

# HOW NAFTA CAN INCREASE GLOBAL ENERGY SECURITY

JOHN FOHR\*

## I. INTRODUCTION

America's \$10.5 trillion economy rests on a foundation of relatively inexpensive and plentiful oil.<sup>1</sup> That foundation continues to face perils that threaten our global economy. Even in the wake of significant increases in the cost of petroleum over the last two years, additional rapid increases in cost are a very real possibility. Action must be taken now to mitigate any potential loss to a portion of the global economy's petroleum supply. In 2003, the United States imported fifty-six percent of its total oil consumption, a level that the U.S. Department of Energy projects will rise to sixty-two percent by 2020.<sup>2</sup> Although only five percent of the world's population lives in the United States, we burn about a quarter of the world's daily oil supply.<sup>3</sup> This is a greater amount than that of Europe and the former Soviet Union combined.<sup>4</sup> Currently, the United States uses about twenty million barrels per day (MBD) of oil.<sup>5</sup> American cars and sport-

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\* John Fohr is a 2005 graduate of the University of Wisconsin Law School and of Georgetown University. He visited the Georgetown University Law Center for his final year of law school and previously served as a Managing Editor of the University of Wisconsin International Law Journal.

<sup>1</sup> See generally *Petroleum Export and Trade Promotion: Hearing Before the Subcomm. on Int'l Econ. Policy, Export and Trade Promotion of the Comm. on Senate Foreign Relations*, 108th Cong. (Apr. 8, 2003) (statement of Dr. Daniel Yergin) [hereinafter Yergin Hearing].

<sup>2</sup> *Petroleum Net Imports by Country of Origin, 1960-2003*, ANNUAL ENERGY REVIEW 2003, ENERGY INFO. ADMIN., U.S. Dept. of Energy, available at [http://www.eia.doe.gov/emeu/aer/pdf/pages/sec5\\_17.pdf](http://www.eia.doe.gov/emeu/aer/pdf/pages/sec5_17.pdf) (last visited May 1, 2005) [hereinafter *Petroleum*]; ANNUAL ENERGY OUTLOOK 2002, ENERGY INFO. ADMIN., U.S. Dept. of Energy, at 89 (Dec. 2001) [hereinafter ANNUAL ENERGY OUTLOOK 2002].

<sup>3</sup> Neela Banerjee, *The High, Hidden Cost of Saudi Arabian Oil*, N.Y. TIMES, Oct. 21, 2001, § 4 (Week in Review Desk), at 3; see also Yergin Hearing, *supra* note 1, at 3.

<sup>4</sup> Stacey Middleton, *How The Petroleum Addict Negotiates With The Dealer: Challenges To The Bush Administration's North American Energy Policy*, 11 CARDOZO J. INT'L & COMP. L. 177 (2003).

<sup>5</sup> *Id.*; see also *Petroleum*, *supra* note 2.

utility vehicles alone consume ten percent of the world's daily supply.<sup>6</sup>

The Department of Energy predicts that the United States will become increasingly dependent on oil imports from the Middle East in upcoming years, with imports from the region increasing from roughly twenty-four percent of total oil imports in 2000, to about fifty percent by 2020.<sup>7</sup> This compares with the fifteen percent and the twenty-three percent of oil the United States imported from the Middle East during the 1973-1974 and 1979-1980 oil crises, respectively.<sup>8</sup> It is for this reason that the United States, and the global community as a whole, has a legitimate and critical interest in seeing that Persian Gulf oil continues to flow.<sup>9</sup> Additionally, it is important to develop different approaches (both short-term and long-term) to address the risk facing the world of a rapid reduction in the global petroleum supply.

First, this paper will discuss the vulnerabilities and dangers facing the global petroleum supply. Next, this paper will show that the proper way to frame concerns about "dependence on foreign oil" is to address vulnerabilities to specific oil supply disruptions. In the short-run, the next five to ten years, it is the concentration of the world's oil supply that creates the greatest vulnerability, rather than merely the limited supply itself. Only with greater interdependence and redundancy of stable petroleum supplies can we limit the risk inherent in importing oil from volatile regions around the world. Additionally, the goal should not simply be complete energy independence of the United States but rather a more thorough and secure global interdependence for the entire petroleum-consuming global community. Lastly, this paper will discuss how NAFTA can play a pivotal role in helping to create greater economic security within the entire global petroleum market and thereby in the United States.

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<sup>6</sup> Banerjee, *supra* note 3, at 3.

<sup>7</sup> ANNUAL ENERGY OUTLOOK 2002, *supra* note 2.

<sup>8</sup> Charli E. Coon & James Philips, *Strengthening National Energy Security By Reducing Dependence On Imported Oil*, THE HERITAGE FOUNDATION BACKGROUND, Apr. 24, 2003 (citing ANNUAL ENERGY OUTLOOK 2002, *supra* note 2, at 60).

<sup>9</sup> Ken Pollack, *Securing the Gulf*, FOREIGN AFF. (July/August 2003), at <http://www.foreignaffairs.org/20030701faessay15401/kenneth-m-pollack/securing-the-gulf.html>.

## II. DANGERS FACING THE GLOBAL COMMUNITY DUE TO A SHORTAGE OF OIL

A disruption in oil-flows out of the Persian Gulf is one of the worst-case scenarios in global economic stability.<sup>10</sup> A disruption could be caused by any one of a variety of sources, including internal instability, an international crisis, or an individual terrorist event on any number of chokepoints.<sup>11</sup> Robert Baer, a Middle East expert and former CIA operations officer, describes how a single jumbo jet with a suicide bomber at the controls could bring the entire global petroleum market to its knees if it targeted one of Saudi Arabia's primary pump stations.<sup>12</sup>

About two-thirds of Saudi Arabia's crude oil is exported from the Persian Gulf via the huge Abqaiq processing facility.<sup>13</sup> The country's primary oil export terminals are located at Ras Tanura (6 MBD capacity; the world's largest offshore oil loading facility), Ras al- Ju'aymah (3 MBD) on the Persian Gulf and at Yanbu (5 MBD) on the Red Sea.<sup>14</sup> Damage to any one of these terminals could result in months of production loss.<sup>15</sup> Two jumbo jets could introduce an unimaginable level of global economic instability, perhaps even greater than that of a dirty nuclear bomb set off in midtown Manhattan.<sup>16</sup>

Another critical petroleum chokepoint is the Strait of Hormuz.<sup>17</sup> In 2003, more than 15 MBD passed through this single two-mile wide inbound and outbound waterway.<sup>18</sup> This important waterway is located in a very dangerous neighborhood; it is bounded by Iran to the east and Oman and the United Arab

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<sup>10</sup> See ROBERT BAER, *SLEEPING WITH THE DEVIL: HOW WASHINGTON SOLD OUR SOUL FOR SAUDI CRUDE* xxii (2003).

<sup>11</sup> *Id.*

<sup>12</sup> *Id.* at xxiii.

<sup>13</sup> *Id.* at xxii; *Saudi Arabia—Country Analysis Brief*, U.S. Dept. of Energy, at <http://www.eia.doe.gov/emeu/cabs/saudi.html> (last modified Jan. 2005).

<sup>14</sup> *Id.*

<sup>15</sup> BAER, *supra* note 10, at xxii.

