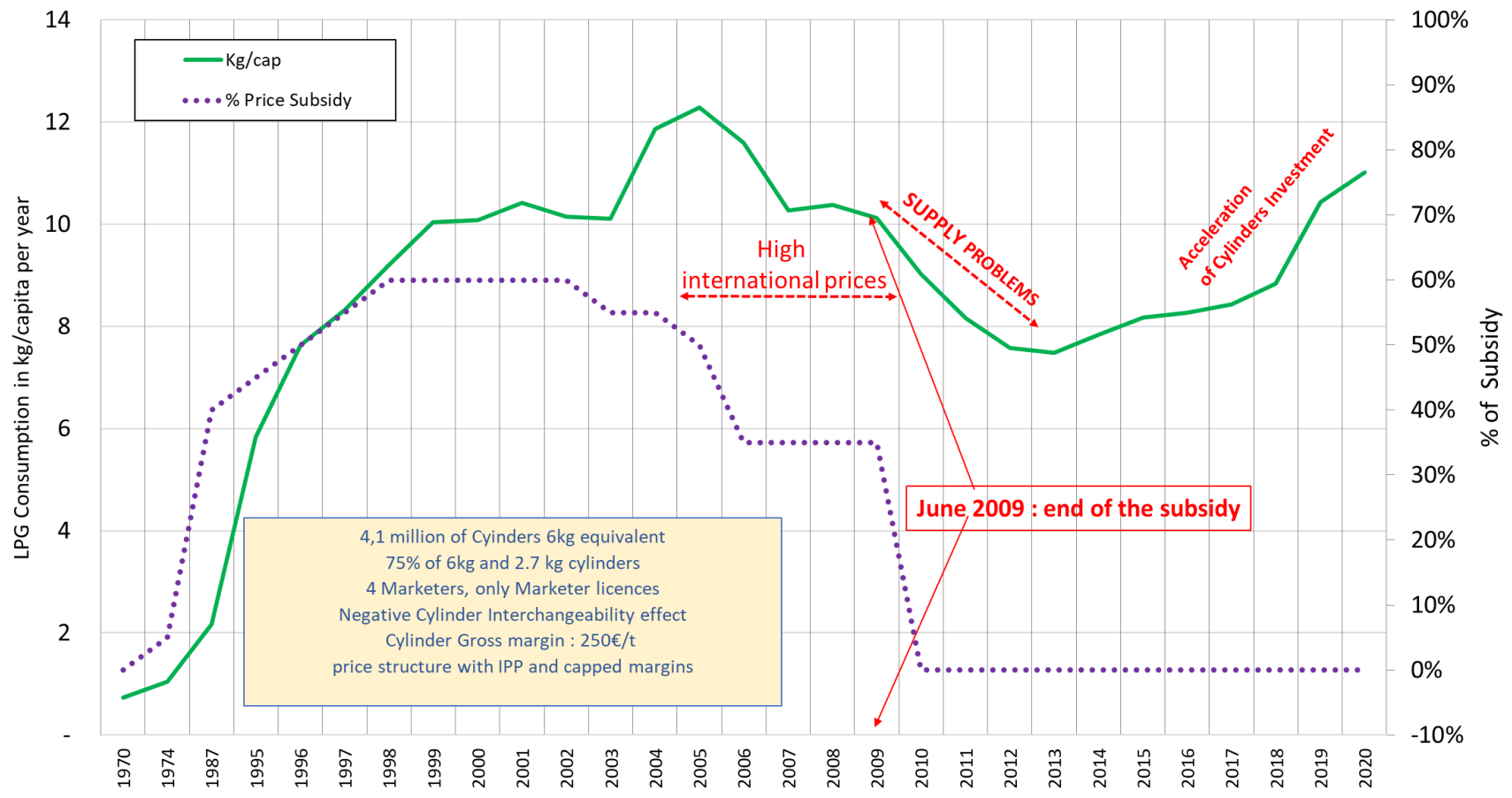


SENEGAL LPG consumption kg/cap and end-user price





SENEGAL LPG consumption in kg/cap and % subsidy



KPIs for objectives of LPG development in SSA in 2030

Population (million)	1 400	
K Ton of LPG / year	21 000	vs 2.8
Number of circulating cylinders	470 M	vs 20 M?
Number of Marketers' Distributors	17 500	vs 900?
Number of Retail Outlets	1 100 000	
Number of Filling Plants	420	vs 110?

