

# How would the gas exporting countries forum influence gas trade?

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## Abstract

The cleanest burning fossil fuel, today, is natural gas. While many businesses have gone global, it has remained an exception. An impending challenge facing the industry, however, is the evolution of a cartel from the 5-year-old Gas Exporting Countries Forum. How would this new organization influence the trade of gas globally? Does its existence imply a threat to the development of gas trade? The paper reviews this fairly new organization within the context of the above questions. It is mainly a comparative study of the body in relation to OPEC's historical, political and economic development. Subsequently, the author proposes probable influence options available to the Forum and the impending consequence of such actions on the market. The outcome of this study calls for further analysis and research on new issues and questions of interest.

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## 1. Introduction

### 1.1. Background

Man's overwhelming dependence on carbon fuels for his energy needs makes the issue of their potential availability a great concern.<sup>1</sup> Fears of impending scarcity persist, as the 'depletionists' seem to have found an audience<sup>2</sup> in the ongoing debate over 'depletionism' (considered groundless and lacking in economic analysis<sup>3</sup> by this author). The nominal increase in crude oil price since 2004 has, however, given credence to analysts' assertion of change in market dynamics. According to the Venezuelan Energy minister, Rafael Ramirez, "the oil market has gone through a definitive structural change".<sup>4</sup> As demand patterns gradually respond to the changing prices, the need for an

alternative to oil has arisen. This is because some consumers eventually migrate to alternative fuels rather than remain at the mercy of oil prices.<sup>5</sup>

Natural Gas may become the chosen alternative globally. It is a clean-burning fuel used to heat homes, hospitals and schools; generate electricity and fuel industries—varying from plastics and petrochemicals to fertilizer producers. As the bridge to hydrogen fuel cells, it is powering many bus fleets and reduces CO<sub>2</sub> emissions by over 70%.<sup>6</sup> Given the higher rate of consumption, international trade in gas has significantly gained importance over the recent years.<sup>7</sup> In India, for example, gas consumption has reached about 8% of total primary energy<sup>8</sup> from a mere 4% in 2002.<sup>9</sup> Analysts are optimistic that gas '...will have a far-reaching impact on the world economy, bringing new opportunities and risks, new interdependencies and geopolitical alignments'.<sup>10</sup>

Despite this optimism, growth in gas trade has been constrained by the lack of a fully integrated global market.

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<sup>1</sup>Odell, P. (2004, p. 1, para 1).

<sup>2</sup>This is after over 22 years of peddling their argument of 'Depletionism'.

<sup>3</sup>Their view is based on a fixed stock of 'conventional' oil reserves; ignores the role of Technology, Investment and the feedback loops provided by markets. For more, on 'Depletionism', please see Stevens, P. (2004) and Bradley, R. (2004).

<sup>4</sup>Petroleum Economist, (2004, p. 2).

<sup>5</sup>Tomkins, R. (2005, p. 9, para 10).

<sup>6</sup>Peterson, J. (2005).

<sup>7</sup>L'Hegaret, et al. (2003, p. 1, first para).

<sup>8</sup>Jung, N. (2003) "Natural Gas in India." in Wybrew-Bond, I. and Stern, J (Eds.) (2003).

<sup>9</sup>IEA, (2004c, p. 269, para 4).

<sup>10</sup>Yergin, D. and Stoppard, M. (2003, p. 103).

Furthermore development of supply capacity has been slow relative to proven reserves and demand growth. Apart from economic considerations, political risk is a major reason for the low rate of investment in some countries. For instance, Venezuelan gas has remained relatively unexploited compared to its Trinidadian neighbour.<sup>11</sup> Meanwhile, huge proven gas reserves remain untapped in many other countries,<sup>12</sup> like Iran, which had over 27 tcm as at December 2004.<sup>13</sup>

Against this background the author evaluates two key issues hinged on the economics, geopolitics and security of natural gas supply<sup>14</sup>:

- The potentials of a gas cartel (like OPEC) emerging from the Gas Exporting Countries Forum (GECF) formed 4 years ago as a meeting-point for major gas producing countries.
- The mechanisms through which the Forum (cartel) can influence the emergence of a global gas market. The analysis reflects the impact of each cartel action on gas trade.

### 1.2. Relevance of study

The study is important, first, because there are fears that the Forum may become a major player in the Petroleum Industry. It may replicate OPEC's role in the global oil (energy) market by influencing gas prices and security of supply in the future. The work shows the extent to which OPEC may serve as the Forum's model, given that some OPEC member-states have already joined.

The paper is pertinent because it cautions against the prevalent complacency exhibited by scholars and especially consumers (gas-importing nations) on this issue. Unfortunately, most experts and market analysts, "who, in the 1970s, could see no end to the sellers' market, today can see no prospect of a return to it".<sup>15</sup> Third relevance is the likely consequences of such a group on the world political economy: what diplomatic and economic relations would result between gas exporters and importers? Already, concerns do exist that global gas supply may not match demand, as major consuming nations become net-importers.<sup>16</sup> Finally, this work is important because the author considers the world gas market today palpably different from that discussed in many gas textbooks and articles published before 1990.

### 1.3. Methodology, scope and structure

The Paper shall be approached as a comparative analysis. Comparisons are drawn mainly from OPEC and

other commodity cartels (sometimes). Emphasis shall be on the formative stages of the Forum in relation to OPEC's evolution and *modus operandi*. The author appreciates that no two cartels are the same but 'they are all historical individuals, who change overtime'.<sup>17</sup> Although, there is no consensus among Economists on whether OPEC is a cartel or not,<sup>18</sup> this study would *not* delve into the 'OPEC-Cartel argument'.

A brief on the economic theory of collusion is presented in Section 2 as part of the framework for analysis. Section 2 dwells mainly on the cartel question. Precisely, it captures OPEC's history and its role in the oil market as a basis for analyzing the Forum within the gas industry. It looks specifically at the history of OPEC in respect of its pricing behaviour. The subsequent sub-sections explore the gas industry in relation to the oil industry; the Forum's history; prospects and constraints of 'cartelization'. The third section presents the likely influence path of the Forum with sound justifications for such likely actions. It subsequently concludes the article by highlighting the consequences of these actions on the evolving global gas market.

## 2. GECF and the cartel question

Historically, keen efforts were made to cartelize several internationally traded commodities like tin, coffee, cocoa, tea, copper, diamond and oil. Some were unsuccessful while others (uranium, bauxite and diamond) have enjoyed varying degrees of success.<sup>19</sup> In this sub-section, therefore, the gas cartel question is covered in a comparative analysis.

### 2.1. Basis for analysing the forum

#### 2.1.1. Economic theories of collusion<sup>20</sup>: an overview

This sub-section briefly gives insight of what a cartel is and also serves as a framework for evaluating the Forum.

Generally, a cartel is defined as "a combination of producers or sellers that join together to control a product's production or price."<sup>21</sup> Therefore, a cartel may be formed by various producers or sellers in the form of private firms or governments or a mixture of both.<sup>22</sup> Although other reasons may be adduced for collusion, the economic consequences are basically similar to those of a monopolistic industry.<sup>23</sup> Because members have the strategic option of either cheating or complying,<sup>24</sup> cartels are more fragile than monopoly, but also, more damaging to society.<sup>25</sup>

<sup>17</sup>Adelman, M.A. (1993, p. 417).

<sup>18</sup>Alhajji, A.F. and Huettner, D. (2000, p. 1152, para 4).

<sup>19</sup>Besanko, D., et al. (2004) example 6.4 on p. 213, last para.

<sup>20</sup>This relates only to Cartel Theory.

