

The Massive Use of Natural Gas in Colombia: A Successful Experience



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Promigas

Colombia

Natural gas has prompted a ***social revolution*** in Colombia.

It's benefits are far more than a matter of economic indicators...



**It's a matter
of quality of
life**



Adela, from Arenal, Bolivar






Promigas

Adela's kitchen

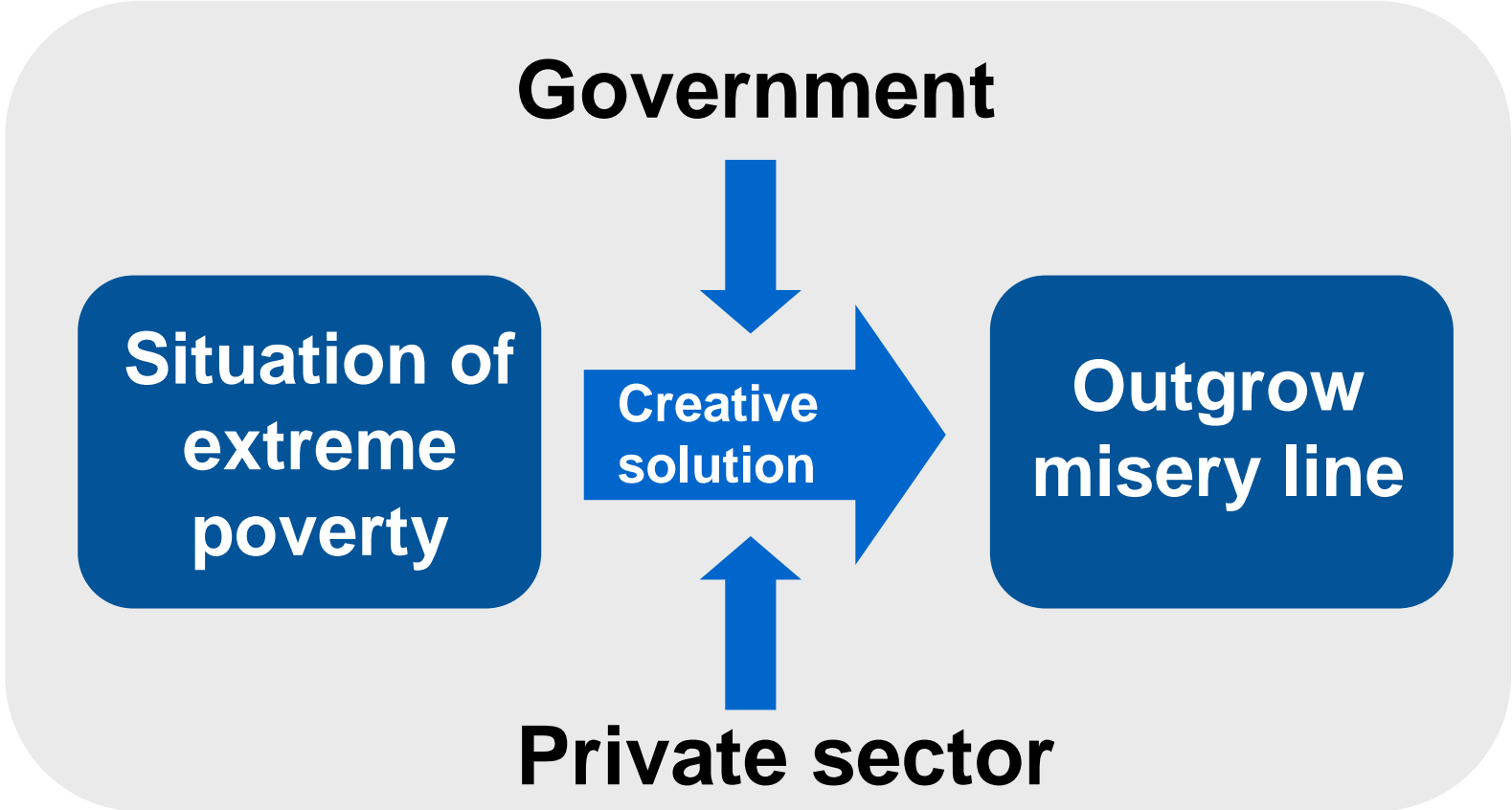




P
Promigas

Adela in her everyday chores





Colombia

- 41,2 million people
- GDP per capita = USD 3.100
- Proven gas reserves = 15 years
- Average natural gas consumption = 17 million cubic meters per day



Natural gas

- Used at the industrial, commercial and residential levels in major cities.
- Pipeline owned by Promigas runs through an area where 70% of people live below poverty line.
- In many villages natural gas is the only utility.
- 22% are unable to satisfy basic needs.



