



# **AN ANALYSIS OF THE NATURAL GAS MARKET IN BOLONIA WITH EMPHASIS ON THE DOMESTIC/COMMERCE SECTOR**

*A Workshop Presentation by*

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*Submitted to*

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# INTRODUCTION

## Workshop Objectives

- ❖ To **analyse** the Domestic/Commerce sector of Bolonia gas market
- ❖ To **propose a business plan** for her Domestic/Commerce gas sector
- ❖ To **produce an analysis of opportunities** in this sector of the state's gas market.
- ❖ To **review the workshop**: what could have been done better, learning points.

# **PRESENTATION OUTLINE**

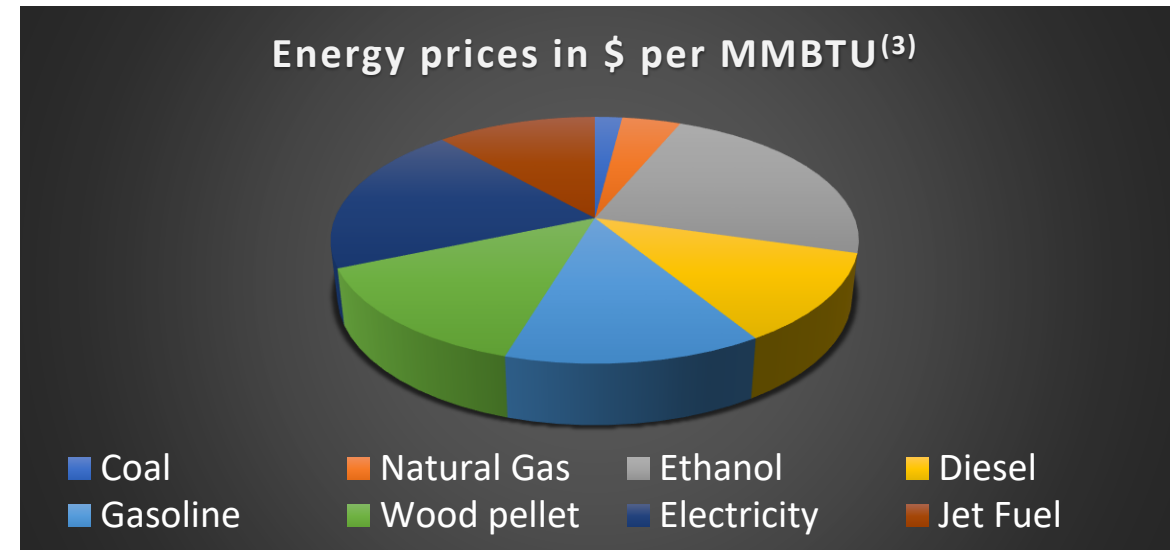
- ✓ **INTRODUCTION**
  - Workshop Objectives
- ✓ **PRESENTATION OUTLINE**
- ❖ **BOLONIA GAS MARKET ANALYSIS**
  - Natural Gas Overview
  - General Bolonia Gas Market Analysis
  - Bolonia Domestic/Commerce Gas Sector
  - Influencers/stakeholders: Government, people, politics, industries, etc
- ❖ **BUSINESS PLAN PROPOSAL FOR BOLONIA DOMESTIC/COMMERCE GAS INDUSTRY.**
- ❖ **ANALYSIS OF OPPORTUNITIES IN BOLONIA DOMESTIC/COMMERCE GAS MARKET**
  - SWOT analysis of Bolonia Domestic/Commerce Gas Sector
- ❖ **REVIEW OF THE WORKSHOP APPROACH**

# **BOLONIA GAS MARKET ANALYSIS**

# BOLONIA GAS MARKET ANALYSIS

## Natural Gas Overview

- Lightest fraction of petroleum:  $C_1 - C_4$
- Mostly composed of Methane  $CH_4$
- Several Advantages<sup>(1)(2)</sup>: **clean source of energy, less environmental footprint, abundant in nature, ease of storage and transportation, cheap<sup>(3)</sup>.**
- Few downsides<sup>(1)</sup>: **highly combustible, non-renewable, comes after coal and crude oil in GHG emission.**



## BOLONIA GAS MARKET ANALYSIS (2)

### General Bolonia Gas Market Analysis

- Gas **Market is monopolistic**; sole operator is Bolonia Power and Gas<sup>(4)</sup>.
- Gas sources are the **Central Gas Field and Big Boy Field**<sup>(5)</sup>.
- Gas accounts for **10% of source for power generation**<sup>(5)</sup>.
- Gas could **dominate coal if GCC units are used** on new power plants<sup>(5)</sup>.
- Industrial sector has the **potential to provide main market** for gas<sup>(5)</sup>.