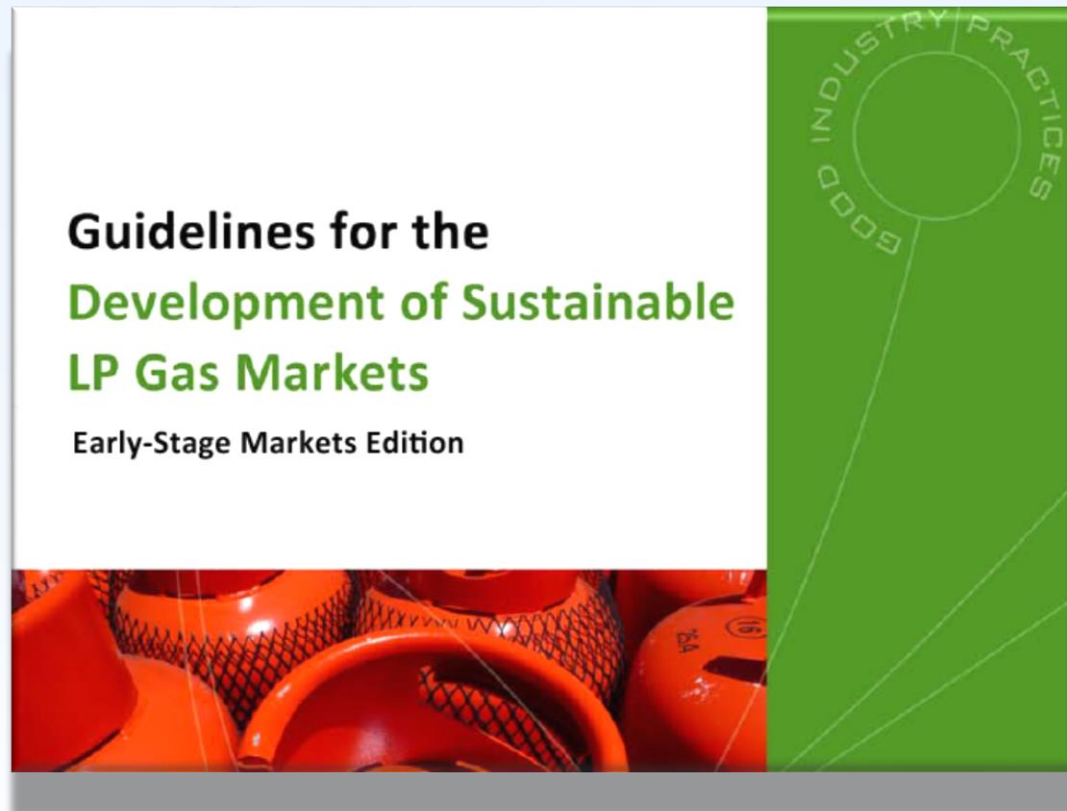
The BCRM: the Model to Successfully Develop LPG Cylinder Markets

1. Investment in branded cylinders by licensed Marketers; cylinder deposit scheme
2. Reliable, dense distribution network, making the refilled cylinders available within 10mn from the user's home
3. Safe refilling: implementation of the LPG 'cylinder re-circulation' model: LPG cylinders refilled in Marketer's centralized filling plants under the responsibility of the Marketers
4. This Model (1+2+3) with a proper licensing mechanism centered on Marketers must be defined in a consistent LPG regulation
5. Solutions of affordability for the end-users
6. Solutions of financing of the investments for the private sector (Marketers)



The LPG Model, Used by the Professionals

The WLPGA, the voice of the LPG industry, has analyzed and compiled the rules that have fully proved to enable the development of the LPG market in cylinders. These Guidelines describe The LPG Model: please follow them.



Key Messages

- Get the LPG structure/offer to develop:
 - investment in million of cylinders, and in a distribution network of shops or last-mile system.
 - Respect the BCRM, the branded cylinder recirculation model, with centralized filling plants.
 - Avoid breaking the flow of investment in cylinders by allowing interchangeability of cylinders, exchange pool schemes, illegal cross filling.
- Adjust demand by providing affordability solutions (capping the deposit, regulated prices, microfinance for the equipment and the retailer, pay-as-you-go system if proved to be efficient, etc..)
- Ensure to license only Marketers with a business plan matching the country's LPG master plan.



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Thank you