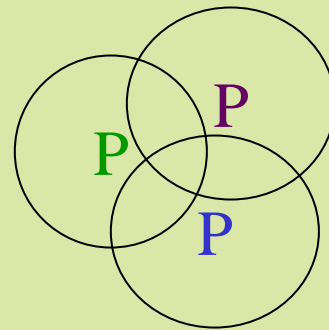


# PGC “A” Study Group A.2



## Natural Gas: The Clean Option



# Natural Gas: The Clean Option



## **CURRENT SITUATION:** Low consumption of NG

- Global Warming: GHG <<high energy demand
- Non renewable resources: Not efficiently used
- Harmful effects: << **Pollution** >> **PM** severely affect **P & P**
- Biodiversity loss: Ecosystems << Global Warming & Pollutants
- Industrial Sectors:  
Energy System>> not Sustainable or Climate Friendly
- Energy access & availability: Critical
- Fuel and energy costs: Increasing



# Natural Gas: The Clean Option



## **THE TOOL TO IMPROVE** THE CURRENT SITUATION

- Replacement of other fossil fuels  
for different and enormous numbers of applications:
  - **NGV – Transportation:** For replacing liquid fuels
  - **Domestic:** More efficient cooking – heating – cooling appliances
  - **Industrial:**  
An input for a high number of productive processes and industries
  - **Commercial:** More efficient utilization  
in shopping malls, restaurants and other premises
  - **LNG:** From regional to global fuel for convenient transportation
  - **Central Power Stations:** To generate electricity



# Natural Gas: The Clean Option



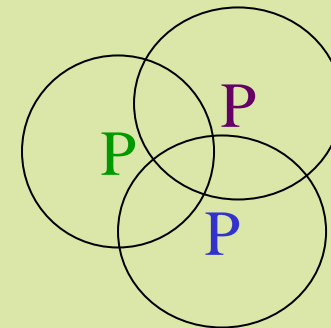
- **FUTURE SITUATION**

Sustainability Aspects: Our Three Pillars

**1. Environment - Planet**

**2. Social - People**

**3. Economic - Profit**



# Natural Gas: The Clean Option



## 1. Environment

NG: The fossil fuel with the lowest level of emissions

- ❖ CO<sub>2</sub> Reduction
  - ❖ Urban Pollutants Reduction
  - ❖ Efficient
- Use of Non-Renewable Resources  
- higher proven reserves than oil



# Natural Gas: The Clean Option



## 2. Social Aspect

- ❖ NG contributes to  
Clean air & human well-being
- ❖ NG decreases illness incidence
- ❖ NG can be used in  
Social Responsibility Programs for its contribution  
to Sustainability



# Natural Gas: The Clean Option



## 3. Economic Aspect

- ❖ **Lower Energy cost:** Price & competitiveness situation
- ❖ Strong economic **integration:** Transfer of technology
- ❖ **Global economic sustainability**
- ❖ **Carbon credits:**  
Promotes a sustainable emission reduction
- ❖ **Cost associated to illnesses**



# NGV - Natural Gas Vehicle



- **Uses**

- Automobiles; Trucks; Buses; Boats

- **Technological Options**

- Dual System: by adding devices
- Conversion: by modifying parts
- Re-powering: by full replacement of the engine
- Single fuelled or dedicated units:  
by original manufacture





# NGV - Natural Gas Vehicle



## Benefits & Advantages

- For the **People**
  - Most economic of all traditional fuels
  - Performance and efficiency are optimal
  - NGV reduces cars maintenance cost
- For the **Governments**
  - A strategic fuel due to higher reserves than oil
  - Benefits from the development of another industry
  - Improves transport, capacity & distribution



# NGV - Natural Gas Vehicle



## Reduction of combustion emissions

- GHG: reduce CO<sub>2</sub> E-relative emissions
- Particulate Material: serious health damage

## Environmental, Social and Economic Benefits

- Planet: better use of non-renew. Preservation of biodiversity
- People: a lower number of pollution related illness cases
- Profit: less spending on respiratory cases



# Natural Gas – The Clean Option



Thank you!