<sup>21</sup>Garner, B.A. (Ed.) (1999).

<sup>22</sup>Desta, M.G. (2003).

<sup>23</sup>Blair, R.D and Kaserman, D.L. (1985, p. 132, para 2).

<sup>24</sup>Parkin, M. (2000, p. 297, para 3).

<sup>25</sup>See Blair and Kaserman *supra* note 23 at p. 133, para 1.

<sup>11</sup>Webb-Vidal, A. (2005, p. 11, para 7).

<sup>12</sup>Economist (2004).

<sup>13</sup>B.P. (2005).

<sup>14</sup>Subsequently, it is referred to as *the Forum*.

<sup>15</sup>Tucker, P.W. (1986) "The natural gas market: The cyclical process."

In: Stevens, P. (Ed.) (1986).

<sup>16</sup>Banerjee, N. (2004).

From the economic literature, four characteristics of a cartel can be deduced. A cartel influences the market by

- Having a small number of sellers/producers with a significant share of the market.
- Deterring entry of new producers at the fringe by various means.
- Controlling available capacity (supply) and capacity expansion by assigning quotas to its members.
- Enforcing these quotas with the principal aim of controlling price; maximizing revenue; and maintaining/increasing market share.<sup>26</sup>

This theoretical outline would be applied in subsequent discussions on OPEC and the Forum so as to understand their behaviour.

### 2.1.2. OPEC

*2.1.2.1. Brief history.* The above perspective projects OPEC as a cartel but it has lacked one major characteristic or the other at various stages of its existence. This explains why it has been variously described as the ‘Redundant’, ‘Effective’ or ‘Defected’ Cartel.<sup>27</sup>

A comprehensive and generally accepted exposition on its nature and behaviour has remained illusive and controversial among economists. The author, however, considers the argument unnecessary within the scope of this work, and therefore emphasizes OPEC’s fiscal, pricing and production policies relevant to subsequent analysis.

*Formation:* The oil market before 1960 had two forms of cartel arrangements that controlled either price, production volume or both at different periods.

The first was a group of vertically and horizontally integrated IOCs. They included the Seven Sisters<sup>28</sup> and CFP.<sup>29</sup> The second cartel arrangement was formed within the US by individual state governments to ration production quotas. Although domestic, their influence and impact had consequences on the international oil market.<sup>30</sup> These two groups set the foundation—reason and structure—on which OPEC was formed.

In September 1960, Iran, Iraq, Kuwait, Saudi Arabia and Venezuela formed OPEC to restore oil price back to its pre-cut level (i.e. to defend crude oil price).<sup>31</sup> OPEC’s primary mission, among others, is to realize oil price stability at a reasonable level and in fairness to both producers and consumers. It, however, gives priority “at all times to the interest of oil-producing nations and to the necessity of securing a steady income for them...”<sup>32</sup>

*2.1.2.2. Oil market and OPEC pricing.* The nature of the oil market has ensured OPEC’s ability to regulate and influence price. Historically, in the late 1970s there were few spot market transactions and price determined rigidly through OPEC’s announcements.<sup>33</sup> These prices also formed the basis for long-term contracts.

In the early 1980s, however, more Petropreneurs entered the market as nationalization changed the structure of the IOCs. Gradually the market became more transparent as arms length transactions increased. The Spot market expanded and more liquidity was created to manage trading risk. Term contracts were then indexed to spot prices. Hence, OPEC’s grip became weak as it attempted to regain control after the second Oil shock.<sup>34</sup>

Thereafter, in 1982 OPEC introduced the quota system for rationing production volumes. Its price-fixing powers were greatly destabilized after the introduction, in March 1983, of NYMEX futures contract.<sup>35</sup> Together with the IPE Brent Futures, they served as instruments for price-risk management. These derivatives are more sophisticated now and are used to mobilize funds for oil projects. Despite the effect of Saudi’s policy change on the market (1986 oil price crash) OPEC still uses the quota system till date.

In April 2000, OPEC nations signed the ‘gentlemen’s agreement’ to maintain a range of prices within \$22–28 per barrel.<sup>36</sup> The 2004 oil-price upsurge has raised new questions on OPEC’s ability to manage oil prices. At present, an interaction of OPEC supply manipulation and market forces at the various oil Exchanges<sup>37</sup> determine crude oil prices.

The above history of OPEC shows that the organization did not suddenly become relevant in the oil industry. Starting from the Maadi Pact in Cairo April 1959 through its actual formation on 14 September 1960,<sup>38</sup> it underwent an evolutionary process to become what it is today. Its metamorphosis was enhanced by various political and market factors; technological innovations; commitment of some member-countries (like Saudi Arabia), and strategic policy changes. Oil, also, did not become a globally traded commodity suddenly, but rather developed over time to become the most important energy market in volume and global penetration.<sup>39</sup> Within this context and framework, the potentials of a gas cartel be considered below.

<sup>33</sup>Gately G. (1984, pp. 1101–1112).

<sup>34</sup>See Alhajji *supra* note 18.

<sup>35</sup>Ait-Laoussine, N. (2002).

<sup>36</sup>Economist (2000).

<sup>37</sup>These are the New York Mercantile Exchange (NYMEX, <http://www.nymex.com>), the International Petroleum Exchange in London (IPE, <http://www.ipe.uk.com>) and the Singapore International Monetary Exchange (SIMEX, <http://www.simex.com.sg>).

<sup>38</sup>See Claes *supra* note 27 at p. 61, para 1.

<sup>39</sup>Adelman, M.A. and Lynch, M.C. (2004, p. 809, para 1).

<sup>26</sup>See Alhajji *supra* note 18 at p. 1153, para 5.

<sup>27</sup>Claes D.H. (2001).

<sup>28</sup>They were Jersey (Exxon), Socony-Vacuum (Mobil), Standard of California (Chevron), Texaco, Gulf, Royal Dutch/Shell and B.P.

<sup>29</sup>Yergin D. (1991, p. 503, para 2).

<sup>30</sup>Danielsen, A.L. (1982).

<sup>31</sup>See Yergin *supra* note 29.

<sup>32</sup>OPEC at OPEC at <http://www.opec.org>.

## 2.2. Is an OPEC for gas likely?

This question is answered by analysing the history of the Forum on the basis of the evolutionary trends of OPEC, as well as, the oil and gas markets. Beginning with its history; the constraints and prospects for collusion are subsequently explored.

### 2.2.1. History of GEFCF

Algeria tried, in the early 1980s, to create a Forum of gas exporters. The US State Department, however, lobbied its allies and the Algerian effort failed.<sup>40</sup> Gas exporting countries have created a Forum for their interest through dialogue and sharing of information. They aim to build more cooperation among gas producers and consumers.

The Forum had its inaugural session in May 2001 in Tehran. In attendance were Algeria, Brunei, Indonesia, Malaysia, Nigeria, Norway (as observer), Oman, Qatar, Russia, Trinidad and Tobago, Turkmenistan and Iran.

