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GUEST EDITORIALS

An Interview with Andrew Weissman

by Bill Powers, Editor

Canadian Energy Viewpoint

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For this month's issue Andy Weissman has generously agreed to share some of his research into the dynamics of the North American natural gas market. Mr. Weissman is widely recognized as one of the foremost experts in the United States on energy issues and is currently Chairman of the Energy Ventures Group LLC, a boutique investment firm specializing in energy related issues. During his 30-year career, Mr. Weissman has provided strategic advice and counseling to more than 40 major energy companies, generally at the CEO level. During the early 1990's, he helped to pioneer the market for buying and selling emission rights under the Clean Air Act. Also, Mr. Weissman is a lawyer, who earlier in his career represented many of the leading electric utilities in the U.S. He received his A.B. degree with High Distinction from the University of Michigan, Phi Beta Kappa junior year, and his J.D. from Harvard Law School, cum laude.

Powers: You recently published a series of articles that contained some groundbreaking research about the current state of the North American natural gas market. Let's start off by discussing the reasons behind the record injections into storage this past summer in the US.

Weissman: Sure, Bill. I appreciate having the opportunity to discuss these important issues with you and your readers. In the summer months, the primary factor driving injections of natural gas into storage in the U.S. market is the need for Local Distribution Companies ("LDC's") to replenish reserves in anticipation of the coming winter heating season.

Last winter, as you know, we ended the winter heating season with storage at record lows. The total amount of working gas in underground storage reached a low point of approximately 642 Billion Cubic Feet (BCf) in mid-April. This was almost 850 BCf below the end-of-season low of 1,491 BCf the year before.

This low end-of-season storage virtually guaranteed that, in order to refill storage to acceptable levels by the end of the Refill Season this past October, record amounts of natural gas would have to be injected into storage during the spring and summer months – at least if the LDC's and their suppliers could find a way to purchase large enough quantities of natural gas required to make up the massive deficit from last winter.

In the U.S., most LDC's file a Storage Refill Plan with their State Public Utility Commission ("PUC") every spring indicating how much natural gas they believe they will need to have in storage by the end of the Refill Season in order to reliably serve their customers. The goal is to have at least some safety margin, even if the next winter turns out to be colder-than-normal. These plans generally contain a month-by-month schedule of proposed purchases, which must be approved by the PUC before it is implemented in order to ensure cost recovery by the LDC's.

While some LDC's began purchasing increased quantities of natural gas for injection into storage as early as April, many of these plans were not approved until May. As soon as the plans went into effect in June, the LDC's and their suppliers began stepping up their purchase of natural gas in the spot market. Almost immediately, the spot market price shot-up to well above \$6.00 U.S. – a price never before previously seen in the U.S. market in summer months. By the end of the summer, the goal of restoring storage to normal levels was largely accomplished.

To achieve this goal, however, it was necessary to inject significantly more natural gas into storage than in a normal Refill Season. Between the end of March and the end of October, over 2,425 BCf was injected into storage – about 400 - 450 BCf more than the long-term average. This huge increase in the amount of natural gas injected into storage drew a great deal of attention within the industry. Further, the size of the injection seemed particularly large when compared with the 2002 Refill Season.

2002 had been an unusual year, since end-of-winter season storage had started at an unusually high level. This resulted in part from exceptionally mild winter during the '01/'02 winter heating season, which was close to a "1 in a 100 year"-type winter. In part, as a result of this high starting point, the amount of natural gas injected into storage was the lowest in many years -- i.e., only 1,672 BCf for the season as a whole. This set the stage for particularly striking year-over-year comparisons between injections into storage in 2002 and 2003 – in which the amount of natural gas injected into storage increased by almost 850 BCf.