Promigas



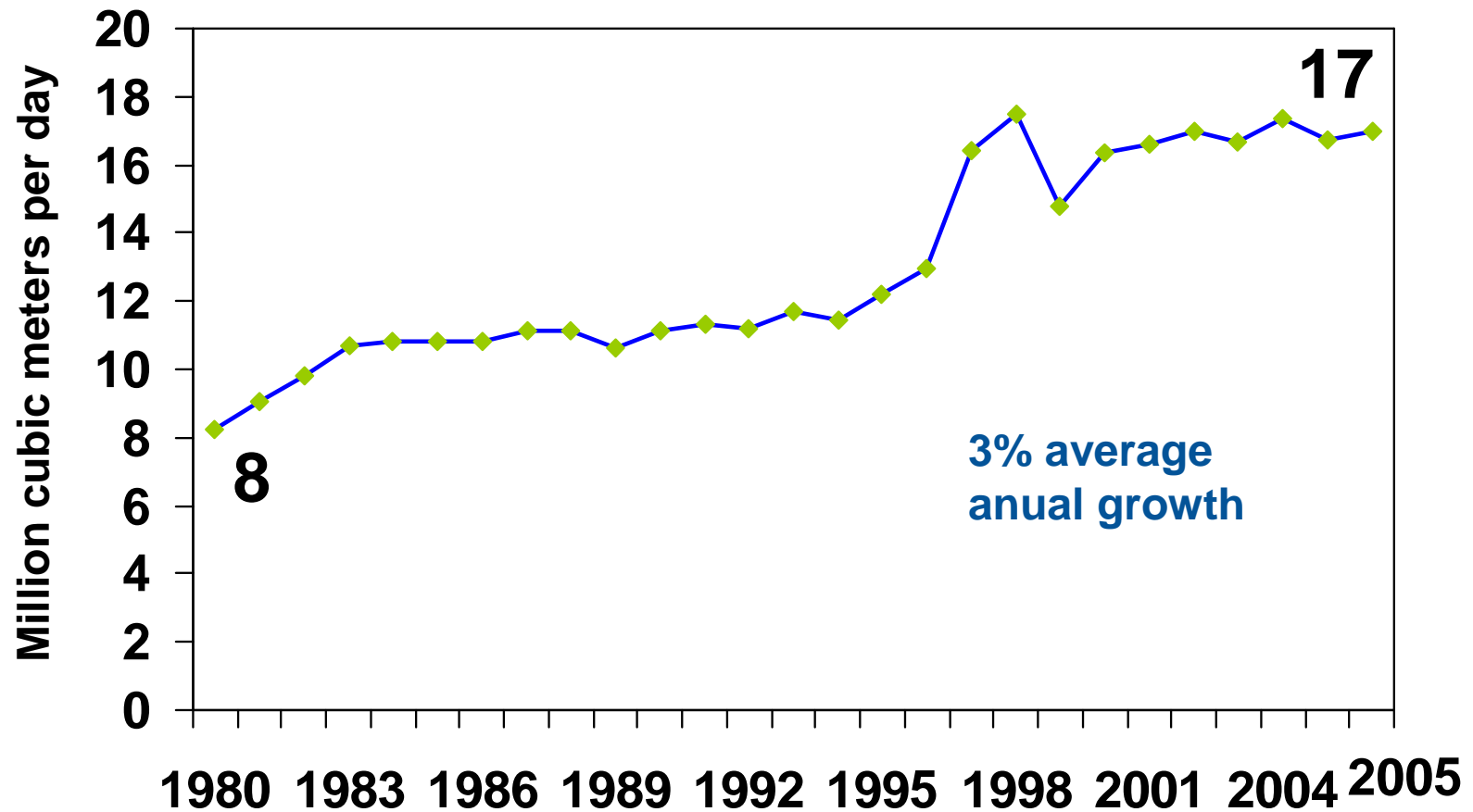
- Colombian company
- Transmission and distribution businesses
- 2.000 kms of pipeline system
- ***Transmits 51% of the total natural gas in Colombia***
- Certified ISO 9001, ISO 14001 and OHSAS 18001

Promigas



- Operates > 900 km third parties pipelines
- Ownership interest > 50% of Colombian Gas pipelines
- Indirectly moves > 80% gas
- Promigas LDC's serve 1.6 million users = 8 million people