Algeria hosted the second session in February (1st and 2nd) 2002. At this meeting the Forum's membership expanded to include Bolivia, Egypt, Libya, and Venezuela.<sup>41</sup>

In September 2002 at Osaka, after a mini-summit, the Forum declared its intention to contribute towards "...stable and transparent energy markets for the health of the world economy, security of supply and demand, and the expansion of the global trade in energy sources".<sup>42</sup>

In Doha, Qatar, on 4 February 2003, a third session of the Forum was held.<sup>43</sup> The Forum, which operates a rotary presidency, held a Ministers Summit in March 2004 and decided to establish an executive bureau.<sup>44</sup> This was set-up by the end of June 2004 and announced in Egypt during the fourth (general) session in July 2004.<sup>45</sup> Trinidad and Tobago hosted the fifth session of the Forum in April 2005. The sixth Ministerial Meeting has been scheduled to hold in Venezuela on a date to be fixed by the Executive Bureau.<sup>46</sup>

At the session in Trinidad and Tobago, the Ministers discussed and endorsed the General Framework and Structure<sup>47</sup> of the Forum. Also agreed, was the establishment of a Liaison Office in Qatar to facilitate the affairs of the Organization. The Liaison Office is also expected to conduct researches, maintain records of models and ongoing studies, as well as, ensure exchange of information among Member-countries.<sup>48</sup>

The Forum, among other objectives, intends to eliminate constraints hindering global gas trade by designing uniform pricing rules for long-term contracts. The group also aims to 'co-ordinate their interests' in the gas industry.<sup>49</sup> Algeria was chosen, at the April Meeting, to spearhead the development of a gas supply and demand model.<sup>50</sup> The model would be kept at the Liaison Office for market analysis.

Meanwhile, Egypt has already presented, to the executive bureau, a uniform pricing formula that would de-link gas contract pricing from oil prices. Also expected is the strategy for price fixing over a period and subsequent periodic review.<sup>51</sup> The Egyptians claim the formula would aid producers in planning ahead; save consumers from price fluctuations and ensure stable cash-flows for banks' project evaluation.<sup>52</sup> When adopted it may be used uniformly by members of the Forum<sup>53</sup> and could result in a transition from netback pricing.<sup>54</sup> Against this background, Qatar's Deputy Premier has said that the Forum does not intend to control gas prices by restricting production.<sup>55</sup>

Does this mean that the Forum would fix gas prices? Initially OPEC used the method of announcing crude oil prices in the 1970s.<sup>56</sup> Would the Forum do the same now?

While the above questions are considered in the next section, the Forum appears advantageously positioned to learn from OPEC's successes and failures.

### 2.2.2. Prospects

Like in OPEC, the Forum's member-nations are united by a common interest—their status as gas-producers and the resultant motivation to maximize revenues from exports. The following factors, also, enhance the potentials for its transformation to a market-controlling cartel:

**2.2.2.1. Russian factor.** Russia is the world's largest producer of gas and has about 30% of global proven gas reserve. Iran has 15% and Qatar 9%.<sup>57</sup> The EU (including the 10 new members) gets 40% of their gas imports from the FSU. Specifically, some European Countries—Finland and the Baltic States—rely solely on Russian gas.<sup>58</sup> The Russian OAO Gazprom also transports and sells Turkmen, Kazakh and Uzbek gas resources.<sup>59</sup> In partnership with national gas companies in its target market, Gazprom has, also created various downstream affiliates. Its incumbent

<sup>49</sup> Associated Press (2005).

<sup>50</sup> See Ministry of Energy *supra* note 46.

<sup>51</sup> Devi, S. (2004).

<sup>52</sup> Energy Intelligence Group (2004).

<sup>53</sup> A source in the Egyptian Energy Ministry claims a Member-nation of the Forum used the Price Formula in a recently signed contract.

<sup>54</sup> Please see author's forthcoming paper on this issue "An examination of LNG Pricing".

<sup>55</sup> See Aberdeen *supra* note 44.

<sup>56</sup> Griffin (1982).

<sup>57</sup> IEA (2004b, p. 288, para 1).

<sup>58</sup> Perner, J. and Seeliger, A. (2003, p. 23, para 4).

<sup>59</sup> Nazarov (2004, p. 1, para 1).

<sup>40</sup> Davis, J.D. (1984, p. 264, para 3).

<sup>41</sup> CDA (2002).

<sup>42</sup> Global Gas Reporting (2003).

<sup>43</sup> Khelil C. (2003).

<sup>44</sup> Aberdeen Press, (2004, p. 24).

<sup>45</sup> PRAVDA RU. (2004).

<sup>46</sup> Ministry of Energy and Energy Industries, Trinidad and Tobago (2005).

<sup>47</sup> This includes three operational levels: Ministerial Meeting; Executive Bureau and Experts Meeting.

<sup>48</sup> See Ministry of Energy *supra* note 46.

position in the European and East Asian markets is quite strategic and China and Japan are gradually competing for gas supplies from Russia.<sup>60</sup>

Russia's reserve size, market share and geographic position are quite important considering the unstable and hostile nature of some gas-rich countries like Iran<sup>61</sup> and Saudi Arabia. It invariably creates the opportunity for Russia to be either the price leader or swing-producer in the Forum like Saudi Arabia is in OPEC. The inclusion of Russia is very important to the transformation of the Forum into a Cartel. Russia also attended the Forum's fifth Session held on 26 April 2005 in Trinidad and Tobago.<sup>62</sup>

These facts may not imply that an OGEC will emerge, but they do, however, directly enhance the prospects. This assertion is logical considering the political and economic nature of energy-yielding commodities. At present, gas is a geopolitical weapon used by Russia within the FSU.<sup>63</sup> Sighting refusal to accept new prices and "lack of payments," as reasons, the Kremlin, via Gazprom, shut off gas supplies to Belarus, Ukraine, Georgia and Armenia severally because of domestic or foreign policy differences with these countries. Arguably, it appears the Kremlin has "decided that everyone not part of the Russian sphere will have to pay market prices for gas"<sup>64</sup> Worth emphasizing, however, is the fact that neither Russia nor the Kremlin made any political demands on Ukraine during the recent January 2006 gas row.<sup>65</sup> It managed to mend ties with its longtime regional rival, Turkey, and in 2001, Gazprom linked Russia's Stavropol region to the Turkish capital of Ankara via the "Blue Stream" pipeline. Turkey is therefore, a major Russian gas client, while additional pipeline plans with Armenia and Iran are also progressing. In recognition of this, the strengthening of energy dialogue with Russia, therefore, has remained a priority in the EU's foreign policy.<sup>66</sup>

**2.2.2.2. Demand.** It is projected that, between 2002 and 2030, global energy demand would expand by almost 60%. Gas consumption, would also, increase by 90%. Then gas share of total primary energy would increase to 25%.<sup>67</sup> More than 40% of the incremental increase in global energy consumption would be driven by power generation demand.<sup>68</sup> Power generation would, also, account for 59% of the increase in gas demand.

The present and potential demand for gas is inducing the oil majors to investment more in gas projects even without fully securing sales contracts for the entire projects'

volumes. Given demand, they intend to capture end-user markets. It may be recalled that investments in multi-billion dollar oil fields also developed in a similar pattern. The resultant infrastructure and producing capacity later enhanced OPEC's nationalization policy and subsequently, market power.

The emergence of a cartel in any commodity market is predicated on the existence of sufficient demand to enable the cartel operate on the inelastic part of the market demand curve. Whether the Forum would capitalize on the demand situation at the appropriate developmental stage of gas markets is, arguably, predictable.

**2.2.2.3. Reserve factor and market share.** At the current production rate, global proven reserves of gas (5501 Tcm) would last for 60 years compared to oil's 40 years.<sup>69</sup> The Forum's member-countries own 78.9% of global gas reserves and contribute 55.6%<sup>70</sup> of international gas production as against OPEC's 75% and 40%, respectively for oil.<sup>71</sup> Although gas is more dispersed regionally, compared to oil, the overall distribution of gas reserves is more concentrated. Hence, globally Iraq and Saudi Arabia own 36% of proven oil reserves, while 45% of gas is owned by Russia and Iran. Qatar has the world's largest single gas field<sup>72</sup> with a size that equals total oil reserves of all North and South American countries.<sup>73</sup>

Despite overhauling oil steadily, gas proven reserves are over two thirds of oil.<sup>74</sup> Considering the above, the Forum may exercise more influence in the market than OPEC does at present if it becomes a cartel. A cartel's ability to impact on the market situation actually depends on its spare capacity and cost variable (mainly). These variables,<sup>75</sup> however, also depend on the reserve size and reserve factor. Specifically, the costs of exploration and exploitation are inversely related to the reserve size and reserve factor.