<sup>16</sup> *Id.* at xxiii.

<sup>17</sup> Robert E. Ebel, *The National Security Implications of Oil*, Center for Strategic and Int'l Studies (May 25, 1999), at <http://www.csis.org/html/sp990525Ebel.html> (last visited Jan. 5, 2004).

<sup>18</sup> *World Oil Transit Chokepoints*, U.S. Dept. of Energy, at <http://www.eia.doe.gov/emeu/cabs/choke.html> (last modified Mar. 2004).

Emirates to the west.<sup>19</sup> Internal instability in any of these countries would have significant consequences to the world's ability to efficiently distribute oil to the rest of the world.<sup>20</sup> Not only would disruption of oil transportation in this area hurt the oil purchasing countries, but it would also have devastating consequences on those producing countries that rely on the Strait of Hormuz. Any instability that prevented use of this waterway could have a cascading effect on neighboring countries that rely on petroleum sales to fund significant portions of their economies.

In addition to incidents of terrorism, severe domestic unrest in an oil-producing country is also of great concern and could be even more disruptive to the petroleum supply. The potential for massive public unrest erupting throughout many Middle East countries is not unlikely.<sup>21</sup> Many Middle East countries find themselves facing great internal insecurity, due to, among other things, failed leadership, economic mismanagement, and high population growth.<sup>22</sup> These dangers are compounded by the fact that roughly forty percent of the population is now under seventeen years of age.<sup>23</sup> Furthermore, this young population faces unemployment exceeding twenty percent.<sup>24</sup> Under current trends, a large percentage of the population will be unable to sufficiently support their families, thus placing greater strain on the economies and governments, as well as causing greater public unrest and further disdain for those currently in power. To help control this potential unrest, governments like Saudi Arabia's house of Saud have funded fundamentalist schools of study, such as madrassas with their radical Wahhabism. While these schools may help "control" the public at large and prevent rebelling, they increase the likelihood of more individual and group terrorist activities both inside and outside of Saudi Arabia.

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<sup>19</sup> Lawrence Kumins & Robert Bamberger, *Middle East Oil Disruption: Potential Severity and Policy Options*, Congressional Research Service, Apr. 29, 2003, at 1-2.

<sup>20</sup> *Id.*

<sup>21</sup> Ebel, *supra* note 17.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> *Id.*; Richard W. Stevenson, *U.S. to shift more aid toward Iraqi security*, INTERNATIONAL HERALD TRIBUNE, Sept. 16, 2004, at 4.

As mentioned above, a disruption to the petroleum transportation infrastructure would have devastating short and long-term destabilizing effects. Affected countries whose economies are overly dependent on petroleum export revenues may falter, thus creating further shockwaves in the global economy as civil unrest in these producing countries takes hold.<sup>25</sup> Two countries that are dangerously susceptible to any change in oil prices are Russia and Saudi Arabia.<sup>26</sup>

In 1985, Saudi Arabia used its excess production capacity to flood the world market and drive down oil prices to a tremendously low price of \$12 a barrel.<sup>27</sup> The Soviet Union was specifically hard hit by this low spot price, destroying any potential of an economic revival and partly contributing to the overall collapse of communism in that country soon afterward.<sup>28</sup> The ability to control the price of petroleum is a tremendously effective weapon. Today, Russia's oil and gas sector makes up to twenty-five percent of Russia's GDP.<sup>29</sup> According to the U.S. Department of Energy, this reliance on oil and natural gas exports has made Russia "dangerously dependent on oil and natural gas exports, and especially vulnerable to fluctuations in world oil prices."<sup>30</sup> Although this has benefited Russia's recent economic expansion as oil prices have increased over the last couple years, it highlights the danger that any reverse in oil prices could quickly pull the rug out from under the dominant economic engine in Russia.<sup>31</sup> In fact, a \$1 per barrel change in oil prices will result in a \$1.4 billion change in Russian revenues in the same

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<sup>25</sup> See generally Kumins & Bamberger, *supra* note 19, at 15 (citing *Russia-Country Analysis Brief*, U.S. Dept. of Energy, at <http://www.eia.doe.gov/emeu/cabs/russia.html> (last modified Nov. 2002)); see also Thomas L. Friedman, *\$6 or \$60*, N.Y. TIMES, July 31, 2002, at 19A.

<sup>26</sup> *Id.*

<sup>27</sup> Ed Blanche, *Mixing Oil and Terrorism*, DAILY STAR (Beirut, Lebanon), Sept. 27, 2003.

<sup>28</sup> *Id.*

<sup>29</sup> *Russia-Country Analysis Brief*, U.S. Dept. of Energy, at <http://www.eia.doe.gov/emeu/cabs/russia.html> (last modified Feb. 2005).

<sup>30</sup> *Id.*

<sup>31</sup> *Id.* In 2004, Russia's real gross domestic product (GDP) grew by approximately 7.1%, surpassing average growth rates in all other G8 countries.

direction.<sup>32</sup> A significant fall in the price of a barrel of oil could slash Russian economic growth in half.<sup>33</sup>

It is doubtful, however, that Saudi Arabia would use petroleum in this economically weaponized capacity again—even if it had the necessary excess capacity to do so. Saudi Arabia's economy remains heavily dependent on oil and is significantly susceptible to fluctuations in the market price of petroleum.<sup>34</sup> Therefore, any "victory" would surely be a pyrrhic one at best. Forty percent of Saudi Arabia's GDP and seventy to eighty percent of its government revenues come from oil export revenues.<sup>35</sup> Overall, oil export revenues make up approximately ninety to ninety-five percent of total Saudi export earnings.<sup>36</sup> If oil prices were to drop dramatically, government revenues would fall, as would the rate of growth for the economy as a whole.<sup>37</sup> This slower economic growth would create additional problems for Saudi Arabia, a country with a rapidly increasing population and many people who cannot find jobs outside the public sector.<sup>38</sup> For these reasons, the political stability of Saudi Arabia, as well as Russia and many other oil producing countries, is contingent on an increasing long-term flow of oil revenues.<sup>39</sup>

On the other hand, more likely dangers are, first, continued high spot prices and, second, sudden shocks to the petroleum supply which rapidly increase prices. In 2004, oil prices reached USD \$50 a barrel, the highest since New York futures began trading in 1983. If an event took roughly seven MBD off the market, even with drawing down two and a half MBD from the U.S. Strategic Petroleum Reserve, the world price of crude oil

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<sup>32</sup> *Id.*

<sup>33</sup> Kumins & Bamberger, *supra* note 19, at 15 (describing *Russian Oil Fears Play in Iraq Policy: Moscow Neutrality During War Sought*, WASH. POST, Nov. 22, 2002, at 1A); see also Blanche, *supra* note 27.

<sup>34</sup> Kumins & Bamberger, *supra* note 19, at 15 (citing *Russia—Country Analysis Brief*, U.S. Dept. of Energy, at <http://www.eia.doe.gov/emeu/cabs/russia.html> (last modified Nov. 2002)).

<sup>35</sup> *Saudi Arabia—Country Analysis Brief*, U.S. Dept. of Energy, at <http://www.eia.doe.gov/emeu/cabs/saudi.html> (last modified June 2004).