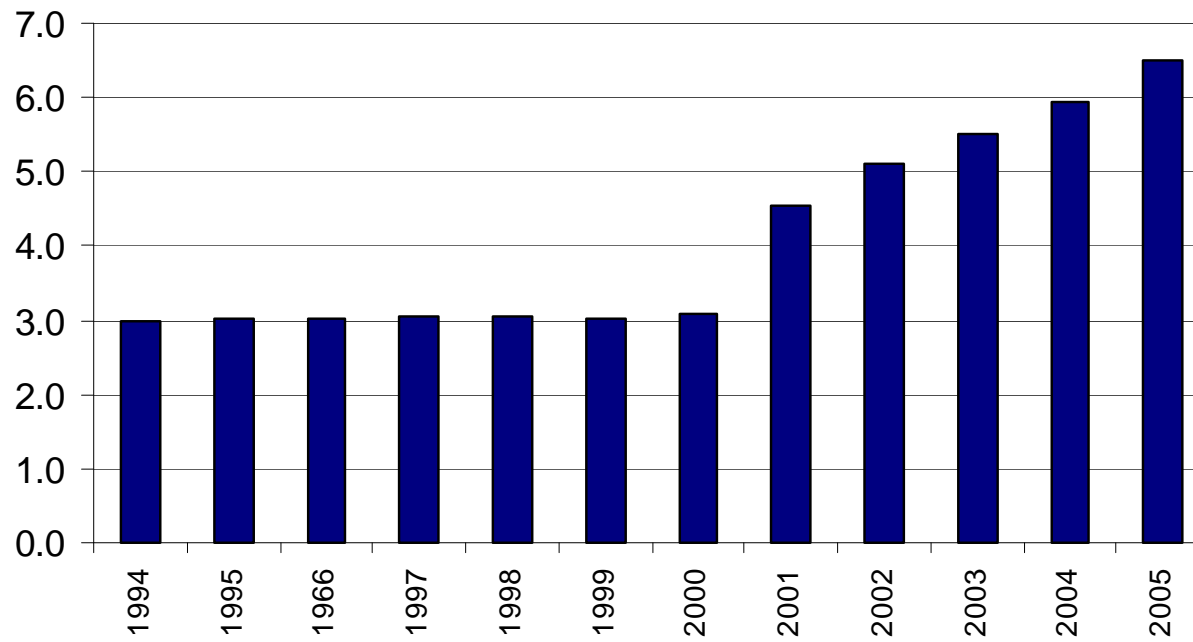
Market Development



Market Development

Penetration in industries

Evolution of industrial demand (MMm³/day)



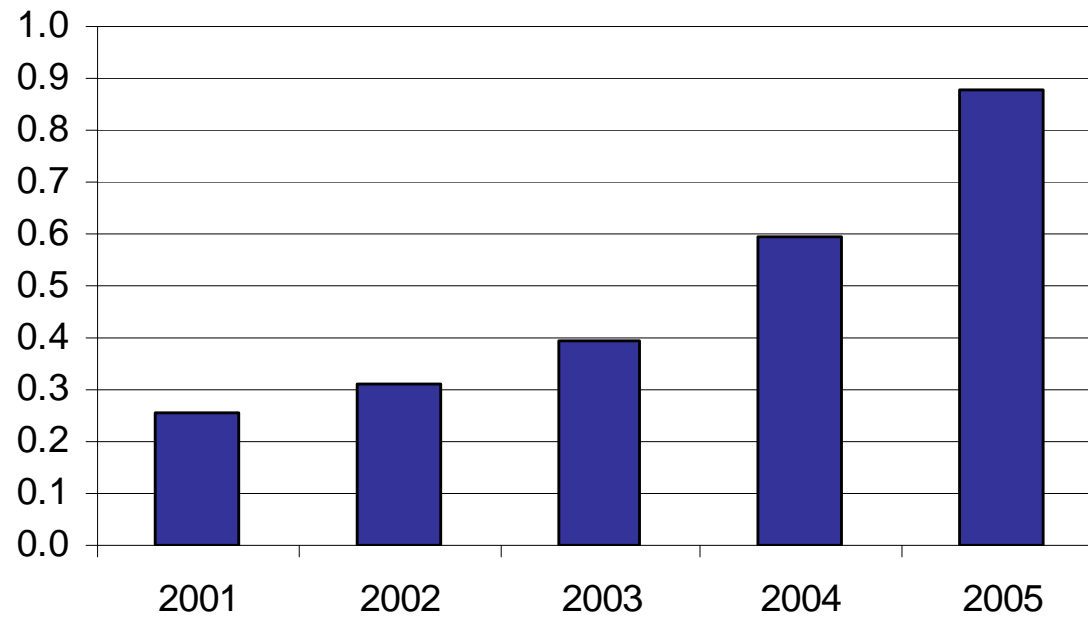
Source: Naturgas Colombia

11% annual increase in gas consumption (2000 – 2005)

Market Development

CNG consumption

Evolution of CNGV demand (MMm3/day)



