



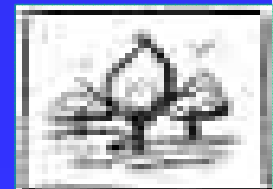
PGC “A” - Sustainable Development

Study Group A-2

Natural Gas - The Clean Option

Amsterdam, June 8th., 2006

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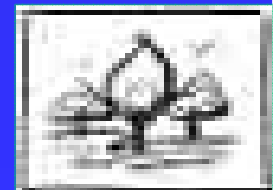
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IGU expectations



“...the needs of present generations without compromising the capacities of future generations of satisfying their own needs”

Gro Brundtland

Sustainable Development Pillars

- 🌍 Social and cultural objectives (**People**)
- 🌍 Environmental objectives (**Planet**)
- 🌍 Economic objectives (**Profit**)



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Topics analysed during 2003-2006

 Compressed Natural Gas

 Use of natural gas

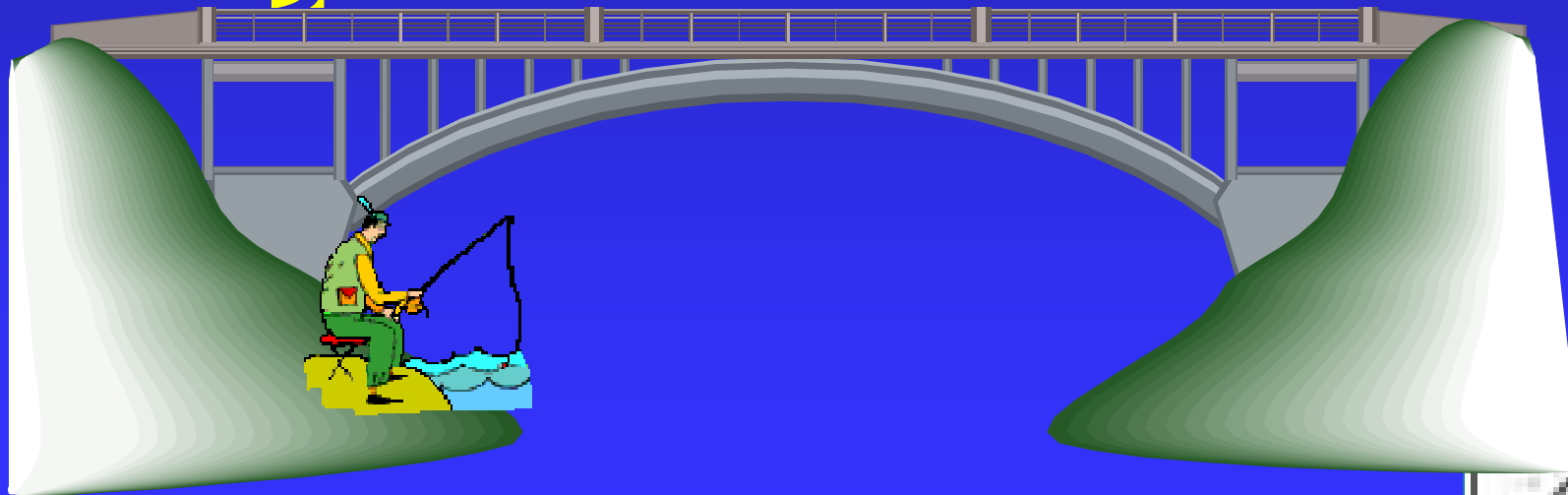
 Distributed generation

 Security of supply

 Regulations and subsidies

 Education

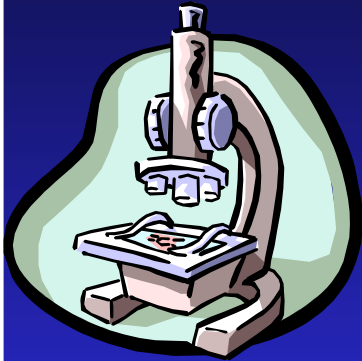
 *Hydrogen & ...*



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Compressed Natural Gas



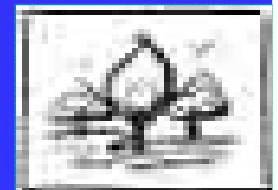
People –Real Sustainable emission reduction of pollutants contributes to **cleaner and healthier living conditions**.

Planet - Real Sustainable emission reduction of total **greenhouse** gases by 11% throughout its whole life cycle (particulates and NOx are also reduced).



Profit – Creates constant capital flow and investments in infrastructure, and facilitates regional economic **integration** avoiding pollution reduction cost.

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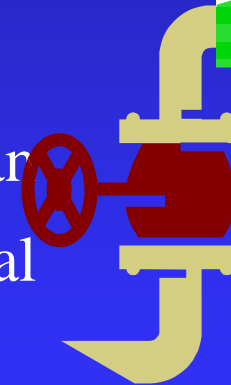
Use of Natural Gas

People – Responsible Use !!!




Planet – More efficient Natural Gas technologies in household **appliances**.