<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

<sup>39</sup> *Id.*

could quickly hit \$75 a barrel.<sup>40</sup> Economists suggest that oil shocks of this magnitude could lead to significantly higher inflation, contraction in economic output, and higher unemployment.<sup>41</sup> Brookings economist George L. Perry estimates that such a price increase might raise inflation by five percentage points and promptly impose a recession throughout the industrialized world.<sup>42</sup> Then-OPEC Secretary General Rilwanu Luckman was quoted, before the current war in Iraq began, as stating that unrest in Saudi Arabia would likely result in the loss of unprecedented amounts of crude supply to the world market, with impacts beyond the range of experience.<sup>43</sup>

### III. DIVERSE INTERDEPENDENCE, NOT ISOLATIONIST INDEPENDENCE

Some authors<sup>44</sup> suggest that the potential risks to our nation's oil supply call primarily for a more serious exploration of domestic solutions to our domestic oil needs and energy security. However, this reasoning ignores the reality and complexity of any potential disruption in the international oil supply. The idea that we can somehow fully insulate ourselves from petroleum uncertainties around the world is nothing more than a quixotic dream. As discussed above, a disruption of roughly only seven MBD in the international oil supply could wreak havoc on the global economy.<sup>45</sup> If the disruption came from within the Saudi oil network, not only would it paralyze the global economy, but probably cause a global economic downturn at least as devastating as the Great Depression of the 1930s, if not worse.<sup>46</sup> Shockwaves would reverberate around the world as individual

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<sup>40</sup> Pietro S. Nivola, *Energy Independence or Interdependence? Integrating the North American Energy Market*, 20 BROOKINGS REV. 24–25 (2002).

<sup>41</sup> Marc Labonte, *The Effect of Oil Shocks on the Economy: A Review of the Empirical Evidence*, Congressional Research Service, June 25, 2004, at 1.

<sup>42</sup> Nivola, *supra* note 40, at 24–25.

<sup>43</sup> Kumins & Bamberger, *supra* note 19, at 4–5.

<sup>44</sup> See, e.g., Coon & Philips, *supra* note 8, at 5 (explaining that the most practical way to limit U.S. vulnerability to disruptions in foreign oil supply is to augment domestic oil production).

<sup>45</sup> Nivola, *supra* note 40, at 24–25.

<sup>46</sup> Pollack, *supra* note 9.

economies collapsed due to high currency inflation that would result from a rapid increase in petroleum spot prices.<sup>47</sup>

Therefore, the issue at hand is not simply U.S. dependence on unreliable sources of oil (particularly from the Middle East), but global dependence on these sources along with the lack of additional excess capacity within the global oil supply. The “fact that the United States does not import most of its oil from the Persian Gulf is irrelevant: if Saudi oil production were to vanish, the price of oil in general would shoot through the ceiling, destroying the American economy along with everybody else’s.”<sup>48</sup>

Also, it does not matter greatly where product goes once it enters the fluid international petroleum market.<sup>49</sup> On September 22, 2000, the Clinton Administration announced that it would draw down some of the Strategic Petroleum Reserve to help relieve the domestic market of high oil prices.<sup>50</sup> Senator Frank Murkowski, then Chairman of the Senate Energy Committee, underscored the irony that oil from the U.S. Strategic Petroleum Reserve might primarily relieve the European, rather than the U.S. market.<sup>51</sup>

In addition to the impact to other industrialized nations, fluctuation in the oil market would even more significantly affect less developed nations, including those that are in the midst of rapid industrialization, such as China.<sup>52</sup> China already is the source of around forty percent of world oil demand growth over the past four years, and its demand will continue to increase significantly in the years to come.<sup>53</sup> The expectation of growing even more dependent on oil imports has propelled China to acquire significant interests in exploration and production abroad.<sup>54</sup>

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<sup>47</sup> A “spot price” is the current delivery price of a commodity traded in the market.

<sup>48</sup> Pollack, *supra* note 9.

<sup>49</sup> *Id.*

<sup>50</sup> Kumins & Bamberger, *supra* note 19, at 20.

<sup>51</sup> *Id.*

<sup>52</sup> *Global Energy Security: Hearing Before the Subcomm. on Int’l Econ. Policy, Export and Trade Promotion of the Comm. on Senate Foreign Relations*, 108th Cong. 17 (2003) (statement of Martha Brill Olcott, Senior Associate, Carnegie Endowment for Int’l Peace) [hereinafter Olcott Statement].

<sup>53</sup> *China—Country Analysis Brief*, U.S. Dept. of Energy, at <http://www.eia.doe.gov/emeu/cabs/china.html> (last modified July 2004).

<sup>54</sup> *Id.*



Although China continues to diversify its sources of supply, roughly half of China's imported oil comes from the Middle East, with Saudi Arabia alone accounting for seventeen percent in 2003.<sup>55</sup>

High spot prices of oil, especially unexpectedly high prices, would disrupt the economies of less developed states, placing massive burdens on their fragile economies, and could ultimately destabilize whole sub-regions of the world.<sup>56</sup> Furthermore, these countries do not have the same level of draw down capacity from domestic strategic petroleum reserves as does the United States. It is important to recognize that uncertainties in the international oil market can result in numerous, seemingly unrelated, security problems for the United States, even when a steady supply to the U.S. market is maintained.<sup>57</sup> For example, spikes in the petroleum supply could cripple China's economy and cause cascading effects throughout the entire global economy due to the high degree of foreign investments in China and foreign reliance on manufactured products from China. Put another way, what good would it be for Americans to have gas to drive to the store if there was nothing in the store when they arrived? Like it or not, much of the U.S. economy's success is closely tied to the success of others.

Therefore, the proper way to frame concerns about "dependence on foreign oil" is to address vulnerabilities to specific oil supply disruptions.<sup>58</sup> In this regard, diversity of supply directly enhances the security of supply.<sup>59</sup> The more producing areas there are around the world, the better.<sup>60</sup> Additionally, the more excess capacity there is from individual producing countries, the

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<sup>55</sup> *Id.*

<sup>56</sup> Olcott Statement, *supra* note 52.

<sup>57</sup> *Id.*

<sup>58</sup> *Global Energy Security: Hearing Before the Subcomm. on Int'l Econ. Policy, Export and Trade Promotion of the Comm. on Senate Foreign Relations*, 108th Cong. 3 (2003) (statement of Vahan Zanoian, President & CEO, PFC Energy) [hereinafter Zanoian statement].

<sup>59</sup> *Id.*

<sup>60</sup> *Id.*

better.<sup>61</sup> Therefore, we should focus primarily on excess capacity and integration rather than insulation.<sup>62</sup>

#### A. SAUDI ARABIA'S EXCESS PRODUCTION CAPACITY

Although any significant loss of petroleum is a major threat to the global economy, the ramifications are dramatically worse if the loss occurs in Saudi Arabia. This is because there is a crucial difference between commercial and strategic significance when it comes to key crude oil suppliers.<sup>63</sup> Although there are a multitude of significant commercial petroleum suppliers, and Iraq can also become one in the long run, currently only Saudi Arabia exists as a strategic supplier to the world oil markets.<sup>64</sup> Saudi Arabia's special role is due to the fact that it possesses nearly one-hundred percent of the entire world's excess oil production capacity – additional output the world can turn to in case of a disruption.<sup>65</sup> Over the last two decades, the world's excess production capacity has shrunk from about 10 MBD in the 1980's to about 1.5 million today.<sup>66</sup> Additionally, current global demand is pressuring Saudi Arabia to increase production and dip into this excess capacity, thereby minimizing even further any potential buffer.