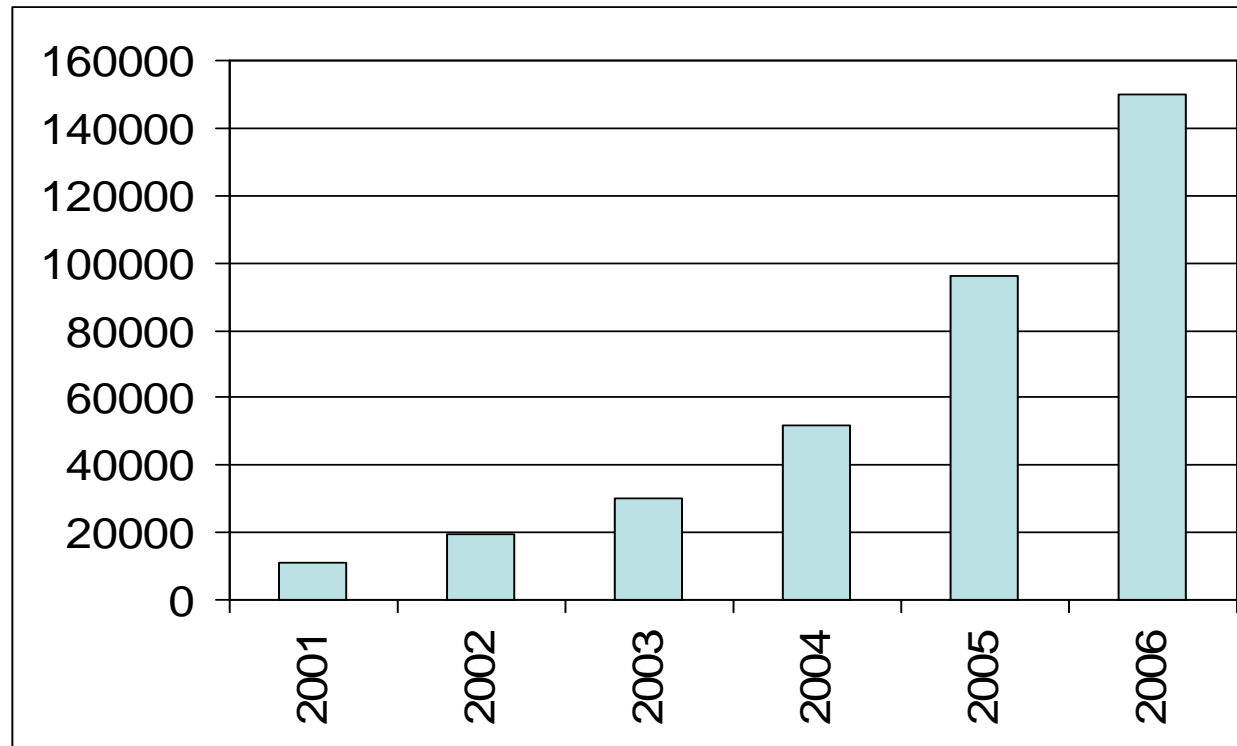
**37% average
annual growth**

Source: Naturgas Colombia

Market Development

Number of vehicles with CNG

Evolution number of vehicles



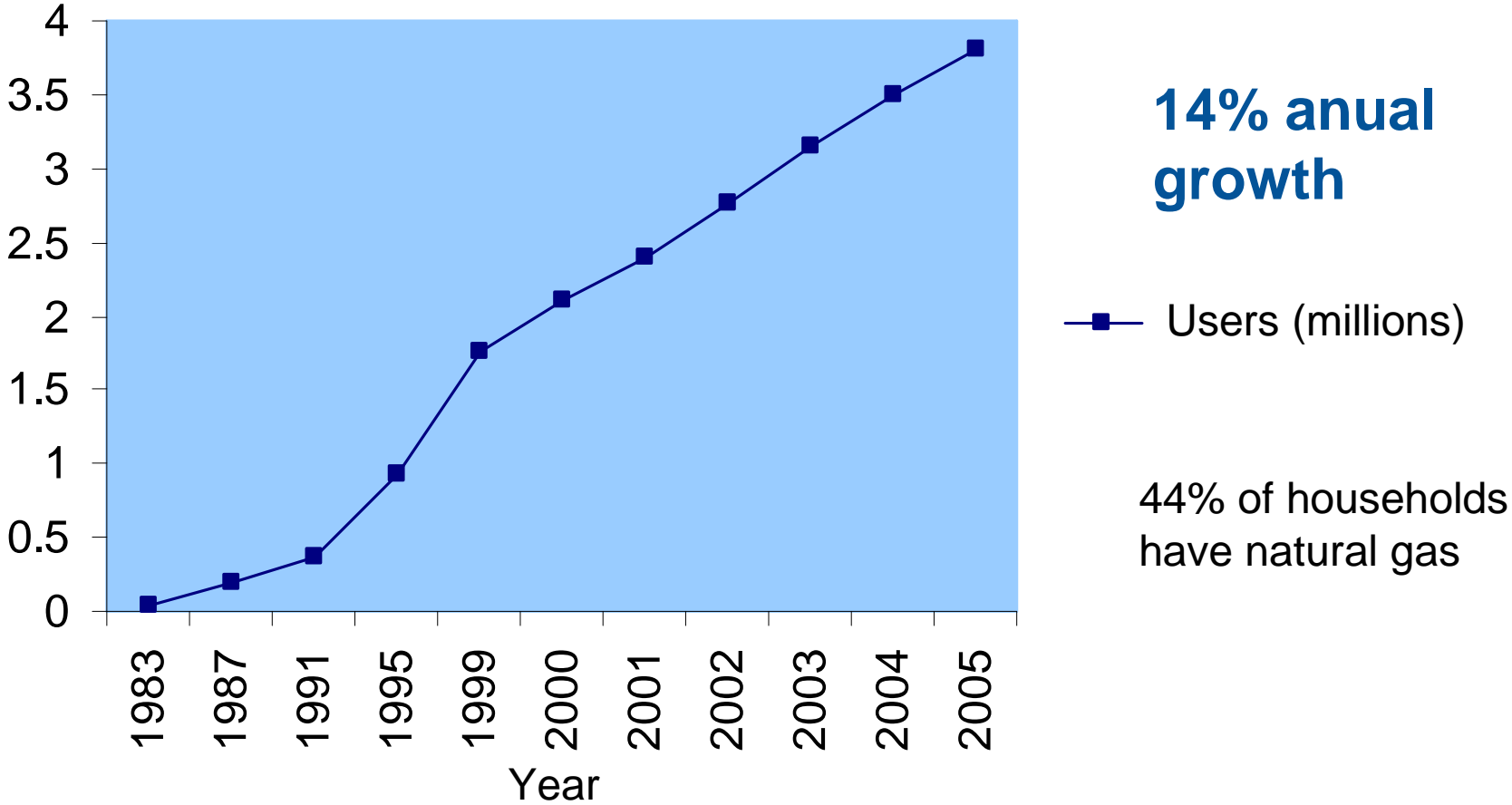
**58% anual
growth
between
2001-2005**

**150.000
estimated
vehicles for
2006**

Source: Naturgas Colombia

Market Development

Evolution of the number of users



How did it happen?