**2.2.2.4. Policy inclination.** The Forum is made up of OPEC member nations<sup>76</sup> and other gas producing countries.<sup>77</sup> Coincidentally, 50% of proven gas reserves are in developing countries,<sup>78</sup> and most of the Forum's member-countries fall into this category. Many (if not all) of them rely on natural resources as the main revenue earner (like in OPEC).<sup>79</sup> Hence, the desire to continually maximize benefits from economic rent seems a common objective like in OPEC.

<sup>60</sup>See Aberdeen *supra* note 44.

<sup>61</sup>See Webb-Vidal *supra* note 11.

<sup>62</sup>Coy, P. and Bush, J. (2005, p. 36).

<sup>63</sup>Agoulnik, A. (2004).

<sup>64</sup>Reynolds, P. (2006).

<sup>65</sup>Stern, J. (2006).

<sup>66</sup>Eubusiness (2005).

<sup>67</sup>See IEA *supra* note 57.

<sup>68</sup>Williams, B. (2003).

<sup>69</sup>Thomlinson, D. et al (2004).

<sup>70</sup>See BP *supra* note 13.

<sup>71</sup>OPEC at OPEC at <http://www.opec.org/homepage/frame>.

<sup>72</sup>The giant North Field has over 25, 770 bcm or 164 bn barrels of oil.

<sup>73</sup>Abi-Aad, N. (2005, p. 19, para 2).

<sup>74</sup>Tempest P. in Conant M.A. (Ed.) (1986).

<sup>75</sup>Spare capacity and cost.

<sup>76</sup>They include Algeria, Indonesia, Iran, Libya, Nigeria, Qatar and Venezuela.

<sup>77</sup>Rahman, M. (2004).

<sup>78</sup>See Tempest *supra* note 74.

<sup>79</sup>See Alhajji *supra* note 18 at p. 1157, para 3.



Apart from the common socio-economic problems and revenue needs, they all face the problem of limited infrastructure.<sup>80</sup> Inadequate transport facilities can be overcome through the use of asset swaps between two or more exporters. For example, in 1999, Trinidad exported 1.3bcm of LNG to the US and 0.75bcm to Spain. Similarly, Qatar exported 0.60bcm of LNG to the US and 0.84bcm to Spain.<sup>81</sup> Using asset swap, some shipping capacity would have been created if Trinidad had supplied the total volume for US market and Qatar the Spanish market. They would have also saved significant shipping cost and freed up shipping capacity for uncommitted gas trade.

These common problems and interests are quite fundamental and strategic for gas-producers to agree on. It, therefore, becomes easier to formulate and direct policies for the mutual benefit of members under a cartel situation. Within this context though, they differ with regard to gas production capabilities, reserves size, the role of gas in their economies, and the markets they sell into. This diversity of interests and motivations may sometimes create the potential for conflicting interests, as has been seen over the years in the oil markets with OPEC.<sup>82</sup>

**2.2.2.5. Technological advancement and increased appliance stock.** Technological innovation is contributing to the reduction in exploration, production and transportation costs. Essentially, as an energy-source becomes relatively cheaper, at a certain price level and fixed appliance stock, its industry demand curve becomes inelastic.<sup>83</sup> Therefore, as the stock of gas-using appliances (for electricity, manufacturing, heating and transportation) increases its demand would become price inelastic.<sup>84</sup>

There are projections that gas consumption would exceed coal within the next 5 years.<sup>85</sup> CCGT and CHP would contribute most to the increase in gas-using appliance stock, considering its low capital costs, construction lead-time and low economies of scale.<sup>86</sup> Combined heat and power plants<sup>87</sup> are becoming the trend especially in Western Europe.<sup>88</sup> In Cairo, fuelling stations are springing up to serve motorists with compressed natural gas (CNG)<sup>89</sup>. These developments would, obviously, give gas-producers leverage to manipulate price. Recall that the United States' increased demand for oil in the 1950s and 1960s pump-primed the industry to its greatest heights-

'Good Old Days'.<sup>90</sup> This, subsequently, indirectly though, contributed to the emergence of OPEC.

When the Forum's costs become lower through better technology relatively, it can reduce price enough to create inelastic demand for its gas. Low cost is a vital advantage that Middle East OPEC member-nations enjoy. The rate of technological developments in the use of gas would likely increase, as was the case between 1900 and 1950 for oil.<sup>91</sup>

**2.2.2.6. Quota system.** Unlike OPEC, historically, commodity cartels fix production/sales quotas for their members from inception.<sup>92</sup> Like the infant OPEC, the Forum is yet to fix quotas for its members but rather aims to promote market stability, transparency and security of supply. If supply security is the prime interest of gas-importing countries, what might the key interest of gas-producing nations be?

The Forum's objective implies increasing revenue. This may be achieved simply through a high price regime. It may also be achieved through the extensive development of an organized sellers' market and a relatively stable price. Clearly, market development and price stability is propelling gas investments, as well as, demand. Gas importing countries can not continue to swallow the Forum's claims in the face of all this evidence. It is similar to the American's belief of the Saudi's oil supply assurances. These myths are "part of a larger myth that the world is running out of oil".<sup>93</sup>

### 2.2.3. Possible constraints to 'cartelization'

Despite the above prospects, the following constraints can significantly restrain the Forum from attempting to control the market:

**2.2.3.1. Concentration of membership.** This implies the number of gas-producing nations in the Forum. The higher the number, the more difficult it would be to agree on a policy issues. Similarly, information flow, policy co-ordination and interest reconciliation would be complex and time consuming. This is, especially so, because their gas industries (and markets) are at different levels of development. Such divergence in circumstances would affect policy-making. This issue is, unfortunately, complicated by the scattered distribution of proven gas reserves around the world<sup>94</sup> as is evident in Table 1 below.

It is worth emphasizing, however, that OPEC has almost the same number of member-countries as the Forum. OPEC had five<sup>95</sup> founding member-countries<sup>96</sup> but the number later increased, over the years, to 13.<sup>97</sup> Despite the reduction in

<sup>80</sup>Okogu, B.E. (2005, p. 20, para 3).

<sup>81</sup>Okogu, B.E. (2005, p. 21, para 2).

<sup>82</sup>Datamonitor (undated).

<sup>83</sup>See Danielsen *supra* note 30.

<sup>84</sup>This would hold only in the short and medium terms.

<sup>85</sup>IEA (2002b, p. 117, last para).

<sup>86</sup>See IEA *supra* note 57.

<sup>87</sup>These plants are mostly gas-fired. They use waste heat for further industrial processes or space heating with over 70% efficiency.

<sup>88</sup>See Abi-Aad *supra* note 73 at p. 17, para 5.

<sup>89</sup>PM Communications, p. 2, para 1, at PM Communications, p. 2, para 1, at <http://www.pmcomm.com/globalgas/introduction.htm>.

<sup>90</sup>De Vany A.S. and Walls D.W. (1995).

<sup>91</sup>See Tempest *supra* note 74.

<sup>92</sup>See Alhajji *supra* note 18, Section 3.1; p. 1153.

<sup>93</sup>Adelman, M.A. (2004, p. 21, last para).