Two unique features have given Saudi Arabia its strategic significance as a crude oil supplier. First is its willingness and ability to maintain substantial excess production capacity.<sup>67</sup> Second is its willingness and ability to swing production to meet changing global market conditions.<sup>68</sup> No other country in the

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<sup>61</sup> *Excess capacity* is also referred to by experts as *slack capacity*.

<sup>62</sup> Nivola, *supra* note 40, at 24–25.

<sup>63</sup> Zanoan statement, *supra* note 58, at 1.

<sup>64</sup> *Id.*

<sup>65</sup> Persian Gulf Fact Sheet, U.S. Department of Energy, <http://www.eia.doe.gov/emeu/cabs/pgulf.html> (last updated Sept. 2004).

<sup>66</sup> Russell Ray, *Oil prices up on strong demand, tight supply*, TULSA WORLD, Feb. 26, 2005, at E1.

<sup>67</sup> Zanoan statement, *supra* note 58, at 4; see also Edward L. Morse, *A New Political Economy of Oil?*, J. INT'L AFFAIRS (Fall 1999).

<sup>68</sup> Zanoan statement, *supra* note 58, at 4. See also Morse, *supra* note 67.

world has had both the ability and the willingness to perform these two strategic roles.<sup>69</sup>

The role of a swing producer in stabilizing prices by increasing or decreasing production as needed is central to the orderly operation of an international crude oil market. Saudi Arabia's excess capacity allows for stability in the world's oil markets.<sup>70</sup> Without it, there would be cyclical booms and busts, which would destabilize economies and countries. Saudi Arabia is "the supplier of last resort, the central bank of the global oil market that provides liquidity and reassurance in difficult times."<sup>71</sup> If Saudi Arabia continues to operate at a high capacity without sufficient excess capacity in its system, the global market will lose much of its elasticity. As a result, any shock to the petroleum system will be even more devastating.

Saudi Arabia has single-handedly stabilized global oil markets many times over the years. In 1973, Saudi Arabia broke the back of the OPEC embargo by increasing production.<sup>72</sup> The house of Saud also stabilized the oil market in 1980, at the outbreak of the Iran-Iraq war.<sup>73</sup> In fact, by 1979-80, the Saudi Ju'aymah terminal, one of the main oil terminals in the Persian Gulf, was shipping about nine million barrels of oil daily, twice its normal output.<sup>74</sup> It was also Saudi Arabia who stabilized the world market at the onset of the 1990-1991 Gulf War, making up for the loss of both Iraqi and Kuwaiti oil. Finally, on September 12, 2001, Saudi Arabia announced that they would place an extra nine MBD on the world market.<sup>75</sup> By keeping oil prices low, the Saudis prevented significant currency inflation within the United

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<sup>69</sup> Zanoan statement *supra* note 58, at 4. See also Pollack, *supra* note 9. Although there are many factors that contribute to Saudi Arabia's ability to provide this excess capacity, a major one is that oil from Saudi Arabia can be extracted at a lower cost than oil anywhere else in the world. For example, a barrel from Saudi Arabia costing anywhere from a fifth to a tenth of the price of a barrel from Russia.

<sup>70</sup> BAER, *supra* note 10, at xxiv.

<sup>71</sup> Zanoan statement, *supra* note 58, at 5.

<sup>72</sup> BAER, *supra* note 10, at xxiv.

<sup>73</sup> *Id.*

<sup>74</sup> *Id.* at xxi, xxiv.

<sup>75</sup> *Id.* at xxiv. See also Zanoan statement, *supra* note 58, at 5. During 2002 through April 2003, Saudi Arabia increased its crude output over two MBD, an increment

States following September 11, 2001.<sup>76</sup> This flexibility in production is just as important as the actual oil that is produced.

## B. IRAQ'S POTENTIAL FOR RELIABLE EXCESS PRODUCTION CAPACITY

Iraq possesses 11% of the world's proven oil reserves.<sup>77</sup> This equates to over 112 billion barrels, an amount second only to Saudi Arabia.<sup>78</sup> For this reason, some suggest that Iraq may one day become a strategic alternative to Saudi Arabia.<sup>79</sup> Before this happens, Western governments (principally the United States) must continue to allocate billions of dollars to build excess capacity within the system.<sup>80</sup> Put another way, the United States must expend capital specifically with the intention of keeping this capacity idle.<sup>81</sup> This would be similar to the manner in which Saudi Arabia's petroleum infrastructure was developed.<sup>82</sup>

The excess capacity in Saudi Arabia was developed over 30 years ago, not from the Saudi government budget, but by the former American partner companies of Aramco.<sup>83</sup> The Saudi government compensated these companies when it nationalized Aramco through the huge oil surpluses accumulated in the 1970s.<sup>84</sup>

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that is substantially larger than the entire production of Kazakhstan and Azerbaijan combined. Petroleum production of Kazakhstan and Azerbaijan combined was nearly 1.3 million MBD in early 2003.

<sup>76</sup> Zanoian note, *supra* note 58; BAER, *supra* note 10; *see also* Labonte, *supra* note 41 (describing the inflationary effects that result from shocks to the petroleum supply).

<sup>77</sup> James A. Paul, *Iraq: The Struggle for Oil*, at <http://www.globalpolicy.org/security/oil/2002/08jim.htm> (last visited May 30, 2005)

<sup>78</sup> *Id.* *See also* George E. Bisharat, *Facing Tyranny With Justice: Alternatives To War In The Confrontation With Iraq*, 7 J. GENDER RACE & JUST. 1, 3 (2003). Iraqi oil is pure and relatively easy to extract, costing as little as ninety- seven cents per barrel, as compared to three to four dollars for North Sea oil.

<sup>79</sup> Zanoian statement, *supra* note 58, at 10.

<sup>80</sup> *Id.*

<sup>81</sup> *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> *Id.* *See also* Euclid A. Rose, *OPEC's Dominance of the Global Oil Market: The Rise of the World's Dependency on Oil*, 58 THE MIDDLE EAST JOURNAL 425, 429-35 (2004) (describing the history of OPEC's rise to dominance in the 1970s).

<sup>84</sup> Zanoian statement, *supra* note 58, at 6.

Although Iraq's growing participation in the oil market may partly increase global economic security, there are numerous problems with Iraq's overall role as a strategic alternative.<sup>85</sup> The new government will face tremendous financial pressures over the next decade.<sup>86</sup> Iraq will likely not be able to afford to keep spare capacity simply so that it can play the role of a swing producer for the rest of the world.<sup>87</sup> Even with the flood of U.S. dollars into Iraq, the new Iraqi government will still feel the need to buttress these investments in infrastructure construction. The new government, therefore, will be forced to decide whether idled production capacity should come at the expense of international oil companies operating in the country or the Iraqi people.<sup>88</sup>

The increasing demand for oil from newly industrializing countries like China will continue to drive up global petroleum costs. As the United States looks forward to shouldering the more than \$200 billion burden of liberating Iraq, it is difficult to imagine that U.S. leaders will argue for keeping capacity idle in the face of higher gas prices at home.

