Panama

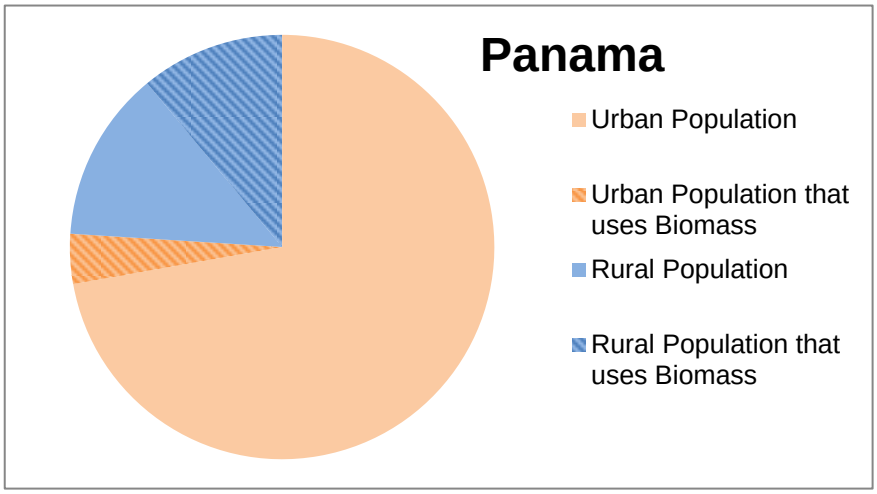
Total population*	**3,864,000**
Urban (%)	**66**
Rural (%)	**34**
% Population that uses biomass*	**15**
% rural**	**45.7**
% urban**	**< 5**
% Population with access to LPG and electricity	**na**
Number of households that use biomass**	**157,656**
Number of annual deaths from HAP 2012*	**576**
Number of annual child deaths from HAP 2012*	**43**
Price of LPG (25 lb tank)***	**4.37 USD**
Price of electricity (Kw/h)***	**0.17 USD**
Price of Firewood	**na**

HAP: Household Air Pollution

*WHO observatory data base

**GACC (Global Alliance for Clean Cookstoves) web page

*** September 2015



History of Efficient Cookstoves

Number of efficient cookstoves distributed so far	**230**
Type of technology distributed so far	**Ecojusta**
Cost of the technology	**250 USD**

National Program

There is no national program for efficient cookstoves. The non-governmental organization Proverde distributed 230 Justa stoves in 2011. They were trained with ADHESA an Honduran NGO.[1]

LPG Subsidies[2]

The LPG subsidy was born in Panama amid policy reforms to hydrocarbon in the early nineties. The executive government began to subsidize LPG 25 pounds tanks in 1992. There is none explicit reference to the reasons to subsidize LPG. However, it is reasonable to assume that in the midst of liberalization the government identified the need to protect low-income groups against increases in fuel prices since the subsidy is set at the same decrees of reform.

It should be noted that the fact that the subsidy formally born in the midst of liberalization implies that LPG consumption was already subsidized prior to the reforms. Therefore, maintain the subsidy formally does not mean a change.

The amount of spending in GLP subsidies reached $ 82 million in 2010. In 1998, oldest data we have, the amount was $ 3.7 million. The difference implies a 2100% growth in public spending in the 12 years between 1998 and 2010. However, the growth rate between 1998 and 2010 consumption is only 30% while the growth rate of subsidy per gallon is 1700%.

The policy is to maintain a fixed consumer price $ 4.37 per tank while the government covers the difference against the costs of provision. The increase in the subsidy of GLP follows the trend of oil prices. The consumer input sufficient to cover the margin paid to distributors, agents and shops, which total $ 3.41 per tank. Since Panama imports gas, $ 0.96 remainder goes to pay the gas whose cost varies according to fluctuations in international oil prices. Plus the cost of transportation is paid. The fortnightly calculation of the amount of subsidies does the Hydrocarbons Department of the National Energy Secretariat based on sales data provided by the distribution companies by affidavit. However, there is no certainty that the information received true. The calculations for December 3, 2010 had a value of FOB price of gas plus transportation cost of $ 9.22, which indicates that the missing to be subsidized was $ 8.26 per tank sold when the price per barrel of WTI was $ 89.19. The week of April 22,

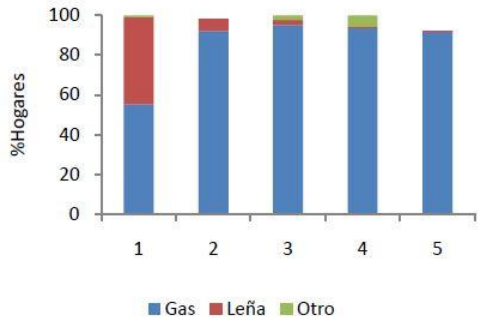
[1] Source: What have we learned about Household Biomass Cooking in Central America? ESMAP, The World Bank, 2013

[2] Source: Subsidios a los servicios de infraestructura en Panamá. Yepes T.

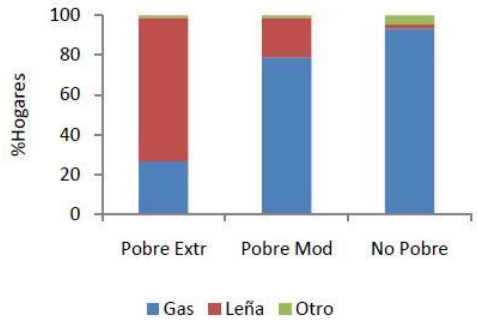
2011 the price had increased to $ 112.29 per barrel which makes predictable an increase in spending for 2011.

Regardless of the goodness or badness of the LPG subsidy as a targeting mechanism, only by lack of access more than half of the poorest are excluded from subsidies. The proportion of households using gas for cooking fuel is substantially lower in the poorest population segments (see Figure 8a). Only 26 % of households use gas in extreme poverty, compared with almost 80 % of the moderately poor households and 93% of non-poor (see Figure 8b). Also in the first quintile of income 55 % of households use gas, but this figure is at least 90 % for the other quintiles. Foreclosed homes of gas subsidies use firewood as the main fuel for cooking.

Gráfica 8a. Uso de combustible para cocinar por quintiles



Gráfica 8b. Uso de combustible para cocinar por niveles de pobreza



Fuente: con base en la ENV2008.