<sup>94</sup>SPE Int'l (2004a).

<sup>95</sup>They were Iraq, Iran, Kuwait, Saudi Arabia and Venezuela.

<sup>96</sup>OPEC (2002).

<sup>97</sup>The eight new entrants were Qatar in 1961; Indonesia and Libya in 1962; UAE (formerly Abu Dhabi) in 1967; Algeria in 1969; Nigeria in 1971; Ecuador (1973–92) and Angola (1975–94).

Table 1  
Proven reserves of natural gas and 2004 production for the GECF

Countries	Proved	Reserves	R/P ratio	Gas production <sup>a</sup>		2004
	End 2004 (Tcm)	Share of total (%)		2004 (Bcm)	Change 2004 over 2003 (%)	Share of total (%)
Bolivia	0.89	0.5	<sup>b</sup>	8.5	49.6	0.3
Trinidad & Tobago	0.53	0.3	19.2	27.7	12.0	1.0
Venezuela	4.22	2.4	<sup>b</sup>	28.1	11.5	1.0
Russian Federation	48.00	26.7	81.5	589.1	1.8	21.9
Turkmenistan	2.90	1.6	53.1	54.6	−0.9	2.0
Iran	27.50	15.3	<sup>b</sup>	85.5	4.9	3.2
Oman	1.00	0.6	56.5	17.6	6.7	0.7
Qatar	25.78	14.4	<sup>b</sup>	39.2	24.8	1.5
Algeria	4.55	2.5	55.4	82.0	−1.0	3.0
Egypt	1.85	1.0	69.1	26.8	7.5	1.0
Libya	1.49	0.8	<sup>b</sup>	7.0	9.3	0.3
Nigeria	5.00	2.8	<sup>b</sup>	20.6	7.3	0.8
Brunei	0.34	0.2	28.3	12.1	−2.0	0.4
Indonesia	2.56	1.4	34.9	73.3	0.7	2.7
Malaysia	2.46	1.4	45.7	53.3	4.0	2.0
Forum's	129.07	71.9		1126.0		41.8
Total world	179.53	100.0	66.7	2691.6	2.8	100.0
Of which: EU 25	2.75	1.5	12.8	215.2	1.6	8.0
OECD	15.02	8.4%	13.7	1098.6	0.4	40.8
FSU	58.51	32.6%	78.9	741.3	2.5	27.5

Notes: *Proved reserves of natural gas*—Generally taken to be those quantities that geological and engineering information indicates with reasonable certainty can be recovered in the future from known reservoirs under existing economic and operating conditions.

*Reserves/Production (R/P) ratio*—If the reserves remaining at the end of any year are divided by the production in that year, the result is the length of time that those remaining reserves would last if production were to continue at that level.

Source of data: BP's Statistical Review of World Energy 2005.

<sup>a</sup>Excluding gas flared or recycled.

<sup>b</sup>Over 100 years.

OPEC's membership to 11, with the exit of Gabon and Ecuador, arguments, problems and divergent interests have remained over the years.<sup>98</sup> The Forum, on the other hand, started with 11 member-countries but its membership was also increased to 15 at the third session. Actually, only 11 member-countries and two observer-nations attended its last session in April 2005.<sup>99</sup> More important is the fact that any decision/policy agreed upon, by a relatively large number of members, would be stronger and more effective in the market.

**2.2.3.2. Political risks and high capital costs.** High capital costs along the supply chain continue to constrain gas as an energy source despite the increased number of LNG projects.<sup>100</sup> Most gas-rich countries lack the huge capital investments needed for developing their gas reserves. This situation is further compounded by the inability of volatile and unstable countries to attract foreign investors. For instance, Venezuelan gas has remained relatively unexploited compared to its Trinidadian neighbour.<sup>101</sup> Unlike Qatar, Iran is yet to develop its proposed LNG project.<sup>102</sup>

These countries also lack developed financial markets to fund their projects. In the case of OPEC, the oil industry had developed a lot before it was established. Political risk considerations have dampened investors' zeal, despite the high costs and huge capital requirement. Balancing this risk against expected profits is difficult due to changing fiscal circumstances. Unfortunately, however, governments perceive companies' profit from natural resources as cost<sup>103</sup> in the computation of revenue from natural resources. These obstacles have hampered expansion in their production capacities and market share. It may, indirectly restrain the Forum's ability to collude in a cartel form.

**2.2.3.3. Lack of spare capacity.** Spare capacity is the difference between actual production and production capacity.<sup>104</sup> As a function of production cost and reserve size, spare capacity is another key factor that determines producers' ability to control the oil market. Given its huge proven reserve and low production cost, Saudi Arabia has the highest amount of spare capacity in OPEC.<sup>105</sup> Hence, it plays the important role of swing-producer in OPEC. The

<sup>98</sup> See Datamonitor *supra* note 82.

<sup>99</sup> See Ministry of Energy *supra* note 46 at para 1.

<sup>100</sup> Jensen, J.T. (2003, p. 34, para 3).

<sup>101</sup> Webb-Vidal, A. *When life, and not just carnival, is a gas*, p. 11, para 7, of F.T., 26 January 2005.

<sup>102</sup> The US has been discouraging International investments in Iran's Energy Sector over the latter's nuclear enrichment programme. Venezue-

(footnote continued)

la's leftist government in Latin America is increasingly raising concerns among IOCs, UK and the US.

<sup>103</sup> Johnston, D. (1994, p. 5).

<sup>104</sup> See Alhajji *supra* note 18.

<sup>105</sup> See Danielsen *supra* note 30.

Forum's member-countries are yet to maintain spare capacity due the cost issues mentioned above.

There is also the concern that Russia may opt out of the Forum and attempt to run alone. Russia can capitalize on her market share for self-benefit rather than collude with other countries. The LNG revolution has already presented Qatar as the swing-supplier of LNG in Northeast Asia and the Atlantic Basin. Hence, it may become an alternative to Russia. However, uncommitted re-gasification capacity is required for increased LNG trade globally and third party access is yet an obligation in many countries.<sup>106</sup>

This capacity constraint may be overcome if the Forum adopts Egypt's proposed uniform pricing formula.<sup>107</sup> This is, especially so, because a swing-producer is not particularly relevant in a horizontal price-fixing cartel. Rather, the least cost producer can be the price-leader. More importantly, spare capacity may not be a vital condition for gas producers to exert control over trade.

**2.2.3.4. Information.** Information is a key element for the establishment and sustenance of market control by a cartel.<sup>108</sup> In a bid to increase their revenue and market share, many OPEC member-countries cheat by producing more than their quota.<sup>109</sup> Inadequate and incorrect information have created the opportunity for cheating and OPEC is still unable to detect or deter cheating.<sup>110</sup> The lack of information may hinder the Forum from determining price or supply in the market. Effective control of the market requires sharing of and access to information on prices, new technology, costs and production levels in each market (or country).

This explains the Forum's effort towards setting up a simulation scheme. The scheme is expected to acquire and analyse market information at both regional and global levels for a better understanding of the industry.<sup>111</sup> The establishment of a Liaison Office in Qatar to specifically handle information indicates the Forum's appreciation of this concern.

Problems of information availability and transparency, however, are not peculiar to the Forum or gas markets. The entire energy industry is plagued by the unavailability and inaccuracy of oil and gas data. Unfortunately, issues of data and statistics influence not just prices and markets but also international politics. This explains the pioneering and development of the Joint Oil Data Initiative (JODI) by the International Energy Forum and six other organizations—APEC, Eurostat, IEA, OLADE, OPEC and the UN—in January 2005.<sup>112</sup>

**2.2.3.5. Competition and price issues.** This constraint relates to competition from other sources of energy. As the demand for gas increases, keen competition from oil and other renewable energy sources will persist.<sup>113</sup> Considering the availability of alternatives, especially nuclear and coal, gas-rich countries would be cautious about turning the Forum into a cartel.