This entire debate may be merely academic, as many believe that Iraq's capacity is too limited<sup>89</sup> by dilapidated infrastructure and the continuing problem of sabotage and terror attacks.<sup>90</sup> In fact, few analysts think that Iraq's output will rise even to six MBD in under a decade—let alone to Saudi levels of over eight MBD.<sup>91</sup> Because of continuing problems, it looks less and less likely that Iraq will be able to serve as a strategic alternative to Saudi Arabia's oil supply.<sup>92</sup>

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<sup>85</sup> *Id.*

<sup>86</sup> *Id.*

<sup>87</sup> *Id.*

<sup>88</sup> *Id.*

<sup>89</sup> *Still holding customers over a barrel – OPEC*, THE ECONOMIST, Oct. 25, 2003, at 61–62 [hereinafter *OPEC*].

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

C. RUSSIA'S POTENTIAL FOR RELIABLE EXCESS  
PRODUCTION CAPACITY

Currently, Russia appears to be willing to accept greater foreign investment within its petroleum industry.<sup>93</sup> As a result, large oil firms are flooding investment in search of Russian oil reserves, which are the largest of any country outside the Middle East.<sup>94</sup> Even Russia, however, cannot become a stable swing producer and a secure alternative to OPEC.<sup>95</sup>

In Saudi Arabia, the government itself controls its nationalized excess capacity in the attempt to manage prices and adjust to disruptions in the global petroleum supply.<sup>96</sup> Russia's oil production is partly privatized, and the country does not have the same ability to manage exports as does the house of Saud.<sup>97</sup> A private company's management will have a difficult time justifying to shareholders why it should expend large amounts of capital to create a buffer for the security of the global community as a whole.<sup>98</sup>

Basic environmental hurdles also stand in the way of Russia becoming a reliable alternative to Saudi Arabia. For part of the year, many of Russia's ports are frozen, thereby preventing oil tankers from accessing any potential excess supply that private oil companies may develop.<sup>99</sup>

This certainly does not mean that growth in Russia's petroleum production is not a positive influence on the current global supply. Russia can increase its petroleum production by strengthening its corporate governance and the legal/regulatory framework for business, continuing to improve its foreign investment climate, improving its technological capabilities, and allowing greater competition between oil companies and transportation systems.<sup>100</sup> Any increased production will further

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<sup>93</sup> *Id.*

<sup>94</sup> *Id.*

<sup>95</sup> *Id.*

<sup>96</sup> *Id.*

<sup>97</sup> *Id.*

<sup>98</sup> *Id.*

<sup>99</sup> *Id.* (citing Zanoian statement, *supra* note 58, at 6).

<sup>100</sup> Alan Carson, Geopolitics of Oil and Natural Gas, 9 ECON. PERSP. 10 (May 2004), available at <http://usinfo.state.gov/journals/journals.htm>.

diversify the global supply, thereby lessening the risk of loss from any individual petroleum supplier. However, it is unlikely that Russia will fill the vital strategic role that Saudi Arabia currently plays.

#### IV. NORTH AMERICAN OPTIONS TO ENHANCE INTEGRATION WITHIN THE GLOBAL PETROLEUM SUPPLY

As discussed above, diversification and interdependence on dependable sources of petroleum are necessary for increased global energy security. One way for the United States to enhance a deeper integration with petroleum-producing nations is to focus on the ones next door. Seventy percent of America's oil is either produced in the United States or comes from the Western Hemisphere.<sup>101</sup> Mexico is currently the world's eighth largest oil producer.<sup>102</sup> However, it holds roughly twenty-three percent larger proven oil reserves than the United States, the world's second largest oil producer.<sup>103</sup> Consequently, some argue these reserves provide a tremendous incentive to develop Mexico's petroleum industry.<sup>104</sup> Similarly, Canada currently exports more petroleum to the United States than Saudi Arabia does.<sup>105</sup> In March 2005, the United States imported an average of 1.98 MBD of petroleum from Canada, 1.64 MBD from Mexico, and 1.62 MBD from Saudi Arabia.<sup>106</sup> For this reason, the spotlight has turned onto NAFTA, the principle trade agreement between the United States and its neighbors.

##### A. NAFTA OVERVIEW

The North American Free Trade Agreement ("NAFTA") became effective on January 1, 1994. NAFTA expanded the free

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<sup>101</sup> Yergin Hearing, *supra* note 1, at 3.

<sup>102</sup> Noel Randewich, *Mexico's oil windfall to build roads, renew Pemex*, REUTERS (Aug. 23, 2004).

<sup>103</sup> Nivola, *supra* note 40, at 24–25.

<sup>104</sup> *Id.*

<sup>105</sup> *Crude Oil and Total Petroleum Imports Top 15 Countries*, U.S. Department of Energy, [http://www.eia.doe.gov/pub/oil\\_gas/petroleum/data\\_publications/company\\_level\\_imports/current/import.html](http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/company_level_imports/current/import.html) (last visited May 31, 2005) [hereinafter Department of Energy Report]. See also Kumins & Bamberger, *supra* note 19, at 13.

<sup>106</sup> Department of Energy Report, *supra* note 105.

trade realm that had been created by the Canada – United States Free Trade Agreement. NAFTA eliminated many of the lingering energy trade barriers that had existed between Canada, Mexico, and the United States.<sup>107</sup> Chapter Six of NAFTA regulates cross-border energy trade.<sup>108</sup> The three primary principles set forth in Article 601 of the January 1, 1994, version of NAFTA that relate to petroleum and overall energy trade are:

- (1) The Parties confirm their full respect for their Constitutions;
- (2) The Parties recognize that it is desirable to strengthen the important role that trade in energy and basic petrochemical goods plays in the free trade area and to enhance this role through sustained and gradual liberalization;
- (3) The Parties recognize the importance of having viable and internationally competitive energy and petrochemical sectors to further their individual national interests.<sup>109</sup>

The United States already had a largely deregulated oil industry, so the agreement actually did little to significantly change the United States' existing energy industry.<sup>110</sup> It already favored, and even relied on, significant cross-border trade in oil and gas products.<sup>111</sup>

Articles 603 and 604 of NAFTA, in general, limit a member country's placement of minimum or maximum import or export price requirements.<sup>112</sup> The goal of these articles is to create greater fluidity in terms of both cost and supply within the North American petroleum market. A member country may not impose tax, duty, or charge on the export of energy products unless

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<sup>107</sup> Middleton, *supra* note 4, at 184–85.

<sup>108</sup> *Id.* (citing North American Free Trade Agreement, January 1, 1994, U.S.-Can.-Mex., art. 601).

<sup>109</sup> *Id.* The deference shown by “their Constitutions” is important specifically for Mexico, whose constitution requires state control over its energy sector. This difference will be explained fully later in this paper.

<sup>110</sup> Middleton, *supra* note 4, at 185.

<sup>111</sup> Kumins & Bamberger, *supra* note 19, at 29.

