

# Scaling Up Demand for LPG in Guatemala: Motivators, Barriers and Opportunities

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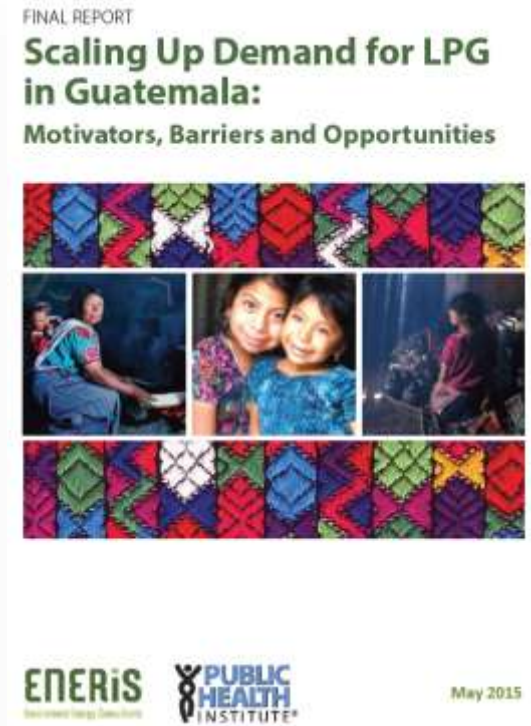
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With the support of the Public Health Institute



- 1. Why this study?**
- 2. Methodology**
- 3. Some key findings**
- 4. Proposed interventions**



# Why this study?

## Guatemala

- **70%** of the households use LPG for cooking in urban and peri-urban areas.
- **LPG availability** not a barrier in these areas
- **Fuel stacking** (LPG/firewood) prevalent.
- **LPG share** constant in the energy mix over the last 10 years

- **Health benefits** of LPG need LPG be the primary or only fuel
- Barriers and drivers for **increased use** ≠ **adoption**

How to **complete the transition** from biomass to LPG in urban and peri-urban households?

- ❶ Identify the **key motivators for LPG use & no-use** among urban and peri-urban households already using LPG
- ❷ Explore ways **corporate and institutional programs** can facilitate LPG adoption and scale-up among employees



- **Primary and secondary research** (national statistics, individual meetings with national stakeholders)



Context of the sector, trends and statistics



- **10 focus groups with 61 women**, from November 2014 to February 2015, in 5 different locations



Gaining a better understanding of the behaviors of LPG users based on *their own experience*.

# Key findings: Motivators

## Key motivators

- **Easy, practical, faster and cleaner** (than firewood)
- Ease of tending and adjusting the **flame**, ease of lighting the stove
- Absence of **smoke** (odor, neighborhood)

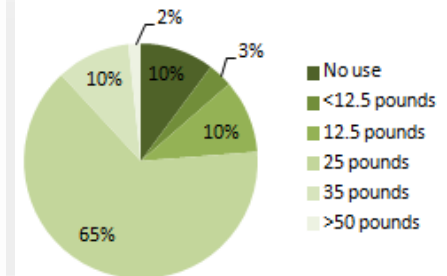
## Weak motivators

- **Health and environment**: acknowledged but not key to LPG preference
- **Higher income/education and work outside the house**: help but are not pre-conditions
- **Income instability**: more significant barrier than low income alone
- **Smaller cylinder**: "emergency reserve"

*"Ya sabemos cuánto tiempo le tenemos que dar a nuestras comidas al momento de estar cocinando con el gas, cosa que con la leña tendríamos que estar destapando las ollas para observar si ya se cosió o no la comida".*

*"We know how much time is needed to cook with LPG. When cooking with firewood, we must regularly check and taste the food".*

Monthly LPG consumption



*Work outside the house increases the value assigned to LPG (fast and practical) and is an opportunity to learn from others (word of mouth).*

*Education, proxy for awareness? Other forms of awareness-raising opportunities?*

# Key findings: Barriers to a complete LPG transition

- **LPG sector: Safety concerns** and **poor quality LPG cylinders** (up to half of them may be leaky), **reputation** of LPG retailers and suppliers (partially-filled cylinders)

*"La duración [del cilindro] depende de con que expendio se compre el cilindro, porque los expendios utilizan el gas, nos damos cuenta porque cuando nos venden el gas el sello o marchamo está manipulado".*

*"The duration [of the cylinder] depends on the retailer, since the retailers use some gas, we can see that the seal has been tampered with."*

- **Cooking practices and habits:** Lack of knowledge of **how to cook** efficiently with LPG, including how to use the **pressure cooker**, essential for cooking food that takes a long time (beans)
- **Cost perceptions and unstable income:**
  - **Bias** in favor of several smaller expenses for firewood, even when income are stable
  - Small expenses more manageable in case of **unstable income**
  - Lack of easy cost comparisons between LPG and firewood cooking (uncertainty on **how much LPG** is consumed or remains)
  - "**Myth**" 1 cylinder = 1 month



