24th World Gas Conference, 5-9 October 2009

Strategic Panel 4: *Natural Gas and the Sustainable Question: How Many Answers Can Provide?.*

Summary of interventions from Dr. Oswaldo Lucon[1]

1. The report covers directly or indirectly most of the aspects of sustainability for natural gas, in a rather unbiased view.

2. Sustainable Development (SD)
    - is guided by principles and implies the fulfillment of several requisites: economic growth, protection of environmental quality, social equity, responsible production and consumption patterns, intergenerational rights, respect to the limited capacity of ecosystems to absorb the impact of human activities, preserving the environment for other species…
    - has over 100 definitions, the most famous comes from the report "Our Common Future" (Brundtland Commission 1987): *"meets the needs of the present without compromising the ability of future generations to meet their own needs."*
    - timeline highlights: WCED 1987, UNCED 1992, MDGs 2000, WSSD 2002

3. NG has many answers to address SD
        - cleaner than coal, oil
            - IGU report should emphasize vehicular CNG in developing countries, e.g. the use in three-wheelers in India, or replacing diesel oil in buses
        - safer overall
            - but the reports do not cover risks of accidents, which could compare NG with nuclear accidents, oil spills, dam bursts etc. LNG plants are risky and this fact has effects in locational plans
        - better than renewables in several cases
            - there are many iniciatives for certifying bioenergy; how about NG?
            - replacing LPG in urban areas, the displaced gas could be better used in remote areas
            - NG may not necessarily compete, but can promote an increased share of renewables in the world energy matrix (one of the main issues discussed at the WSSD 2002)

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4. NG still presents questionmarks
    - resource depletion: need to save NG for next generations and best uses
        - which are these best uses and which criteria to apply
        - increased reserves discoveries/exploitation require more energy, capital, technology, opening new frontiers in environmentally sensitive areas
    - more efficiency and responsible end-use
        - but campaigners often convey the idea that switching to NG allows more consumption (e.g. residential water heating) and even more emissions (NOx from power plants that displaced oil or coal, but increased the installed capacity)
        - some energy intensive industries move to where NG is, enhancing depletion (e.g. aluminium in Trinidad-Tobago)
    - less losses
        - sometimes require adequate – and costly – infrastructure (e.g. in consolidated urban areas)
    - supply or demand - what comes first
        - lack of infrastructure is a frequent “chicken and egg” problem
    - dependence of imports
        - an unresolved question of main importance for many countries and regions
        - this is a driver for coal, unsustainable fuelwood, even oil
    - how to ensure equity, especially achieving the MDGs (end poverty and hunger; universal education; gender equality; child health; maternal health; combat HIV/AIDS; environmental sustainability; global partnership)
        - some answers can be stressed in the report: access to electricity from NG, CNG in vehicles, …
        - royalties from NG, financial compensations from impacts – report does not mention
    - how to mitigate other environmental impacts
        - e.g. land occupation across pipelines (e.g. Amazon region)
        - excessive NOx emissions from e.g. inadequate vehicle conversion (a problem in Brazil)
        - water for cooling power plants, especially consumptive uses in water-scarce regions