<sup>112</sup> Middleton, *supra* note 4, at 186.



the same tax, duty, or charge is imposed on domestic sales.<sup>113</sup> Additionally, a party may not impose a higher price on exports to another NAFTA nation than is paid by domestic purchasers.<sup>114</sup>

## B. EXCEPTIONS TO THE GENERAL DEREGULATION UNDER NAFTA

NAFTA also incorporates a few specific exceptions in times of heightened national security or emergency. Article 607 allows a member country to restrict exports of energy for reasons of national security such as increasing military supplies of energy, fulfilling a critical defense contract, or responding to an armed conflict.<sup>115</sup>

Article 605 places additional requirements on when a member nation may place limitations on exports to another NAFTA member.<sup>116</sup> Article 605 allows a member to create and maintain a restriction on exports of energy only if the proportion of the exports to the other members is equal to the proportion the member has kept in reserve for the last thirty-six month period.<sup>117</sup> For this reason, each country has an incentive to create domestic petroleum reserves which can also be used in times of need. Article 608 recognizes the importance of government incentives for oil resource development.<sup>118</sup>

## C. CANADA AND NAFTA

Canada's energy potential is tremendous, and its importance to the U.S. oil supply will only continue to increase in coming years.<sup>119</sup> New discoveries, such as Newfoundland's massive Hibernia Field, are creating significant increases to the potential supply.<sup>120</sup> Estimates of Alberta's oil sands predict that it may

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<sup>113</sup> *Id.* at 187 (citing H.R. REP. NO. 103-361, pt. 5 (1993)).

<sup>114</sup> *Id.*

<sup>115</sup> *Id.* (describing North American Free Trade Agreement, Jan. 1, 1994, U.S.-Can.-Mex., Art. 607.)

<sup>116</sup> *Id.*

<sup>117</sup> *Id.* at 187-88.

<sup>118</sup> *Id.* at 188.

<sup>119</sup> Nivola, *supra* note 40, at 24-25.

<sup>120</sup> *Id.*

contain 300 billion barrels of oil.<sup>121</sup> This alone is more than the entirety of Saudi Arabia's proven reserves.<sup>122</sup> If Alberta's oil sands were developed, only one quarter of this reserve would be needed to meet the combined oil demand of both Canada and the United States for nearly a decade (at 2001-2002 rates of consumption).<sup>123</sup> However, much of Canada's immense potential is unrecoverable at current prices.<sup>124</sup> Therefore, the market costs to extract these petroleum supplies are prohibitive compared to Saudi Arabian hydrocarbon resources.

Some Canadians point to a number of problems created by NAFTA. These negative consequences include depletion of Canada's resources, increased domestic petroleum costs, and greater economic uncertainty resulting from spikes in petroleum costs. They argue that NAFTA has forced gasoline prices in Canada to skyrocket because Articles 603 and 604 require a party to charge the same prices domestically that they charge for their exports.<sup>125</sup> Therefore, according to this line of reasoning, NAFTA handcuffs Canadians to the ebb and flow of the global energy market, even though Canada produces a sufficient amount of petroleum to meet its own domestic energy needs.<sup>126</sup>

Additionally, many Canadians feel that NAFTA prevents them from conserving their own natural resources. In fact, some are even calling for Canada to follow Mexico's lead and reassert sovereignty over its energy resources.<sup>127</sup> These concerns are heightened as a result of Canada's resources being depleted at a faster rate than was predicted at the time NAFTA was enacted.<sup>128</sup> This is, in part, due to the United States' unwillingness to accept responsibility for its soaring energy demands and develop alternative energy resources. In a cruel irony, as U.S. environmental proponents press for the United States to preserve its own oil-

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<sup>121</sup> *Id.* at 25-26.

<sup>122</sup> *Id.*

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

<sup>125</sup> Middleton, *supra* note 4, at 192.

<sup>126</sup> *Id.* at 193.

<sup>127</sup> *Id.* (citing Richard Cairney, *Is Alberta Gas Fuelling the American Dream?* (Mar. 1, 2001), available at [www.expressnews.ualberta.ca/expressnews/articles/news.cfm?p\\_ID=274](http://www.expressnews.ualberta.ca/expressnews/articles/news.cfm?p_ID=274) (last visited May 20, 2005)).

<sup>128</sup> *Id.* at 194.

rich lands in the Artic National Wildlife Refuge, Canadian corporations are depleting Canada's natural resources to meet American demand.<sup>129</sup> Therefore, some believe that the United States is actually spoiling Canada's environment while trying to protect its own.

#### D. MEXICO AND NAFTA

Although NAFTA generally deregulated trade in partnering countries, major exceptions were carved out for Mexico in accordance with its constitution. The Mexican Constitution requires state control of its energy sector.<sup>130</sup> For this reason, Annex 602.3(1) of NAFTA allows for some regulation of the state monopoly Petroleos Mexicanos ("PEMEX") for oil and gas trade. Specifically, this regulation allows Mexico to restrict 50 percent of its total oil exports.<sup>131</sup>

Articles 27 and 28 of the Mexican constitution establish the nation's exclusive right to produce and export petroleum.<sup>132</sup> In 1938, Mexico nationalized its petroleum industry and gave control of production to the state-owned PEMEX.<sup>133</sup> In 1960, Mexico terminated all existing foreign contracts and declared that no new contracts would be granted to foreign investors.<sup>134</sup> By 1969, Mexico had ceased to be an oil exporting country.<sup>135</sup>

However, the potential financial gains from the increased petroleum costs of the early 1970s proved to be too great a temptation for the petroleum isolationists. As a result of the energy crisis in the early 1970s, Mexico again became an exporter of oil.<sup>136</sup> Additionally, Mexico increased investment in its domestic

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<sup>129</sup> *Id.* at 190–91.

<sup>130</sup> *Id.* See also *NAFTA: Energy*, United States-Mexico Chamber of Commerce, available at <http://www.usmcoc.org/n9.html> (last visited May 20, 2005) [hereinafter *NAFTA: Energy*].

<sup>131</sup> See Middleton, *supra* note 4, at 187.

<sup>132</sup> *Id.* at 195. See generally Morse, *supra* note 67; *NAFTA: Energy*, *supra* note 130.

<sup>133</sup> See Middleton, *supra* note 4, at 195.

<sup>134</sup> *Id.* at 196.

<sup>135</sup> *Id.*

<sup>136</sup> *Id.*

oil and gas exploration.<sup>137</sup> As a result of this renewed exploration, by 1981, recent discoveries had given Mexico the fifth largest oil reserves in the world.<sup>138</sup> Today, Mexico is the world's eighth largest oil producer.<sup>139</sup>

Today, PEMEX maintains its monopoly on production of petroleum in Mexico; however, its overall monopoly has been somewhat reduced. In 1996, Mexico modified its constitution, limiting the government's exclusive production rights to only eight basic petrochemicals, in which crude oil is included.<sup>140</sup> While President Fox has liberalized certain energy industries, such as the electrical industry, PEMEX continues to have a monopoly on all upstream oil activities.<sup>141</sup> While some services can be provided by international corporations on a cash basis, large joint ventures in the production of petroleum are outlawed.<sup>142</sup>

PEMEX is a decentralized agency with four subsidiaries: PEMEX Exploration and Production, PEMEX Gas and Basic Petrochemicals, PEMEX Refining, and PEMEX Petrochemicals.<sup>143</sup> Each of these entities has suffered from significant inefficiencies that are less common in more efficient multinational oil companies.<sup>144</sup> These inefficiencies reaffirm the need for foreign expertise in any future petroleum related developments in Mexico.