Firewood / fuel stacking give a sense of **energy security**

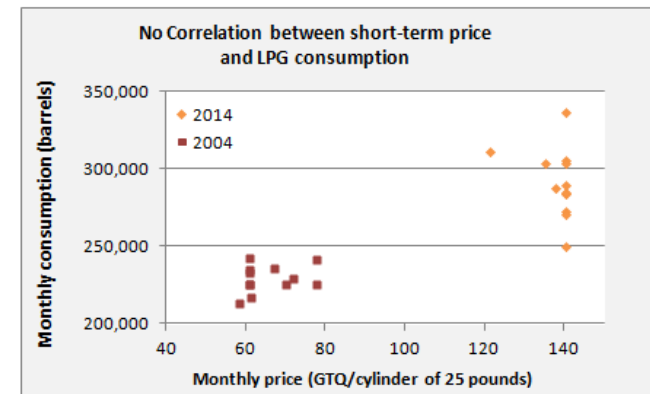
# Key findings: Non-issues

## False barriers / no motivators

- **Taste**
- **Up-front costs**
- **Aspirational product**  
LPG is not anymore aspirational, washing machine is
- **LPG price**
  - Fair price close to real price
  - Resilience of behaviors to price volatility: lack of confidence in a) cylinder filling when prices are low, and b) in long-term prices.
  - Seasonal variations, more important driver

*Important reminder.* These factors may be important factors for **adoption**.

*"El sabor que da la leña no importa porque el sazón nosotras se lo ponemos a la comida".*  
*"The taste that firewood gives is not an issue. We know how to make food tasty with spices".*



Based on statistics from the Ministry of Energy and Mines, Direction of Hydrocarbons

# Intervention avenues to broaden LPG use in Guatemala

## **Corporate social responsibility: reach a large number of families through employees and facilitate purchase of LPG through salary deduction**

Pilot-project with employers (CENTRARSE, Guatemalan Center for CSR; food industry).

- **Raising awareness and building capacity of employees:** benefits, cooking practices, cooking cost comparison, safe LPG handling and cooking
- **Facilitating stove and cylinder purchases** through salary deduction.
- Diagnostic of employee's situation, **monitoring** of impacts.

## **Enabling environment: Engage industry and government**

- **Industry/Government Meeting:** reinforce mutual interest in growing the market for clean stoves
- **Regulation of LPG cylinders** (inventory, cylinder replacement, enforcement, ownership - centralized filling system without "physical" ownership)



# A few concluding thoughts

- Consumers have **preconceived ideas** on cookstoves. And **we have** preconceived ideas on consumers. A real listening to consumers is crucial.
- **Go beyond** the first and common answers.
- Adoption is important, and fuel stacking is a relevant first stage. But let's be ambitious and **target the complete transition** to cleaner fuels and technologies.
- Consumer strategies need to build not only upon characteristics of non-users but also upon **insights gained from users**.

# Thank you!

Full report available upon request



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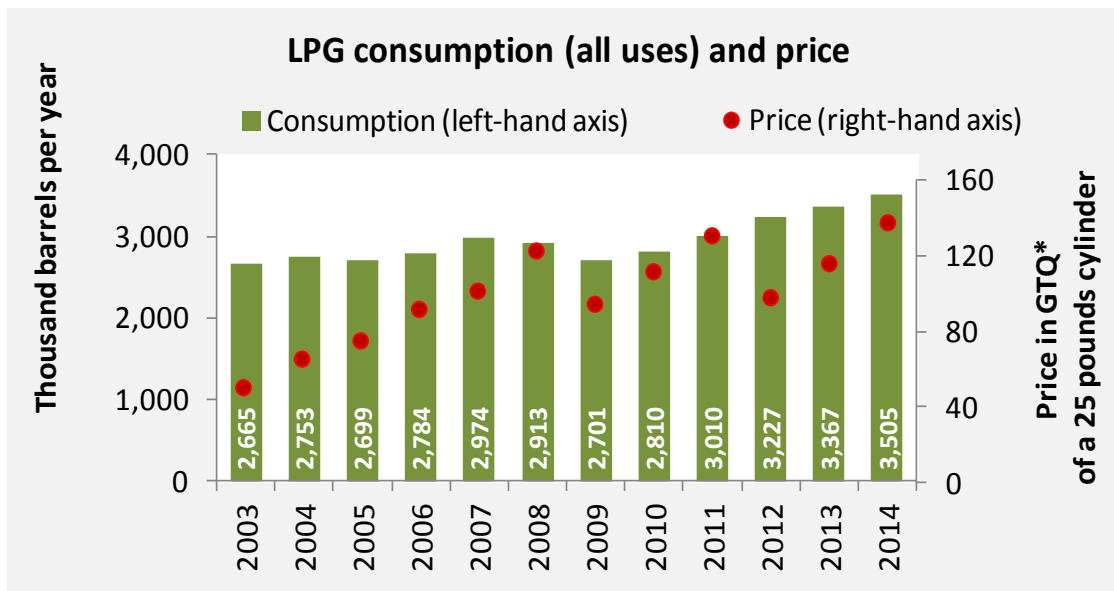


