



Catalysing the Future - Conclusions

Luis Bertrán, Secretary General of the IGU

26 May, 2017



Natural Gas: Catalysing the Future

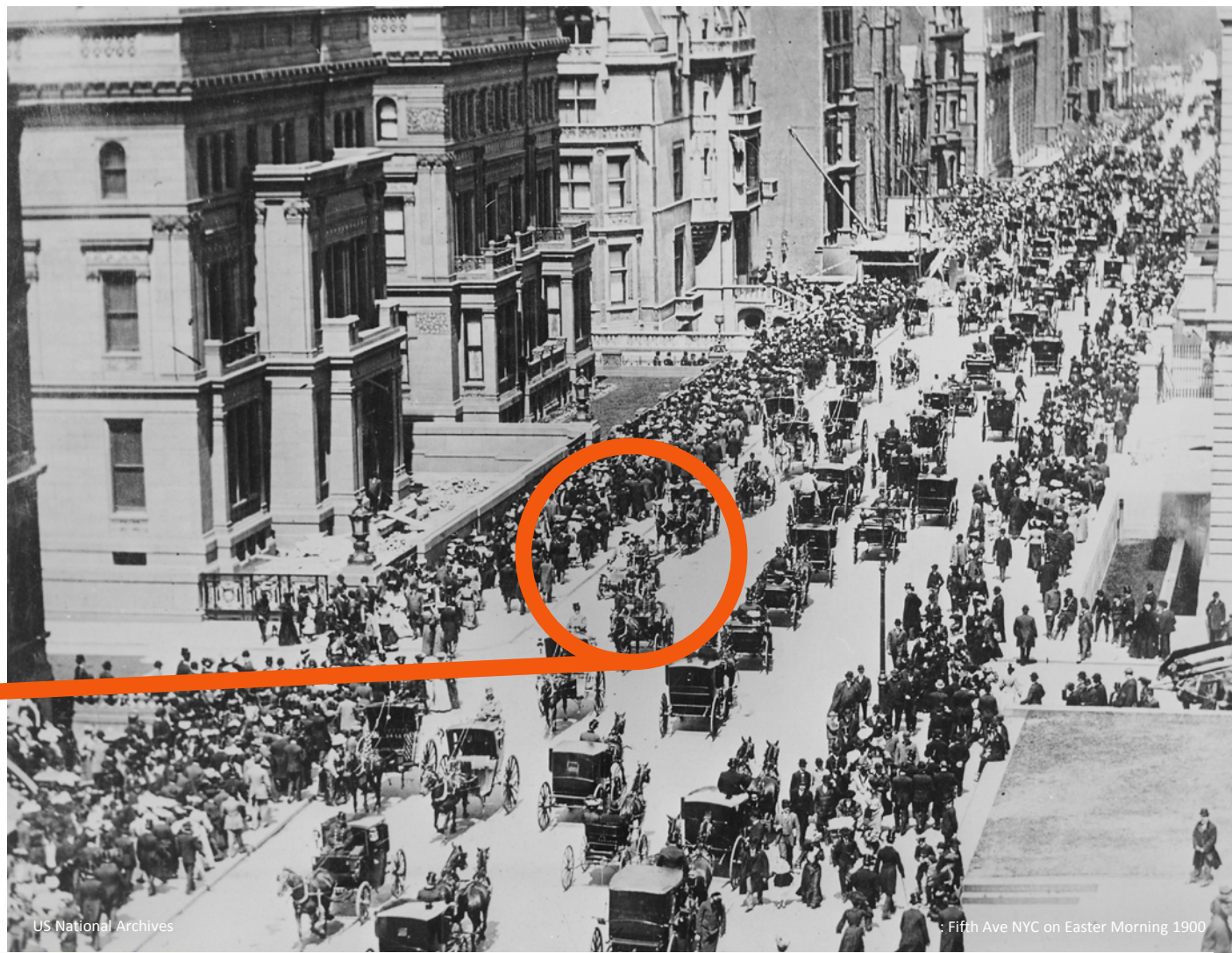
May 24-26, 2017 | Riocentro – Pavilion 5 | Rio de Janeiro | Brazil

IGRC 2017 three days debating the future of natural gas industry with leaders from around the globe



5th AVE NYC 1900

Where is
the
car?