The lack of a reference price and global market for gas also highlights the need for such caution. This has also hindered funding from banks for gas projects because cash-flows are indexed to crude oil prices. Therefore, the Forum will rather hold back until gas becomes the main energy commodity globally.

**2.2.3.6. International or regional cooperation.** In strategic response to a gas cartel threat, gas-importing countries may opt for multilateral trade association or agreement to forestall any disruptive action. For example, the EU or WTO.

The author, however, doubts the effectiveness of the WTO, International Energy Forum or any other international cooperation/organization. Generally, the formation of intergovernmental cartels is not illegal under the WTO. Specifically, GATT Article XX(g), in respect of “trade-restrictive measures for the conservation of exhaustible natural resources,”<sup>114</sup> potentially permits OPEC's supply restriction.<sup>115</sup> This further explains the inability of OECD's IEA and the WTO to restrain OPEC's antics. Rather the IEA and the US recently reaffirmed their cooperation with OPEC even though the cooperating cartel members “were and are committed to nothing”.<sup>116</sup>

Despite the above prospects and constraints, the Forum appears significantly similar to infant OPEC. In the 1960s, the oil majors attached little importance to OPEC, pretending it did not exist, while Western governments paid little attention.<sup>117</sup> Although the study reveals some reasonable obstacles to the emergence of a gas cartel, the author does not consider it unlikely. On the contrary, the fact still remains that there are great potentials for cooperation by gas-rich countries.

At the moment, the Forum seems a gathering of gas producers for the purpose of consultations to improve the commodity's potentials as an energy source. Political and economic considerations may generate new issues, but its form as a future cartel seems clearer with some amount of precision. This assertion and the group's likely influence path are buttressed in the next section.

<sup>106</sup>Mazighi, A. (2003, p. 323, para 5).

<sup>107</sup>Discussed in Section 2.2.1, on p. 8.

<sup>108</sup>See Alhajji *supra* note 18.

<sup>109</sup>See Besanko *supra* note 19 at para 3.

<sup>110</sup>Mabro R. (1999).

<sup>111</sup>See Khelil *supra* note 43.

<sup>112</sup>Walther, A. (2005, p. 21).

<sup>113</sup>See IEA *supra* note 57.

<sup>114</sup>See Desta *supra* note 22.

<sup>115</sup>Desta's article, referenced above, attempts to reconcile the underlying economic philosophy and geo-politics of the WTO and OPEC.

<sup>116</sup>See Adelman *supra* note 93.

<sup>117</sup>See Yergin *supra* note 29 at p. 523, para 4.



### 3. GECF and gas markets

Analyzing the Forum in the light of OPEC and Table 1 above, the following conclusions can be reached:

A membership of 15<sup>118</sup> gas-producing countries is small relative to their market share and proven reserve size of over 71%. Second, for exhaustible commodities,<sup>119</sup> capacity expansion and entry by new producers at the fringe are naturally constrained by reserve availability, location of gas,<sup>120</sup> long lead-time and huge capital cost. For example, capacity expansion in North America is already sticky without the Forum deterring entry. Cartel influence and market power, on the other hand, increases as production by producers at the fringe peaks. Finally, the essence of assigning and enforcing quotas is price regulation/determination. This means that if a cartel can fix and regulate price directly or indirectly then it can greatly influence the development of the market.

#### 3.1. Cartel influence mechanisms

Generally, natural gas (especially LNG) trade involves “obtaining the most gas possible for producers and obtaining the most reasonable prices for consumers”.<sup>121</sup> It may, therefore, be said to obey the logic of security because majority of gas transactions are based on long-term contracts. As the market evolves gradually to obey the logic of opportunity and arbitrage, how would the Forum act to create a supplier’s market? The following are possible influence paths available to the Forum:

#### 3.2. Price mechanism

The price of gas has remained a central issue since its emergence as an important energy source. Whether gas is for domestic or international trade, the primary issues of price, politics and profitability are deeply intertwined.<sup>122</sup> The evolution<sup>123</sup> of gas pricing systems shows that importing countries are continually trying to control natural gas prices. A clear distinction between the commodity and project supply markets for gas is emphasized below for a better understanding of subsequent issues.

Commodity supply market for gas has many buyers, sellers and transactions. Here, prices are determined through the interplay of demand and supply forces on the basis of gas-to-gas competition. Transactions, therefore, may involve Local distribution Companies (LDCs); marketers (also called ‘aggregators’); domestic or industrial consumers, pipeline and storage companies. The nature of such transactions may also vary from spot deals to futures

trade. Prices in the commodity supply market are inter-related with those in the project supply market.

Project supply market for gas, on the other hand, involves few buyers, sellers and transactions. It may also be referred to as the upstream or investment market for gas. Gas prices, in this market, are a function of alternative or related fuels (usually oil) on the basis of an indexation mechanism. Due to the huge capital involvement, long lead time and other complexities, transactions are mainly on long-term contracts. Only the big players, like the IOCs, electricity generators; wholesale gas suppliers/distributors and national oil/gas companies, participate in this market. Gas prices and pricing policies in this market directly and indirectly determine the revenues and dividends accruable to producing countries. They are, therefore, subject of subsequent reference and analysis in this sub-section. The gas pricing policy was designed to favour industries in the consuming countries. The benefiting industries, mentioned above, include both the Local Distribution Companies (LDCs) and the industrial end-users. In effect, the producing countries were and still are “indirectly subsidizing these industries”.<sup>124</sup>

A formal price-fixing agreement used to maximize industry profit is called a cartel. In other words, the signatories or “the conspirators operate at the same level and would be rivals in the absence of an agreement”.<sup>125</sup> Price increases in existing gas contracts are triggered by higher prices in new contracts. Simultaneously, the higher prices lead to further exploration and production.<sup>126</sup> It follows, therefore, that an available option through which the Forum can exert its influence on the market is the instrument of price. By applying its model contract pricing system, the Forum may be able to unify gas pricing, upstream in the regional markets.

This paper posits that the Forum may begin by fixing gas contract prices with Russia leading the pack. That is, focusing on the preferred and generally accepted price rather than quantity (production) control. Such a cartel would establish the price, while consumers determine quantity through the market.<sup>127</sup> Once the Forum can determine a reasonable revenue-generating price, using the expected Demand–Supply model, then equilibrium is assumed.

Market statistical evidence reveals that gas prices are generally more volatile than oil price is high.<sup>128</sup> A major reason for this is the lack of a unified pricing policy for gas globally.<sup>129</sup> Although this situation is unfavourable to both producers and consumers, producers perceive that it provides unfair revenue from their gas. Therefore, this provides the Forum with a rational and logical reason for taking action to unify and stabilize gas prices. This

<sup>118</sup>This includes Russia as the 15th nation.

<sup>119</sup>Like oil and gas.

<sup>120</sup>See Claes *supra* note 27 at p. 43, para 3.

<sup>121</sup>See Mazighi *supra* note 106 at p. 321, para 4.

<sup>122</sup>Khan, A.R. (1986) in Mabro, R. (Ed.) (1986, p. 142, para 2).

<sup>123</sup>The history of Gas pricing systems is outside the scope of this paper.

<sup>124</sup>Messili, A. (1986, p. 119, para 5).

<sup>125</sup>See Blair and Kaserman *supra* note 23 at footnote 1.

<sup>126</sup>MacAvoy P.W. (2000, p. 35).