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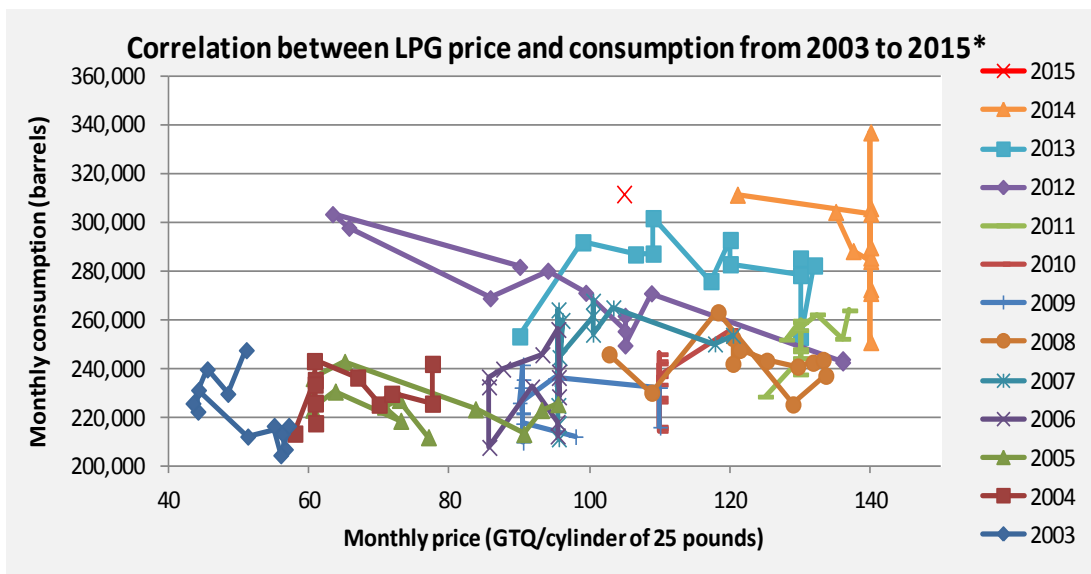
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# Appendix



Elaborated by authors with Statistics from the Ministry of Energy and Mines, Direction of Hydrocarbons ([www.mem.gob.gt](http://www.mem.gob.gt))



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# Situation in Central America

**TABLE 1. Socioeconomic Characteristics and Fuelwood Use in Central America**

	Costa Rica	El Salvador	Guatemala	Honduras	Nicaragua	Panamá	Centro -américa
Area (km <sup>2</sup> )	51,000	21,040	108,890	112,090	130,370	75,520	498,640
Population(millions)	4.40	6.76	13.03	6.97	5.67	3.29	39.89
GDP per capita (US\$), 2010	6,580	3,360	2,740	1,880	1,080	6,990	
Population under the poverty line (%)	20	37.8	56.2	65	48	25.6	55
Population in extreme poverty(%) <sup>a</sup>		19	15	54	55 <sup>b</sup>		32
Urban Population (as % of total)	62	60	47	35	59	71	54
Rural Population (% of total)	38	40	53	65	41	29	46
Fuelwood as percentage of final residential energy used	55.9	67.1	92.3	86.2	91.1	61.3	
Fuelwood population users (%)	9.3	27.1	71.7	69.2	67.2	16.0	51
Urban fuelwood population users (%)	0	11.6	46	37	46	0	
Exclusive fuelwood users (%) Population that purchases fuelwood (%)			25 <sup>c</sup>	33 <sup>a</sup> 65.8 <sup>a</sup>			
Rural Population that uses fuelwood (%)	25	67	96	96	97	55	
Exclusive fuelwood users (%) Population that purchases fuelwood (%)			42 <sup>c</sup>	59.2 <sup>a</sup> 49.2 <sup>a</sup>			
Sustainable fuelwood (%) <sup>a</sup>	n/a	42	58	n/a	64	n/a	n/a
Extractive fuelwood (%) <sup>a</sup>	n/a	58	42	n/a	36	n/a	n/a