The specific year-over-year comparisons for the spring and summer months are set forth in Table 1:

Table 1 Year-Over -Year Increase in Injections 2003 vs. 2002

Month	2003	2002	Increase
April	166 BCf	141 BCf	+ 25 BCf
May	404 BCf	309 BCf	+ 95 BCf
June	468 BCf	340 BCf	+ 128 BCf
July	361 BCf	231 BCf	+ 130 BCf
August	306 BCf	234 BCf	+ 72 BCf

Total	1,705 BCf	1,255 BCf	+ 450 BCf
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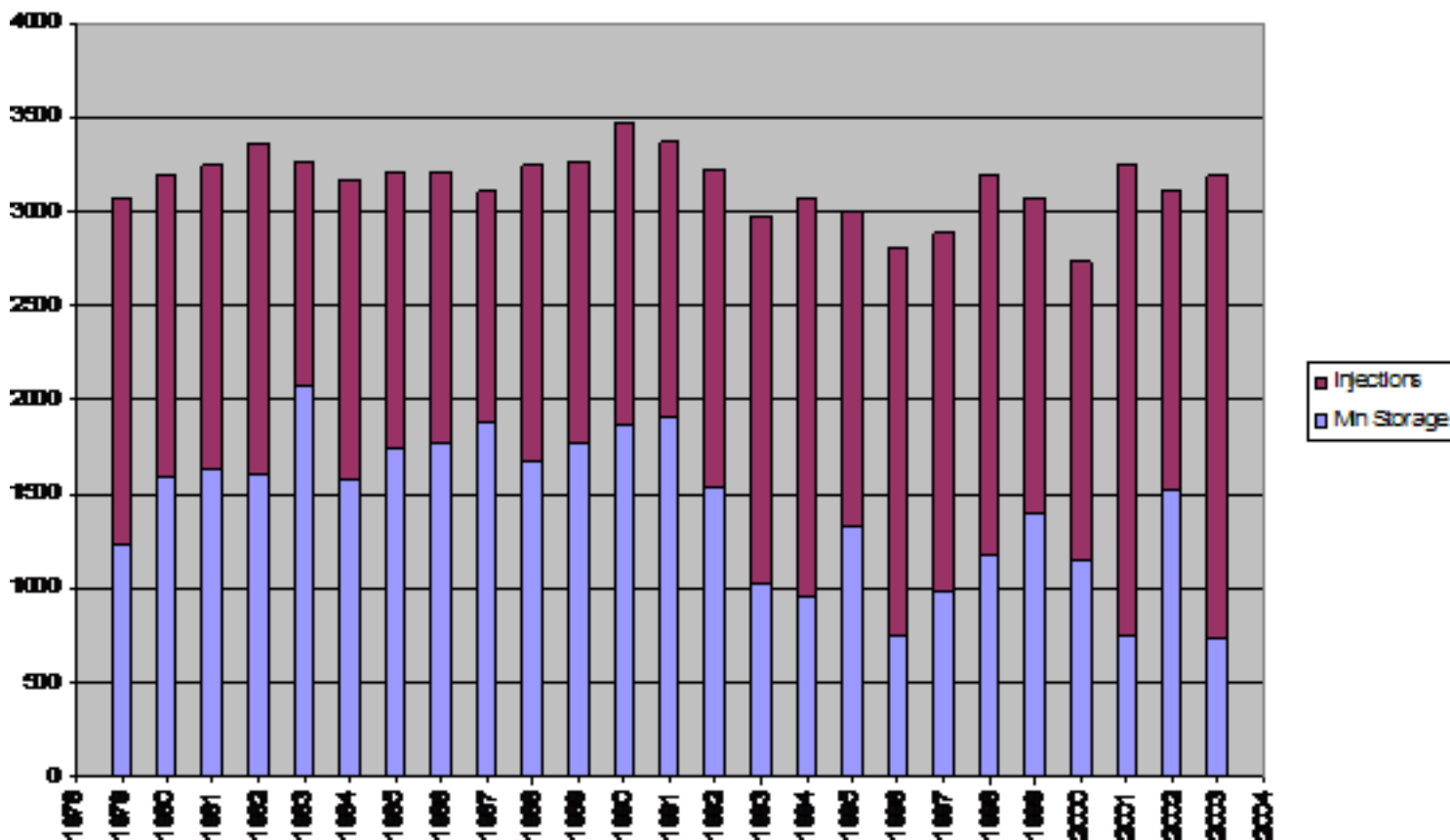
At least with the benefit of hindsight, in some respects, the huge size of these injections should not necessarily have been a surprise. Essentially, the LDC's are under a government mandate, in the form of orders from the State PUC's, to make sure that they have enough natural gas in storage at the end of the Refill Season every year so that, as one LDC executive once put it to me fairly vividly "no one's grandmother freezes to death even if we have a blast of cold weather at the end of a long heating season."