Joint effort between
private and public
sectors

Massive use of natural
gas promotion plan
launched in 1986



Our objectives:

- Widespread the access to natural gas
- Increase competitiveness
- Level prices to efficient production and services costs
- Optimize the use of natural gas reserves
- Optimize the use of the infrastructure
- Take advantage of environmental benefits.

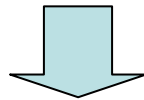


Transmission

- Transmission systems through BOMT (Build, Operate, Maintain and Transfer) agreements

- $$\text{Tariff} = \frac{f(I, \text{AOM})}{f(\text{Vol})}$$

- Low volumes = High tariffs



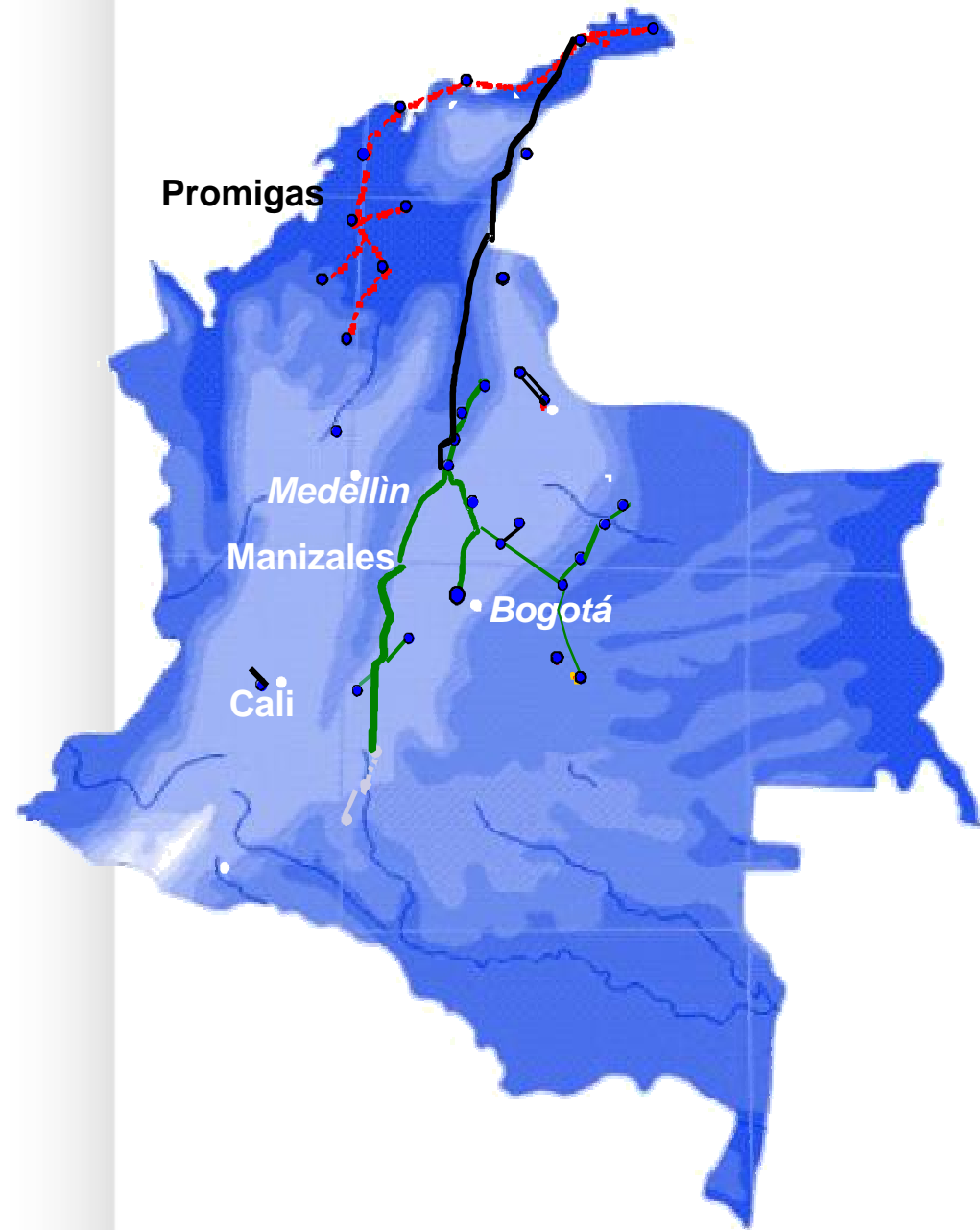
- Private owner of pipelines gets flat payment, ***not depending on volumes transported.***