<sup>127</sup>See Danielsen *supra* note 30.

<sup>128</sup>Mazighi A.E. (2004, p. 233, para 2).

<sup>129</sup>See Khan *supra* note 122 at p. 154, para 3.

assertion is reinforced by the common desire of producer-groups to maintain a minimum price level above which prices are allowed to fluctuate.<sup>130</sup>

Alternatively, basic market principles, like asset swaps among exporters (mentioned earlier), may contribute immensely towards unifying regional prices. Considering the increasing flow of information among member-countries, asset swap would:

- Create surplus shipping and trade volumes for the open market.
- Consequently, enable producers to take advantage of price development in other regions.
- Also result in price convergence across regions, as well as, make sales contracts more efficient and transparent to reflect market development.

The foregoing portends a price-fixing cartel and price leadership. The Forum's effort to develop a Demand–Supply Model gives credence to the above assertion of an emerging price-fixing cartel. At present, the regional markets combined with LNG trade competitively interact to achieve an equilibrium<sup>131</sup> price for gas. This mechanism may be easier to regulate than the production quota system operated by OPEC, if the expected demand-forecasting model proves reliable.

Based on the trading performance of the Forum's Member-countries, as well as, evidence from existing cartels, this pattern of behaviour would not reduce supplies to the various markets. Essentially, in this scenario, supply is not deliberately threatened since trade is mutually, but inequitably, beneficial to all parties. Rather, such an action might well result in higher prices in gas markets. The implications, for gas exploration and production, of higher gas prices are negative and positive, respectively. Demand shall drop slightly, while production would rise drastically, depleting the proven reserves.<sup>132</sup> Prices in other energy markets may also become more volatile considering the relative nature of prices. Consequently the development of gas markets shall be stifled by the imbalance resulting from the introduction of a non-competitive pricing model. On the other hand, the use of assets swaps and other market principles would enhance growth in gas trade globally.

These conclusions are hinged on the inaccuracy of most demand forecasting models. The effective utilization of models is constrained by inadequate data; human errors and the inability of such models to correctly predict human behaviour. Any gas price-determination, fraught with the above inadequacies, would certainly disrupt gas trade by hampering stable and efficient pricing.

### 3.3. Contract influence mechanism

Contracts in the form of SPA, Charter Party and Futures would remain an inherent part of the gas industry globally. How they are used, and what for, would invariably determine the future of gas globally.

Gas restructuring in the US was achieved mainly by regulatory intervention in existing contracts between buyers and sellers. Specifically, the US “FERC Order 380 relieved buyers of their minimum bill obligations”<sup>133</sup> and enabled retailers (sellers) to shop for low cost gas among suppliers. Due to the complicated nature of restructuring the gas industry internationally, the Canadian gas market was affected directly by the US contract intervention. The action, however, provided excuse for US buyers to walk away from uncompetitive (previously agreed) Canadian contracts.<sup>134</sup>

The EU Directive in respect of ‘Destination Restriction Clauses’ also had similar effect. It was actually a serious issue of dispute between the EU and major suppliers<sup>135</sup> (especially Gazprom and Sonatrach).<sup>136</sup> The Directive did not only result in contracts modification and cancellation, but the Nigerian and Norwegian LNG producers were forced into denouncing the clauses. Gas producing countries actually perceived it as aggressive and concluded it was an “unjustified interference in established commercial arrangements”.<sup>137</sup>

Deregulation (restructuring), in North America and the EU, was effected when gas was surplus in both regions. It was, therefore, easier to find willing suppliers competing for market share or outlet after the contracts were broken. Market power was the key weapon capitalized upon by the governments in both regions.

The above historical preview clearly shows that the GECF can also intervene in existing long-term gas sales contract under the right market conditions. Going by the various demand and supply projections (impending shortage) in the importing countries, contract terms may be modified or broken through unanimous/unified intervention by the Forum (or its Member-countries). The modulus operandi of the GECF may not be entirely similar to the US or Europe but basically through direct intervention or indirect interference. The Member-nations may independently, simultaneously or unanimously alter the ‘negotiated price’<sup>138</sup> in all SPAs. The essential precondition would be an existing or impending shortage that makes it easier to find willing buyers competing for available supplies.

Arguably, members of the Forum could try to reintroduce destination restriction clauses in gas contracts. This is because market flexibility through deregulated contracts

<sup>130</sup>See Alhajji *supra* note 18 at p. 1155, para 2.

<sup>131</sup>The market sets the price peculiar to each region based on the value of gas and relative to other substitutes.

<sup>132</sup>Mabro, R. (1986) The prospects for International Trade in Natural Gas. In Mabro, R. (Ed.) *Natural Gas: an International Perspective*, p. 14, last para. Oxford Institute for Energy Studies, Oxford.

<sup>133</sup>Jensen, J.T. (2004, p. 21, para 1).

<sup>134</sup>See Jensen *supra* note 133 at p. 22, para 1.

<sup>135</sup>Aissaoui, A. (2002).

<sup>136</sup>See Jensen *supra* note 133 at p. 22, para 2.

<sup>137</sup>Stern, J. (2002), p. 21, para 1.

<sup>138</sup>This is the Supplier–Buyer agreed reference price level, subject to renegotiation periodically and used in the indexation mechanism.

and competitive pricing formulas results in instability which they aim to reduce (or prevent) This difficult (if not impossible) option, however, seems to have been overtaken by the creation of Profit Sharing Mechanisms which enable Sellers and Buyers to split margins resulting from the diversion of cargoes and spot deals. Although some experts have argued that the reduction in profits is only the ‘initial’ impact of gas-to-gas competition,<sup>139</sup> this author considers it only a partial analysis. This is because the migration of value (and/or profit) downstream, along the gas chain, in most liberalized markets is a fundamental change in gas markets that is bound to continue. The strategies<sup>140</sup> and efforts of the IOCs to integrate downwards by building/acquiring re-gasification plants and/or transmission capacity<sup>141</sup> are clear indications of this fact. Recent studies reveal that in Europe, production and wholesale margins would fall by more than 20% while retail margins would double within the next 5 years.<sup>142</sup> The fact that long-term contracts, which the Forum tried to preserve,<sup>143</sup> would dominate gas trade in the foreseeable future seems to reinforce this assertion. This explains their initial resistance towards liberalization because they perceive it could further complicate development of new gas projects without long-term contracts.<sup>144</sup> Despite the above negative impacts on gas-producers, however, increased spot trading and arbitrage created by competition are key determinants of price convergence and market integration.

Such a retaliatory action seems realistic in the light of the Forum’s initial effort to inhibit the EU on the ‘Destination Clauses’. In February 2002, the Algerian Minister of Energy expressed their discontent, during a meeting, in the following words: “When they (European Institutions) passed their legislation, they never consulted us. They never thought of talking to the gas-exporting countries before passing their laws”.<sup>145</sup> It may be recalled that, “indeed, OPEC was a *response* to an effort by a cartel of oil buyers to suppress prices”.<sup>146</sup> Then, similarly, there was an overwhelming surplus in the global oil market; the producing nations were competing for market share and they depended on the oil majors.<sup>147</sup> History, incredibly, is repeating itself because many “...people see no end in sight to the current buyers’ market. Just as before, they will be wrong”.<sup>148</sup>

Any attempt, by the Forum, to disrupt the nature of gas contracts may not augur well for the development of global

gas trade. Such collusive action, by the Forum, would create an oligopolistic gas industry devoid of free-market competition. The consequent interplay of geopolitics and economic diplomacy resulting there from would also produce other unfathomable influence on gas trade globally. It may be recalled that, the EEC actually suggested the formation of a European LNG importers’ coalition<sup>149</sup> as a pre-emptive move against producers. These political issues may culminate in the inevitable ‘demise’ of a striving energy resource industry.