## V. TWO FUTURE DIRECTIONS FOR NAFTA

The numerous approaches on how to harness the potential of NAFTA to enhance U.S. and global energy security may be grouped under two general categories. The first is the more natural evolution of NAFTA, allowing for greater deregulation and cross-border private capital investment, particularly in the state-

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<sup>137</sup> *Id.* at 196–97.

<sup>138</sup> *Id.*

<sup>139</sup> Randewich, *supra* note 102.

<sup>140</sup> *Mexico risk: Infrastructure risk*, Economist Intelligence Unit – RiskWire, THE ECONOMIST, Sept. 8, 2004.

<sup>141</sup> *Id.*

<sup>142</sup> *Id.*

<sup>143</sup> *NAFTA: Energy*, *supra* note 130.

<sup>144</sup> *Id.*

controlled PEMEX. The second category calls for additional regulations on NAFTA parties.

These broad categories have a common theme; both use international pressure to create domestic change. In the first category, deregulating the interaction between the North American markets will force Mexico to accept greater foreign investment in order to enhance its petroleum industry. In the second category, developing standards to create greater equality in certain characteristics of the North American petroleum market will increase international pressure on the United States to decrease the high rate of oil consumption. Because the United States is such a massive consumer in the global petroleum market, simply by limiting the rate of consumption, or forcing the United States to come up with equivalent energy alternatives, the entire global market will be made more secure.

While there are many approaches to additional regulations in NAFTA, this paper will briefly address two of the principle options. One potential approach calls for greater proportionality between NAFTA countries in energy production either in the form of petrochemical or comparable alternative energy forms.<sup>145</sup> Another option for additional regulation would require increased cooperation and collaboration amongst NAFTA partners with respect to environmental standards.<sup>146</sup> While still allowing for a more or less deregulated cross-border flow of oil, proponents argue that these new requirements could actually provide an international market incentive for the United States to develop an energy policy more in line with its national security goals.<sup>147</sup>

#### A. CATEGORY ONE: GREATER DEREGULATION APPROACHES

In accordance with the aspirations of NAFTA, some argue that the three member countries need to be shedding more of their protectionist energy regulations.<sup>148</sup> In particular, they argue

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<sup>145</sup> Middleton, *supra* note 4, at 184.

<sup>146</sup> See generally Alex Nelson, *Developments In Trade And The Environment*, 2002 COLO. J. INT'L ENVTL. L. & POL'Y 69, 76.

<sup>147</sup> *Id.*

<sup>148</sup> Nivola, *supra* note 40, at 26–27.

that Mexico should be urged to further privatize PEMEX.<sup>149</sup> NAFTA could be the vehicle by which this is achieved.

A number of factors have already caused Mexico to open its petroleum industry to more foreign investment. The principle motivation is the basic need for additional capital. Many petroleum producing governments, including Mexico, have found themselves unable to garner sufficient domestic capital to maintain production levels, let alone to increase their capacity.<sup>150</sup> On August 14, 2003, Mexican President Vicente Fox announced that over the next decade Mexico needs \$60 billion USD in private sector investment just to stay abreast of the current demand for electricity.<sup>151</sup> In 2003, Mexico's production of crude oil reached an historic high of an average of 3.37 MBD, constituting a 6.1% increase from the year before.<sup>152</sup> The government has set an ambitious goal to produce 4 MBD by 2006.<sup>153</sup> Such an increase will take significant additional capital.

Second, technological innovations have revolutionized the oil industry, particularly with regard to the upstream sector. This has made it easier, cheaper, and faster to find and develop oil reserves.<sup>154</sup> As a result, reserves that were previously unknown or prohibitively expensive to develop have now become more competitive with the less expensive resources found in the Middle East.<sup>155</sup>

This new technology is frequently only in the hands of large multinational oil producers.<sup>156</sup> This means that even if a country wishes to internally finance petroleum exploration, it will face numerous difficulties without inviting in the large multinational oil corporations. Therefore, in order to compete effectively with

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<sup>149</sup> *Id.*

<sup>150</sup> Morse, *supra* note 68.

<sup>151</sup> John Ross, *After the Blackout, A NAFTA for Energy?*, at <http://victoria.indymedia.org/news/2003/08/16494.php> (last visited May 20, 2005).

<sup>152</sup> *Mexico risk*, *supra* note 140.

<sup>153</sup> *Id.*

<sup>154</sup> Morse, *supra* note 67.

<sup>155</sup> *Id.*

<sup>156</sup> *Id.*

the technological efficiencies possessed by other petroleum exporting countries, it is important to include the larger international players in developing oil reserves.<sup>157</sup>

Lastly, in today's energy market, there is a significantly larger risk of the market controlling the producers rather than the producers controlling the market.<sup>158</sup> As mentioned above, Canada produces a surplus of petroleum yet still finds its domestic petroleum spot prices increasing and decreasing with the global petroleum market.<sup>159</sup> Therefore, it is better to think of petroleum as entering the global market rather than simply being imported by a single country. This is especially true when the country importing the oil is the United States or China, both of which have a nearly insatiable demand for foreign oil. Each barrel imported by the United States from country X means one less barrel that is able to be imported to country Y, thus forcing country Y to search elsewhere for a different supplier. Although there are numerous advantages in greater fluidity within the global petroleum market, petroleum is a volatile sector for a nation's economy.<sup>160</sup> Similar to Saudi Arabia's and Russia's economies, discussed above, Mexico's economy is tied perilously to global oil prices. For example, PEMEX revenues fall by \$1.1 billion annually for every U.S. dollar per barrel decline in its average oil price.<sup>161</sup>

Petroleum producing nations must manage this risk by limiting their individual exposure to large fluctuations in the spot market price.<sup>162</sup> Producing countries can manage this risk in a number of ways. One method is to include foreign capital investors in the initial production.<sup>163</sup> Therefore, any loss suffered (or gains at slower than expected rates) will be spread out among a

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<sup>157</sup> *Id.*

<sup>158</sup> *Id.* See also Middleton, *supra* note 4, at 193 (regarding how Canada's petroleum costs are tied to the global petroleum market even though Canada produces sufficient petroleum to meet its own domestic needs).

<sup>159</sup> Middleton, *supra* note 4, at 193.

<sup>160</sup> *Id.*

<sup>161</sup> See also *NAFTA: Energy*, *supra* note 130.

<sup>162</sup> See generally, Morse, *supra* note 67.

<sup>163</sup> *Id.*

larger group.<sup>164</sup> Additionally, as mentioned above, only a relatively few international companies have the proven experience in large petroleum production.<sup>165</sup> Therefore, to decrease overall risk, it becomes more attractive to use the most experienced firms when expanding the petroleum-producing infrastructure, rather than to simply spread out risk to smaller and less experienced companies.<sup>166</sup>

#### B. CATEGORY TWO: INCREASED REGULATIONS TO CREATE GREATER PARITY IN DEMAND FOR PETROLEUM

Additional regulations among NAFTA members could provide an international market incentive for each of the members to develop a more responsible energy policy in light of the dangers facing the global petroleum supply. Proponents of this second category differ on what a “more responsible energy policy” would actually look like. One proponent’s ideal could be increased public and private investments in renewable energy while another’s could be drilling in the Alaskan National Wildlife Refuge. Regardless of the specific domestic regulations, an increased parity amendment in NAFTA would force the United States to at least address the difficulties of the energy debate head-on.