The LDC's should – and do – take this responsibility *very* seriously. In this sense, given badly depleted reserves at the end of last winter, than had no choice other than to inject record amounts of natural gas into storage during the 2003 injection season.

The injections that occurred – while far higher than normal levels – had the same result as occurs in most years – i.e., they restored the amount of natural gas in storage by the end of the Refill Season to a level that approximately equaled the 5-year norm.

This comparison to prior years is shown in Figure 1, furnished to us by Ernie Ellingson at Power Navigator in Atlanta, Georgia:

Figure 1: 2003 Refill vs. Historical Norm
2003 Refill vs. Historical Norm



Nonetheless, the fact that injections in 2003 were so much larger than in 2002 stunned many in the industry

(including, I confess, to some degree, me).

This was particularly true with respect to the injections that began in the last week in May and continuing through early July, when the Energy Information Agency (EIA) reported a string of monster-sized injections for 6 consecutive weeks. These injections broke triple digits (i.e., 100 BCf) in all but one week, and *averaged* over 114 BCf for the 6-week period as a whole. The injections during this period were by far and away the largest that had ever occurred in any 6 week period in U.S. history. In the aggregate, for June and July as a whole, the net amount injected into storage averaged just under 30 BCf/week -- almost 4.25 BCf/day higher than during the same period in 2002. This is a stunning year-over-year increase.

The near-universal belief within the industry is that it demonstrates that, soon after prices reached record high levels early in the summer (i.e., in excess of \$6.00 U.S.), industrial demand crumbled. This steep reduction in industrial demand in turn is thought to be the primary factor which permitted the far higher-than-normal injections that occurred all during the injection season. It also is thought to be the major factor that allowed prices to gradually decline over the course of the summer.

After peaking at well above \$6.00 U.S. in early June, the spot market price at Henry Hub averaged in the \$5.00 to 5.50 U.S. range during much of July and \$4.75 to 5.25 U.S.- range in August. By the end of August, the daily closing price typically was at least 30 to 35 cents U.S. below the average price for the summer -- which turned out to be \$5.27 U.S./MMBTU.

Powers: Does your research support the notion that a sharp fall-off in industrial demand was the primary cause of this summer's higher-than-expected injections?

Weissman: No, Bill, it does not. Quite to the contrary, it demonstrates that, to the extent there was any decline in industrial consumption this summer, it was at most a secondary cause of the higher-than-expected injections that occurred in June and early July. Further, by the end of the summer, any reduction in industrial demand for natural gas that may have occurred earlier in the summer in all likelihood was reduced significantly -- and perhaps even eliminated.

Powers: Please explain.

Weissman: Certainly, Bill. When prices spiked to \$6.00 U.S. early in the summer, the sharp increase in prices undoubtedly had some impact on industrial consumption of natural gas.

For example, there clearly were cut-backs in production at some fertilizer plants in early June (although June is when many fertilizer plants routinely shut down every year for annual maintenance, even when prices are at normal levels). Further, during this time frame, the use of naphtha, rather than ethane, in the plastics industry seems to have been ratcheted up to maximum levels. It is also possible that some new industrial fuel switching occurred and/or that some price sensitive industrial users were forced to shut down facilities, cut back on production and/or substitute production from overseas facilities not affected by the price of natural gas in the U.S.