Transmission

Results

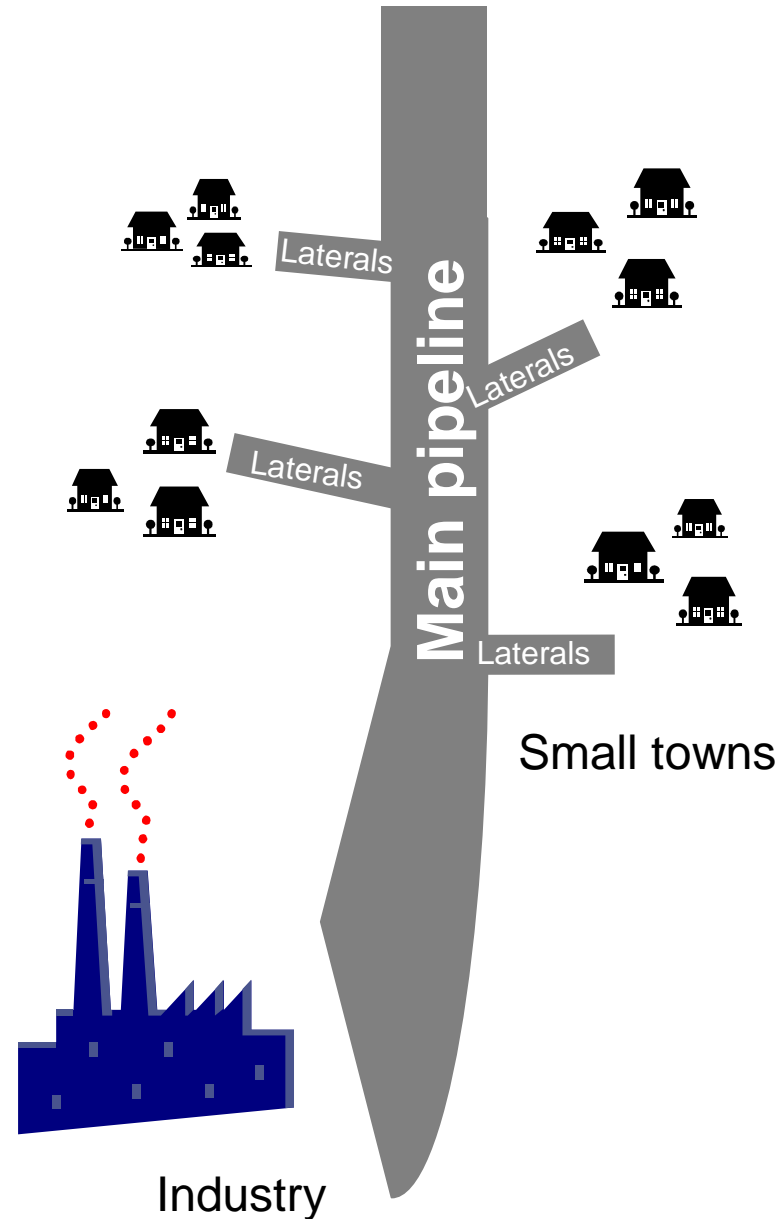
- Better market penetration
- All major cities are connected to the natural gas transmission system



Transmission

Regional Gas Pipeline Program

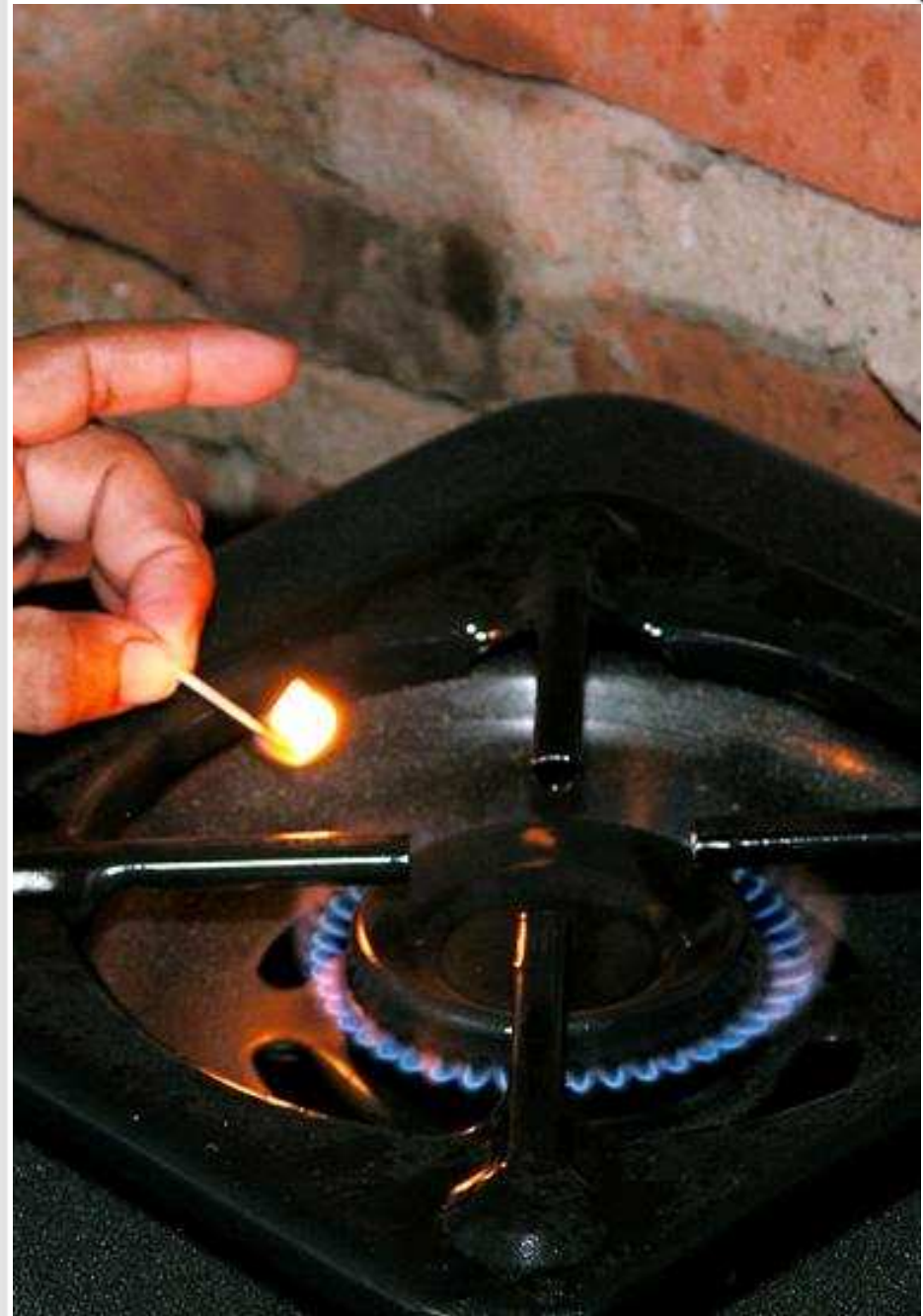
- Connects small towns and villages to transmission systems
- Investments in small laterals are included in the main tariff
- Large volumes subsidize small towns