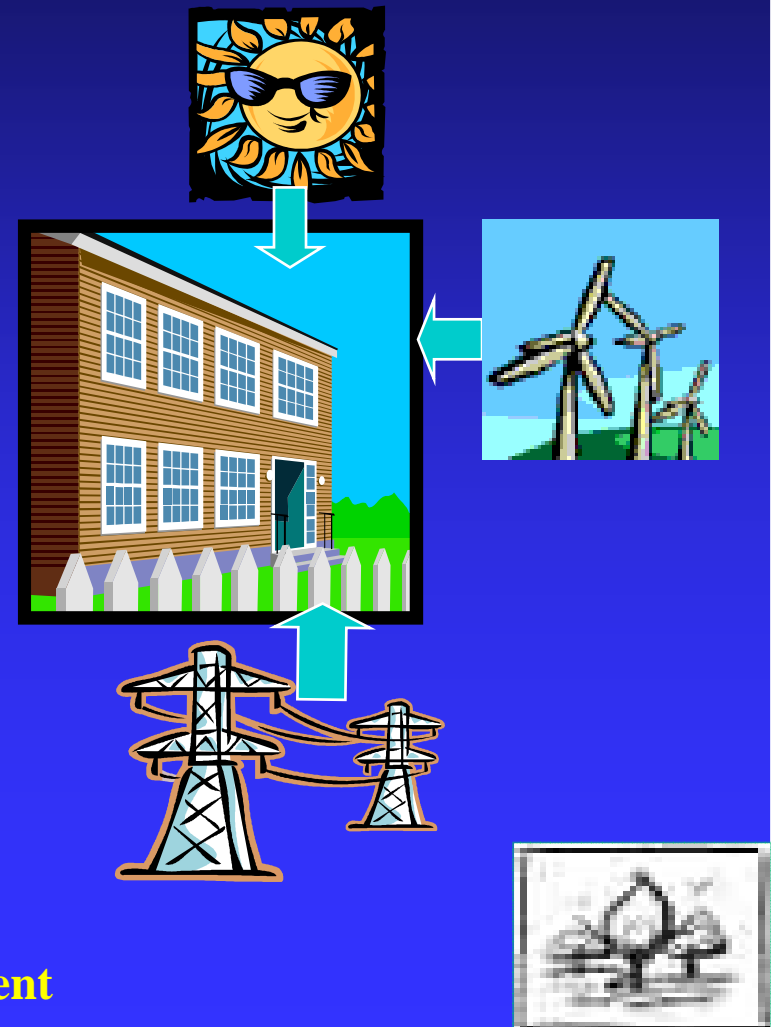
First class available technology improves home **insulation**: the “**sixth type of fuel**”.

Profit – More efficient gas technologies can reduce fuel cost and rationalise natural resources.



Distributed generation

-  **Distributed** gas based generation (micro CHP) can play a pivotal role towards introducing renewable energy in the energy system.
-  The **flexibility** of this high efficient system can handle the unstable behaviour of energy sources like wind and sun.
-  With this new technology producing heat and power in an efficient way, gas industry can take **another step** towards sustainability.



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Associated Natural Gas Basic Aspects

Security of Supply

 **40-50 years of proven reserves / CH₄ 100 times**

Regulation and Subsidies

 **Governments' role: private incentives and clear market conditions**

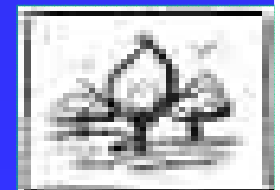
Education

 **Claiming for a sustainable world but lacking the tools and knowledge**

 **Education curricula need an urgent updating**

Hydrogen

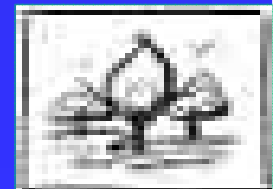
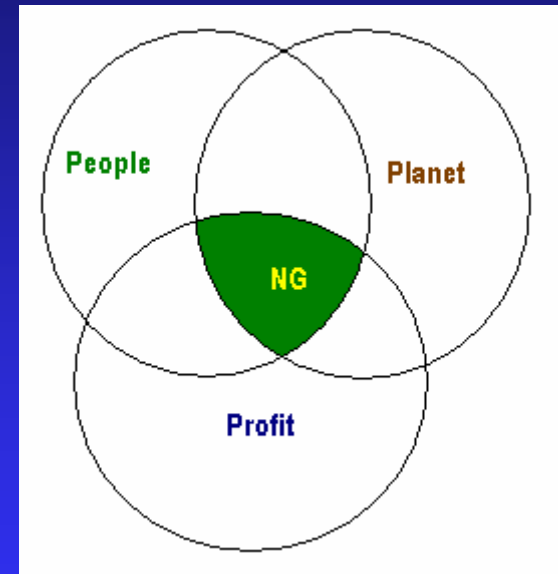
 **Long term cleanest option!!**



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Main Conclusions

- Natural Gas satisfy SD concepts
 - **People, Planet and Profits**
- Real bridge option towards other sustainable and cleaner fuels





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Argentina
2006-2009