Some argue that NAFTA and the fluidity in the market actually hurt long-term energy security.<sup>167</sup> They argue that, “simply exchanging one import for another – decreasing imports from the Middle East and increasing imports from the Western Hemisphere – will not solve the problem of the United States’ ever-increasing demand for petroleum.”<sup>168</sup> Over the long-term, it is impossible to fully reduce the threats that exist under the current petroleum-based system without significant investments in alternative based energies. Under the current petroleum-based system, without additional market pressures, the market is offered little incentive to innovate and decrease dependence on oil, a necessary step for energy security.

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<sup>164</sup> *Id.*

<sup>165</sup> *Id.*

<sup>166</sup> *Id.*

<sup>167</sup> See, e.g., Middleton, *supra* note 4, at 184.

<sup>168</sup> *Id.* at 178.



Petroleum shortages and price increases have been a function of market forces.<sup>169</sup> As a result, many energy problems in the United States are largely cyclical in nature.<sup>170</sup> For example, in the late 1990s, the exploration and development of new sources was often not profitable due to low energy prices.<sup>171</sup> Therefore, there was minimal investment in new energy production and distribution facilities.<sup>172</sup> One analyst observed in April 2001 that “[w]e hadn’t done any drilling in three years, and the reason for that was the price of oil was \$12 a barrel [an unprofitably low price at the time].”<sup>173</sup>

### 1. *Greater Parity in the Ratio of Energy Production/Consumption*

An amendment to NAFTA Chapter Six requiring the United States to increase its oil production/consumption ratio to a more equitable proportion compared to other NAFTA countries or to find comparable alternative energy could provide needed market pressure without significantly shocking the cost of petroleum.<sup>174</sup> This would be an efficient market solution for decreasing the demand for petroleum and, thereby, increasing national security in general. Under the current system, the market must react to increases in cost or uncertainty in the petroleum market. These higher costs then provide incentives for greater research in more fuel-efficient products or greater petroleum resources. This new system would provide additional incentives to rein in the runaway U.S. demand for international oil while not exposing the U.S. economy to the downsides of sudden increases in spot oil prices.

The objective of placing this responsibility directly on the shoulders of the United States is not an attempt to completely insulate the United States from global energy fluctuations. As

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<sup>169</sup> Gary C. Bryner, *The National Energy Policy: Assessing Energy Policy Choices*, 73 U. COLO. L. REV. 341, 363 (2002).

<sup>170</sup> *Id.* at 362.

<sup>171</sup> *Id.* at 363.

<sup>172</sup> *Id.* at 362.

<sup>173</sup> *Id.* (citing Peter Behr & Eric Pianin, *With Energy Woes, Different Solutions; Domestic Production Not a Cure-all, Some Say*, WASH. POST, Apr. 9, 2001, at A3).

<sup>174</sup> Middleton, *supra* note 4, at 184.

discussed above, it would be futile to attempt to completely insulate the entire U.S. economy from the global energy market. Rather, this “responsibility” would require the United States to refocus on its runaway demand and failure to sufficiently invest in new long-term energy supplies.

## 2. *Environmental Regulations*

Greater parity in production and consumption would force the United States to recognize parity in its environmental concerns as well as prompt it to take a greater leadership role in protecting the environment on a global scale. As mentioned above, fluidity in the current market allows for the United States to advocate internal environmental protections while at the same time ignoring the environmental ramifications from the production of imported oil (e.g., petroleum from Canada’s Arctic Circle).<sup>175</sup>

A NAFTA amendment could directly address these environmental concerns by requiring a member country to import oil from companies that satisfy a base level of environmental guidelines. This would broaden the efforts of U.S. environmentalists to better address environmental actions in Canada and Mexico. These efforts would hopefully result in greater market pressure being placed upon corporations (both domestic and foreign) that significantly harm the environment. Domestic enforcement entities could also ensure that these standards are met. Additionally, U.S. environmental groups could place pressure on U.S. corporations, as well as those corporations that do business with them. Therefore, these U.S. corporations would also help ensure that petroleum is derived in a manner that satisfies base environmental standards, helping to protect U.S. companies from unfair competition with companies that have lower environmental standards.

In a report released June 17, 2002, the Secretariat of the Commission for Environmental Cooperation of North America determined that coordinated environmental standards could create additional market efficiencies.<sup>176</sup> Such a “level playing field”

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<sup>175</sup> *Id.*

<sup>176</sup> Nelson, *supra* note 146, at 76.

will allow for efficient market allocation of production and demand.<sup>177</sup> Just as NAFTA allowed for greater efficiency of the trade of manufactured goods by creating common environmental standards throughout North America, NAFTA could create efficiencies in both energy production and consumption. This, in turn, could provide for more affordable and abundant energy supplies in North America.<sup>178</sup>

Increased cooperation and collaboration among NAFTA partners with respect to environmental and energy information and strategies could also enhance global petroleum security. The Secretariat's report also stressed the importance of technology diffusion and sharing between NAFTA partners.<sup>179</sup> By requiring commonality in environmental standards, U.S. companies that produce "clean" energy supplies could find a market in both Canada and Mexico for such infrastructure. This, combined with greater foreign investment, for example in Mexico, would allow for cleaner petroleum extraction.

## VI. CONCLUSION

Although these two broad solutions appear contradictory, they are not mutually exclusive. Greater deregulation in cross-border investment may exist at the same time that the United States grapples with domestic efforts to both reduce petroleum demand and increase the supply of energy sources (based on either petroleum or alternative sources of energy).

The fact that the United States and many of its allies consume more oil resources than they produce ensures that the question of energy security will remain a vital one until new sources of energy or new patterns of consumption emerge. The only long-term solution to current energy related problems is a fundamental shift of global consumption from petroleum-based fuels to alternative energy supplies. Policymakers must attempt this transformation as quickly as possible to avoid disastrous security and environmental ramifications.

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<sup>177</sup> *Id.*

<sup>178</sup> *Id.* at 76–77.

<sup>179</sup> *Id.*

Until this transformation is fully accomplished, policymakers must grapple with the very real dangers facing the current petroleum supply. While it is necessary to reduce dependence on less-stable energy supplies in order to achieve greater energy security, it is also important to remember that, due to the heightened level of global economic integration, it is impossible to fully insulate ourselves from the dangers of insecurity in the global petroleum market. The shockwaves from a single economy that fails due to a spike in oil prices can reverberate around the world as happened following the 1999 decline of the Thai Baht. Even if the United States were to produce sufficient petroleum for domestic needs, real dangers would still exist for the global community and thereby the United States. The biggest danger to overall energy security is the overall global economy's dependence on undependable and highly concentrated supplies of petroleum, not simply its scarcity. While volatility in global crude oil markets is unavoidable, diversity of supplies can help enhance both security of supplies and stability in all economic markets.<sup>180</sup> Therefore, while we attempt to wean ourselves from a petroleum-based economy, we must look to methods that will increase this diversity and decrease reliance on highly undependable suppliers in the world. International agreements such as NAFTA may be one way to achieve this goal.

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<sup>180</sup> Zanoian statement, *supra* note 58, at 4.