INDUSTRY TYPE	LOAD FACTOR (%)
Brick and Earthenware Materials Manufacture	70 to 80
Motor Vehicle Production	50 to 60
Textiles	90
Pottery	90
Cement	90

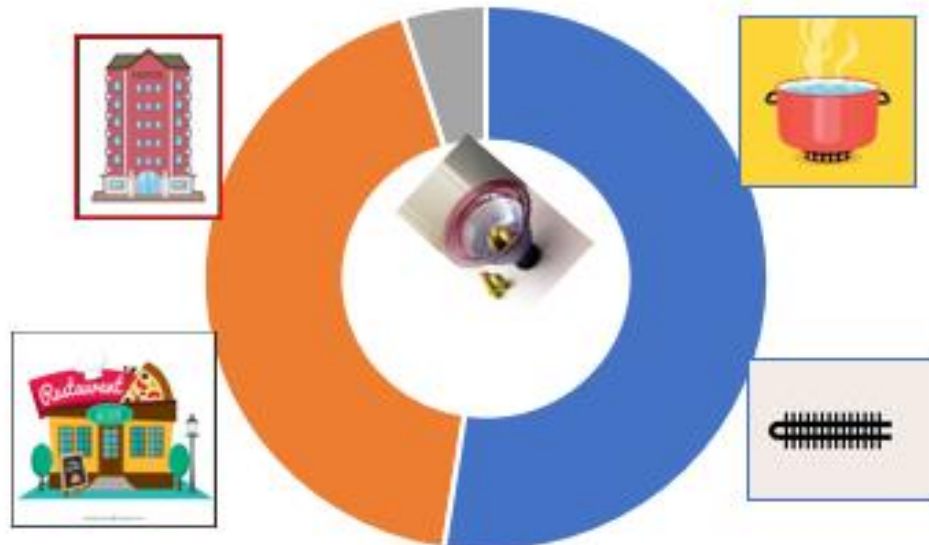
## BOLONIA GAS MARKET ANALYSIS (3)

### Bolonia Domestic/Commerce Gas Sector

- Operator: **City gas**, a subsidiary of Bolonia Gas.
- Current gas price: \$9.75/Mbtu.

#### CUSTOMER BASE

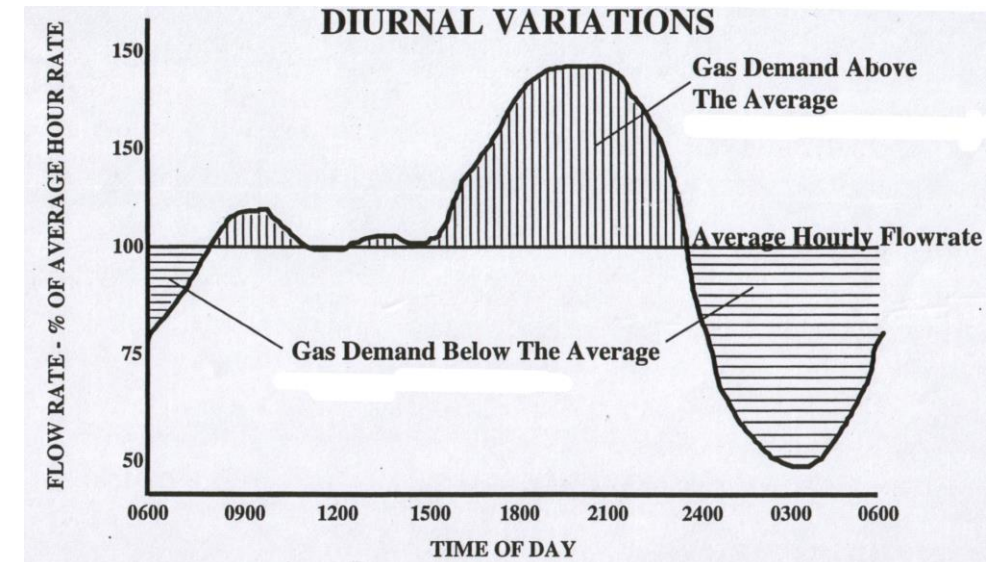
■ Domestic Sector ■ Commercial ■ Light industry