### 3.4. Fiscal influence mechanism

Fiscal policies of both energy-importing and energy-exporting countries affect energy markets directly or indirectly. Basically, changes in the fiscal policies of gas-producing countries create significant effect on the cycle of gas markets. Immediately gas price increase signals more production, producing countries’ governments do not hesitate to demand for more economic rent from these activities.

This follows from the fact that gas price contains a user cost and some element of rent. Commonly associated with natural resources, the user cost reflects compensation for gas produced today that cannot be produced tomorrow. The rent is mainly the difference between the product price and its marginal cost of production. The non-competitive bidding process for gas contracts tends to give buyers a negotiation margin. The comfort created by the rent and user cost favour importers who bid a lower price for contracts.<sup>150</sup> For how long would the buyer’s market use these elements of economic rent<sup>151</sup> for bargaining?

The Forum may influence gas trade globally by unanimously imposing a tax rate/value payable by importers, across the board on exports, to determine price. It may be a direct explicit tax (like royalty: \$2.00<sup>152</sup>) per thousand cubic feet. Such a flat tax rate/value would be effective within the framework of renegotiable long-term contracts. A tenable reason to justify such an action is the earlier mentioned change in the value (margin) point along the gas chain from upstream to downstream.

Generally, the tightening fiscal terms “seem more likely to accentuate and perpetuate the downward part of the (gas market) cycle”.<sup>153</sup> Despite this fact, member-states of the Forum shall capitalize on obsolescence bargain to squeeze gas-producing companies. This influence mechanism should not be perceived as unrealistic but rather an opportunity to maximize revenue from a natural resource. It should be emphasized that an underling aim of the

<sup>139</sup>See Stern *supra* note 137 at p. 20, para 5.

<sup>140</sup>Shook, B. and Jaffe, A. (2001).

<sup>141</sup>Energy Information Administration (2004).

<sup>142</sup>Thomlinson, D. et al. (2004).

<sup>143</sup>See PM Communications *supra* note 89 at p. 2, para 6.

<sup>144</sup>See Stern *supra* note 137 at p. 20, last paragraph.

<sup>145</sup>“Algeria: forum of gas exporting countries ends” *BBC Monitoring Service*, 2 February 2002, quoted in Stern *supra* note 137 at p. 20, para 4.

<sup>146</sup>See Besanko *supra* note 19 at p. 213, example 6.4, para 1.

<sup>147</sup>See Yergin *supra* note 29 at p. 523, last sentence.

<sup>148</sup>See Tucker *supra* note 15 at p. 5, para 1.

<sup>149</sup>See Messili *supra* note 124, p. 121, para 3.

<sup>150</sup>See Okogu *supra* note 80 at p. 20, para 1.

<sup>151</sup>Economic rent here is broken up into rent and user cost for the purpose of analysis. In principle, they may be summed up to mean economic rent.

<sup>152</sup>The Energy Modeling Forum at Stanford University is using \$1.00 in their Preliminary EMF 23 (Gas Cartel) Scenario Design.

<sup>153</sup>See Tucker *supra* note 15 at p. 6, para 3.

Forum is to benefit optimally from their natural resource through the development of the gas sector. Given improvement in gas technologies, development of markets, and the subsequent vulnerability of the Multi-National Enterprises (MNEs),<sup>154</sup> the above becomes an option. Furthermore, there seems to be unlimited scope for energy resource-rich governments to influence economic affairs through fiscal intervention.<sup>155</sup>

Ultimately, any action taken by the Forum in an attempt to control the market would reduce investor confidence, increase political risk, mar diplomatic relations, and disrupt gas trade (demand and supply) globally. The subsequent multiplier effect of these on the global economy is outside the scope of this paper.

#### 4. Conclusion

Gas is now appreciated for its premium qualities rather than being flared as a nuisance fuel. There clearly exists technology to unite demand with gas resources thousands of miles away. As the gas industry surmounts cost constraints, a new challenge and form of instability has arisen. Today, gas trade is gradually becoming “the hostage of geopolitics in general...and superpower rivalries in particular”.<sup>156</sup>

Is a gas cartel likely?

In 2003, Yergin and Stoppard asserted: “an association of some kind among LNG exporters is likely”.<sup>157</sup> That association now exists and is called the Gas Exporting Countries Forum. The Forum, however, does not exist solely for the purpose of consultation with other industry players. Thorough appraisal of the potentials for its transformation into a cartel was presented. There are sufficient reasons that portend an emerging gas cartel despite prevalent militating constraints. The result seems to favour collusion by member-countries of the Forum, while the constraints basically portray a limit to how far they can go (at least for now). A gas cartel is foreseeable although its market power in the short-term may be minimal. 41% of respondents who attended an RBC Capital sponsored energy conference in Houston attested to this.<sup>158</sup> The reality of the Forum turning a gas cartel should not be assumed or wished away because “real markets seldom behave ideally”.<sup>159</sup>

Relative to OPEC’s evolutionary trend, the Forum is practically making efforts to understand the realities and peculiarities of the gas market for the benefit of the industry and its members. Egypt’s effort may create the opportunity for the Forum to dictate future prices, even though no international market for gas exists. Disguised at present, the Forum intends to influence the market and

may act at the appropriate time. The outcome, however, calls for further study and close examination considering its political nature.

Along this line the ‘how’ question becomes necessary:

What mechanism is available for the Forum to influence the market?

This question is pivotal to understanding how an international gas market would emerge. Evidently, the Forum can influence the market through Price, Contract, and Fiscal Mechanisms. Generally, they may set price with the aid of the prospective model; re-introduce destination restriction clauses; or apply uniform fiscal policies. For instance, “the desire to compare fiscal terms will be irresistible”.<sup>160</sup> Market conditions, however, would determine their ability to act and when. Consequently, any such action would disrupt price and create an imbalance in gas markets, as well as, other energy markets. This portends grave consequences considering the constraints imposed on gas trade by Third World/OPEC radicalism, as well as, superpower rivalries.

Geopolitical concerns, despite cost, price and LNG trade concerns, would determine the emergence a global market and future expansion for gas. This is particularly true considering depleting reserves in major consuming regions and a thriving producers-group. International cooperation and understanding would determine the extent to which the Forum contributes to the enhancement of gas trade globally. The effectiveness and timeliness of any action, however is predicated on the right market condition—Sellers’ market. Clearly, a price-fixing cartel in a competitive global energy market may not enhance gas reach into many markets (that are already competitive).

This paper does not purport to have extensively treated all issues arising from the research questions. Rather, the following questions are a consequence of this work: Can the Forum exist without Russia? Is a Russian-monopoly possible? How might the Russia-EU Energy Dialogue and EU-OPEC Energy Dialogue affect the Forum? Would the International Energy Forum stop the GECF from influencing gas trade? How may the global energy industry handle the concerns of developing resource-rich countries? Would the emergence of an International gas market be advantageous to the Forum?

They prompt more research and would clarify issues further when answered.

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<sup>154</sup>Genc Mehmet (2005).

<sup>155</sup>See Abi-Aad *supra* note 73 at p. 21, para 11.

<sup>156</sup>See Davis *supra* note 40 at p. 250, para 1.

<sup>157</sup>See Yergin and Stoppard *supra* note 10 at p. 114, para 1.

<sup>158</sup>Society of Petroleum Engineers (SPE) (2004).

<sup>159</sup>See Jensen *supra* note 133 at p. 7, para 2.

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