Regional Gas Pipeline Program

Results

- 175 small communities connected to natural gas in 2006.
- 50.000 families with service

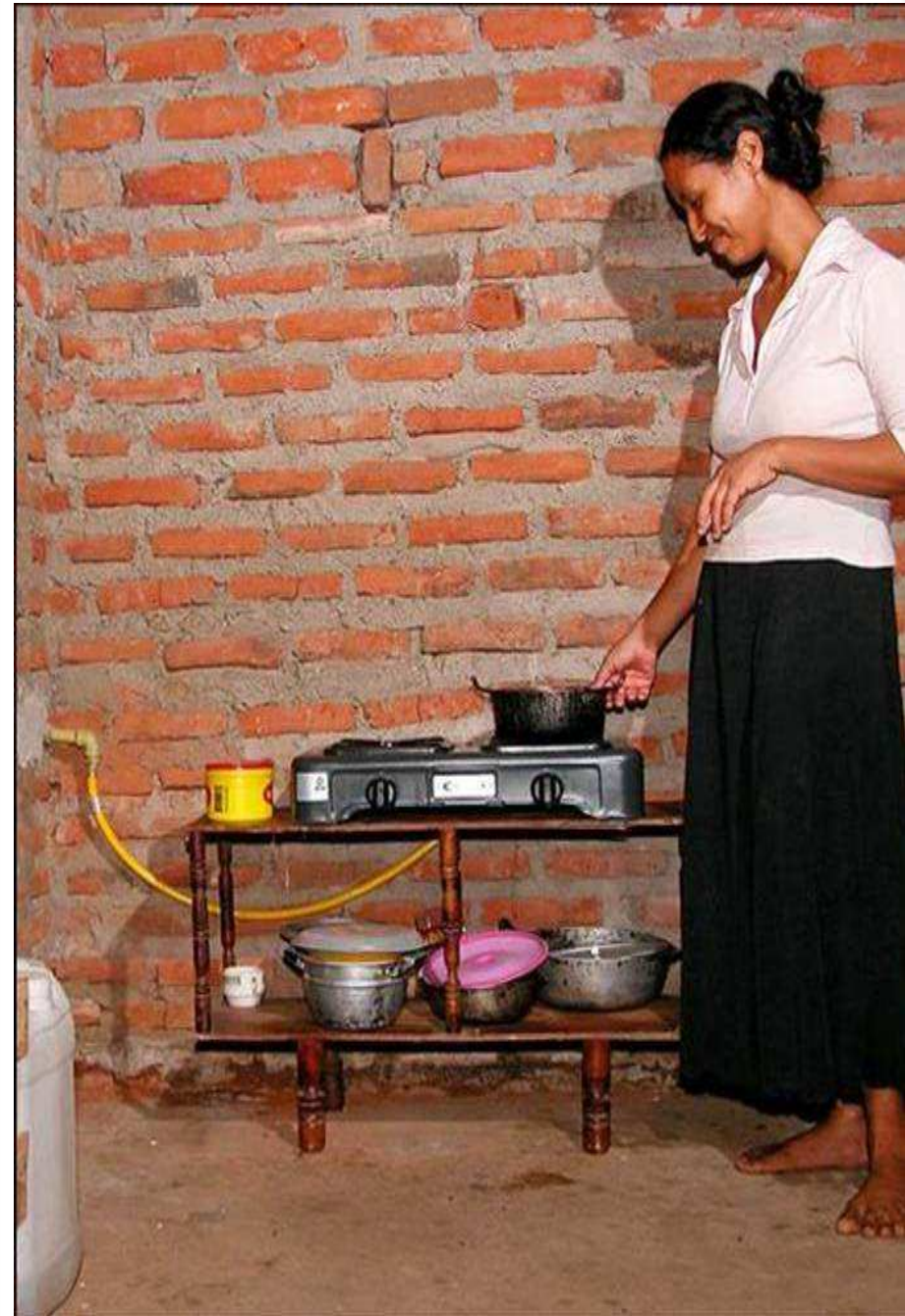


Benefits of natural gas

Residential

- Savings for customers by substituting costly fuels
- Less time spent cooking and collecting firewood
- Healthy environment