US National Archives

Fifth Ave NYC on Easter Morning 1900

5th AVE NYC
1913

Where is
the
horse?



George Grantham Bain Collection

Photo: Easter 1913, New York. Fifth Avenue looking north.

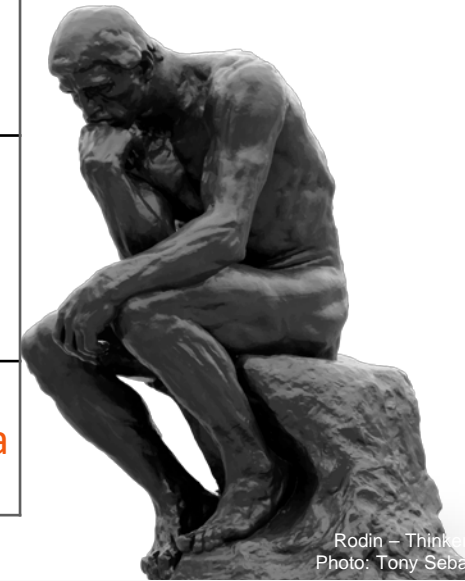
How the technologies impact in our life



Innovation Continuum



Incremental	Radical (Discontinuous)
Improvement on well defined idea / product / technology / process (%)	New idea / innovation / technology (10X)
Developed as response to existing needs or demand	Developed with aim (or hope) to create new market or to change the status-quo
There is usage and adoption data	Little or no usage or adoption data



Rodin – Thinker
Photo: Tony Seba

'Experts' Disruption Forecast

In the mid-1980s AT&T hired
McKinsey & Co to **forecast cell phone
adoption by the year 2000**

THEIR (15-YEAR) PREDICTION

900,000

SUBSCRIBERS

THE ACTUAL NUMBER WAS

109 million

They were **off**
by a factor of:

120x



Diffusion of Innovations

“It took

12 years

to reach 50 million **laptops**,

7 years

to reach 50 million **smartphones**

but only

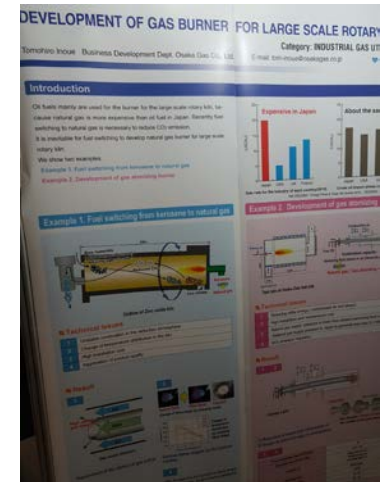
2 years

to reach 50 million **tablets.**”