#### LOAD CHARACTERISTICS

- Eating time determines daytime variations.
- Daily load factor is 30%

#### DIURNAL VARIATIONS



Source: W. A. Wells

# BOLONIA GAS MARKET ANALYSIS (4)

## Influencers/stakeholders

### Government

- The government wants to be self sufficient.
- The government required that piped gas is supplied to all high rise buildings; a boost to gas usage in Bolonia.
- Current difficulty to invest in Bolonia can be solved if the new Government reduces state roles and allow foreign investment.

### Politics

- Bolonese have a democratic society.
- Two main parties: Social Progressive party (PPP) and Peoples reform party (PRP).
- Both parties encourage gas usage in their chemical industry.
- Industries are largely state-controlled.

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## **BOLONIA GAS MARKET ANALYSIS (4)**

### **Influencers/stakeholders (2)**

#### **Industry**

- Heavy industry, with high load factor can boost earnings from Gas.
- Heavy industry: Steel production and Ship building.
- Light industry for ornamental glass wares, jewellery and souvenirs for tourists.a

#### **People**

- 20 million in 1995
- Population growth rate of 1.5% per annum.
- 27 million by 2015.
- High growth rate signals high growth in energy demand.
- There is thus a future for Gas.

#### **Geography**

- Mileage: 30 000 square miles.
- Brown coal and iron ore in mountain region.
- Four main centres of population:
  - I. Centreville
  - II. Eastville
  - III. Westville
  - IV. Southville

# **BUSINESS PLAN PROPOSAL FOR BOLONIA DOMESTIC/COMMERCE GAS INDUSTRY.**

## **BUSINESS PLAN PROPOSAL OF FOR BOLONIA DOMESTIC/COMMERCE GAS SECTOR**

### **1. Revamp of market structure**

- **Monopoly in any industry is unfavorable.**
- **Gas and power currently run by only Bolonia Gas and Power.**
- **Industries are state-owned.**

### **2. Use of GCC units for power**

- **Gas Combined Cycle (GCC) turbines generate 50% additional electricity with the same fuel.**

### **3. Investment in Gas usage in the industrial sector**

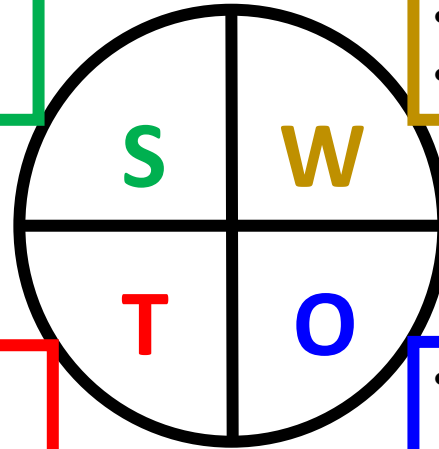
# **ANALYSIS OF OPPORTUNITIES IN BOLONIA DOMESTIC/COMMERCE GAS MARKET**

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## SWOT analysis of Bolonia Domestic/Commerce Gas Sector

- The government's support for domestic gas utilization.
- High population growth rate: 1.5%
- Infrastructure already in existence.
- Gas safer than kerosine and LPG

- Additional capacity may be needed
- City Gas must invest in appliance conversion
- Low load factor
- Diurnal variations



- Vulnerable to Gov't policy changes
- City Gas is subsidiary of BGC and thus subject to BGC policy decisions

- Increased demand for energy due to urbanisation
- High value gas sales possible due to established mechanism
- Replacement of gas oil and fuel oil in commercial sector

# **REVIEW OF THE WORKSHOP APPROACH**

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## Recommendations

- All three class members to produce **one Gas market analysis of Bolonia.**
- **One member to head each** of the three departments/sections.
- Team to provide and present **one integral report** of the Gas market analysis
- **All three students to make the presentation.**
  - ❖ Negotiations would have been possible under this scenario.
  - ❖ Better chance to work as a team.

## **REVIEW OF THE WORKSHOP APPROACH (2)**

### **Learning Points**

- **Data Analysis**
- **SWOT Analysis**
- **Public presentation**
- **Market Analysis**
- **Business Implications of Gas Engineering**



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**THANK YOU!**