The Fondo de Inclusión Social Energético (FISE) LPG Promotion Program in Peru

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March 15, 2018
FISE Program

• Public, national-scale program
• Built-in private partnerships
• Housed within the Supervisory Organization for Investment in Energy and Mining (OSINERGMIN)
• Began in 2012, currently ongoing
FISE Program

• Overarching goal: “bring cleaner energy to the most vulnerable populations of Peru”

• LPG promotion program is one of four pillars:
  • Expansion of natural gas (domestic and vehicular)
  • Expansion of renewable energy
  • Compensation for residential electrical costs
  • Promotion of LPG for domestic use
Percent Exclusive LPG Use in Peru  
2003 - 2015

Data source: Instituto Nacional de Estadística e Informática, Perú

Photo credits: Suzy Pollard (above), Brooks Morgan (below)
Financing

• Program costs: $82.3 million/year (2014)
• Financed by:
  - surcharges on deregulated consumers of electricity
  - surcharges on supply of liquid hydrocarbon-derived products and natural gas
  - monthly surcharges for users of natural gas transport systems
FISE LPG Promotion Program

• Provides vouchers of S/.16 ($4.90) per month for 10kg LPG tanks
  - Voucher for half a tank of LPG/month
  - Households identified by numeric code on electrical bill
  - LPG vendors use text-message based system to redeem vouchers
  - Participants retrieve new LPG tanks from designated retail points (LPG cylinder recirculation model is implemented in Peru)
  - LPG distributors are the same for FISE and non-FISE
FISE Structure

- **OSINERGMIN** – FISE supervisory body, Ministry of Energy and Mining
- **Energy Distribution Companies (EDEs)** - Regional implementers, administrative and operational arms are responsible for voucher distribution, census of beneficiaries, overseeing LPG agents
- **LPG agents** – responsible for LPG distribution – work directly with LPG distribution companies
LPG agents

• LPG distribution relies on network of authorized, private LPG “agents” overseen by energy distributors
• Often small shop owners who apply to become LPG agents
• LPG vendors use text-message based system to redeem vouchers
Canje del vale de descuento FISE

Si deseas más información sobre FISE y los beneficios para tu comunidad, acude a la empresa eléctrica más cercana.

Llevamos energía a más peruanos.

Photo credit: Kendra Williams
Eligibility

Eligibility criteria:

1. Household in lowest five socio-economic categories of National Household Targeting System (“SISFOH”)
2. Household income < $5,583 per year (i.e. $465 a month)
3. Household has no electricity or consumption < 30 kWh/mo.
4. Precarious housing (home visit)
National Program Reach

• Expanded from 8,658 households (2012) to 1.6 million (2017)

• Expanded from 5 LPG vendors accepting vouchers (2012) to 4,587 (2017)

• Program is currently operating in 100% of departments in Peru, 98.1% of districts
Number of FISE beneficiaries (A) and LPG agents (B) by region.
Case Study Methods & Data Sources

• Publicly available & administrative data (INEI, FISE)
• Consultations and site visits with FISE leadership
• Representative survey of 375 households (rural Puno)
• In-depth interviews with
  - 8 community members (beneficiary and non-beneficiary)
  - 6 key stakeholders (FISE representatives/regional implementers, local authorities)
LPG Adoption among FISE beneficiaries

• Adoption high; stove stacking also high.
  - 96.5% vs. 24.8% of beneficiaries vs. non-beneficiaries currently use LPG stove \((p < 0.001)\)
  - 4.5% vs. 2.0% reported current exclusive use of LPG stove \((p=0.21)\)
  - 92.9% of beneficiaries began using LPG after FISE enrollment
PM$_{2.5}$ Exposures in FISE vs. non-FISE
Barriers to LPG Adoption

• Key perceived barriers:
  - Challenges obtaining LPG (distance, public transportation, cost)
  - Complexity of enrollment process
    - If don’t use vouchers for 4 months, are discontinued; after 12 months, must re-enroll
  - Supply chain issues
    - No gas available (16% reported as barrier)
    - FISE tank doesn’t last as long (62.3% reported as barrier)
  - *Voucher doesn’t cover full tank (87.5% reported this is a problem); price fluctuation depends on market
Evaluation Take-Aways

• Stove stacking highly prevalent
• In Puno, ~2 tanks needed to support exclusive use (½ cylinder voucher does not support exclusive use)
• Structure and division of labor in program allows for large-scale implementation and adaptation, but potential for inconsistency
• Surcharges may be sustainable model for large-scale program
Thank you

Photo credit: Brooks Morgan