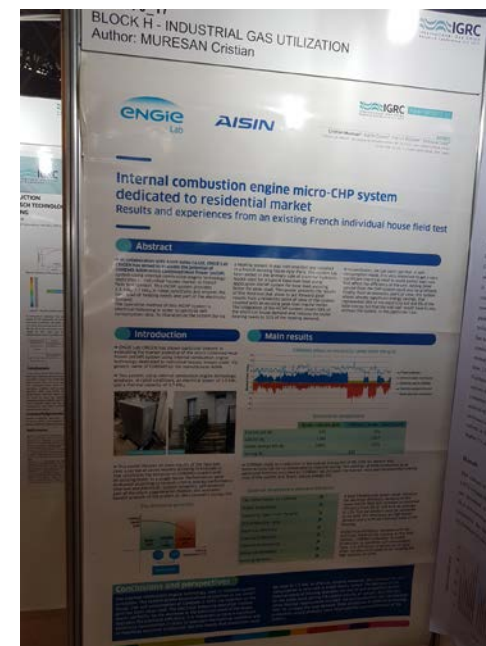
—*Andrew Trader, Co-Founder, Zynga*

**I think our development is not disruptive,
but we need to accelerate on innovation**

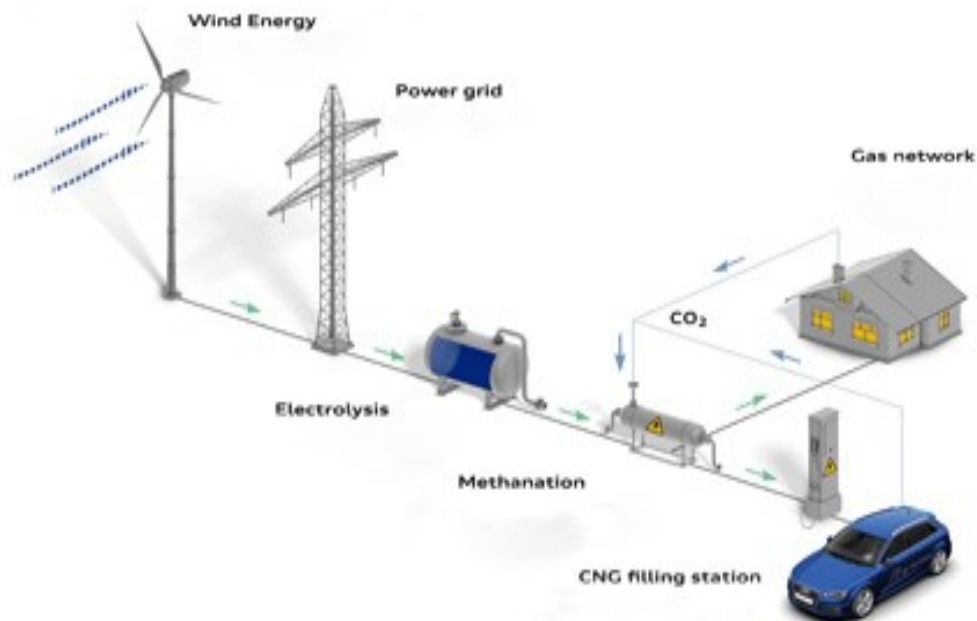
- The IGRC 2017 is the greatest global event in the natural gas industry focused on research and development
- The different sessions had demonstrated how natural combine with renewables
- Authors from more than 25 countries, distinguished speakers, have presented around 300 technical papers during this event.



Micro CHP



P2G methanation process



Energy transitions: Long term process

Energy transitions

Long and complex process

- Economically-driven
- Technology-driven
- Policy-driven

Wood → Coal → Oil →

Natural Gas + Renewables

Natural Gas → Renewables



Attract end user and social license

Learningn Thermostat



The long term starts at short term: Air quality is calling to act now



Three things to remember

- ➔ **We need more energy globally**
- ➔ **We contribute at Paris agreement**
- ➔ **Natural Gas is part of the long term sustainable energy solution**

Some take away on the event

- Technology is driving the uses of energy.
- Technology is making breakthroughs.
- Technology is making affordable new sources of energies and new mix is under development.
- Gas is providing more energy with less emissions
- Gas and renewables working together is the way which we are looking to build a sustainable future energy mix.
- Don't expect electricity asking to gas for solutions, is our responsibility providing integrated solutions
- Invite end users and technology partners to be part of the event. Add innovation and commercial items as part of the integrated technical solutions.

Next appointment in Washington



**27th WORLD GAS
CONFERENCE**
WASHINGTON DC

JUNE 25-29
2018



500
SPEAKERS



12,000
ATTENDEES



40,000m²
EXHIBITION

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SEPTEMBER 1, 2017

EARLY BIRD REGISTRATION OPENS
MAY 24, 2017

EARLY BIRD REGISTRATION CLOSSES
JANUARY 31, 2017

HOST ASSOCIATION



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Thank you for your attention!