Better quality of life



Benefits of natural gas

Small businesses

- Impels the creation of new businesses in communities
 - Restaurants
 - Bakeries
 - Small factories



Adequate and Stable Regulatory Framework

Law 142/1994 on public utilities

Important milestone

- Divides the activities in the chain: Production, transmission, distribution
- Encourages competition
- Fosters private investment
- Establishes a regulatory institution: CREG (Energy and Gas Regulatory Commission)



Adequate and Stable Regulatory Framework

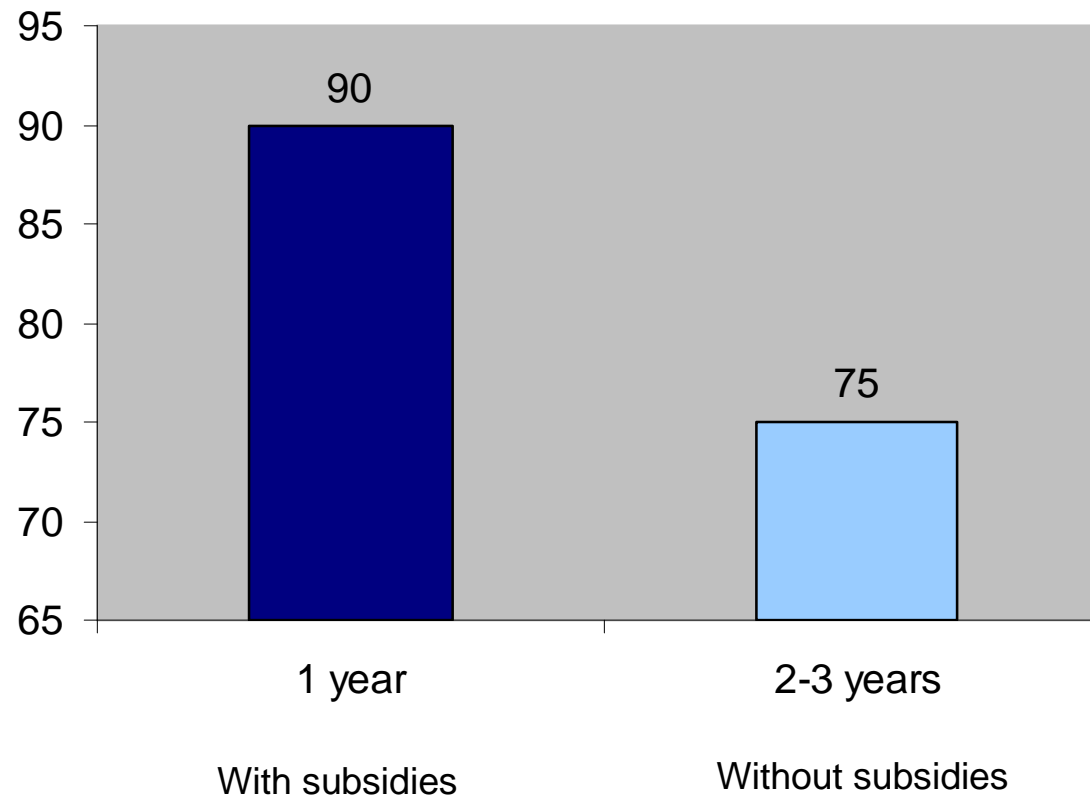
Law 142/1994 on public utilities

- Applies the principles of impartiality and solidarity – (free access)
- Provides a clear structure for the sector
- Establishes a system of tariffs
 - Well head price
 - Transmission tariff
 - Distribution tariff



Special Quotas for Development

- Transmission customers pay a surcharge = 1.5%
- Subsidizes **residential connections** for low-income customers



Cross Subsidies Scheme

Brackets	Income
6	High income users
5	
4	Middle income users
3	
2	Low income users
1	

High income brackets

Low income brackets



Accomplishments

Residential users:

- Increased from 187,000 in 1986  4 million in 2006, **88% of whom are in the lowest income brackets.**

Small towns with access to natural gas:

- 191 to 382 in the last 6 years.

Industries:

- Annual increase of 11% in gas consumption

CNGV:

- 7.000 in 2000  150.000 in 2006

Country:

- **3 Billion USD in savings**

Conclusive Remarks

It requires
Private + Public sectors joint effort



Establishment of an
Adequate regulatory framework



Encourages private investment



Impels use of natural gas



A successful experience!



The natural gas market can be developed in an emerging economy, provided the conditions are right





REGIONAL GAS PIPELINE PROGRAM - STAGES I, II & III

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Thank you