Based upon the research we've done, however, it's clear that by far the most important cause of this summer's higher-than-expected injections was the steep *decrease* that occurred in the amount of natural gas that was used to generate electricity in the first 5 months of the injection season in 2003 vs. the same period in 2002. The specific month-by-month differences, which can be readily verified from data recently published by

EIA, are listed in Table 2:

Table 2: Year-Over-Year Decreases in Natural Gas Used to Produce Electricity

Month	2003	2002	Decrease
April	366 BCf	437 BCf	- 71 BCf
May	417 BCf	457 BCf	- 40 BCf
June	452 BCf	585 BCf	- 133 BCf
July	649 BCf	779 BCf	- 133 BCf
August	697 BCf	742 BCf	- 46 BCf
Total	2,578 BCf	3,000 BCf	- 425 BCf

In effect, therefore, the documented *decrease* (i.e., 425 BCf) in natural gas consumption in the generation sector account for over 94% of the 450 BCf *increase* in the amount of natural gas injected into storage during this period compared to 2002. This decrease in the use of natural gas to generate electricity appears to be attributable to the combined impact of several different factors.

These factors include at least some displacement of gas-fired generating units by oil-fired generators. In addition, there also was a significant reduction in natural gas consumption as a result of the addition of more than 65,000 megawatts (MW) of new, ultra-efficient combined cycle units over the past 12 months. In many instances, use of these newer, more efficient units allowed generators to reduce consumption of natural gas by generating the same number of megawatt hours of electricity with smaller quantities of natural gas.

Our research shows, however, that by far and away the most important factor – by our calculations, at least 200 BCf of the 425 BCf total – was the milder weather that occurred in June and early July of 2003 in most major cities in the Northeast and the Midwest compared to the same period in 2002. The effect of this mild weather was to reduce quite dramatically the amount of natural gas consumed to generate electricity in many of these markets compared to the prior summer. This is because, in many regions, gas-fired units are the marginal source of supply – providing all or most of the incremental megawatt hours when demand grows beyond a certain level. The mild weather that occurred last summer had the effect of reducing modestly the total amount of electricity needed to serve customers in many of these markets (e.g., often by 2-3%).

Since gas-fired units are the marginal source of supply, however, it had a much more dramatic impact on the amount of natural gas used to generate electricity – in some instances cutting natural gas consumption by as much as 60 to 80% compared to the previous summer during this 6 week period. This is a critical factor.

Some of the factors that caused the use of natural gas to generate electricity to decline this past June and July compared to 2002 may be repeated in subsequent years. The increased utilization of oil-fired units, for example, may well continue at the same level as last summer in 2004. And the new combined cycle units are now a permanent part of our generating mix, lowering the average number of BTU's of natural gas required to generate electricity from gas-fired generating units.

As we begin 2004, however, and electricity load continues to grow, the *reduction* in the use of natural gas to generate electricity that occurred during the 2003 Refill Season is virtually certain to be reversed. This is because the increase in demand for electricity almost certainly will more than offset the effect the impact of increased use of oil-fired generating units and the efficiency effect from the addition of new combined cycle units.

Indeed, we already are beginning to see this in recent consumption figures – with EIA estimating that the amount of natural gas used to generate electricity in November of 2003 (the last month for which it has published an estimate) *increased* by approximately 28 BCf compared to 2002, *despite* milder weather in 2003. Further, if the U.S. economy continues growing at a vigorous rate and/or temperatures in June and July revert to more normal levels, the increase in power sector consumption of natural gas in 2004 is likely to be particularly steep – and could easily exceed ½ a Trillion Cubic Feet (TCf), compared to the weather-suppressed consumption that occurred in 2003. This in turn suggests that, as we move into 2004, the U.S. natural gas market could be under tremendous pressure – with sharply increased demand in the power sector, diminishing supply and potentially far less industrial demand price elasticity than many observers have assumed.

Powers: Natural gas fired power plants have become much larger consumers of natural gas in recent years. Please explain the impact this will have on gas prices in the future.

Weissman: Certainly, Bill. Demand for electricity in the U.S. tends to increase every year – typically at the rate of approximately 2.2% per year. Indeed, it is virtually impossible for the U.S. economy as it is currently structured to continue growing without increased demand for electricity. Typically, over the past 10 to 15 years, each 1% growth in Gross Domestic Product (GDP) results in a 0.70 to 0.75% increase in electricity consumption.

While it is possibly that the ratio can be gradually improved over time, given the time required to rollover the existing stock of electricity-consuming equipment and devices in the U.S., realistically it will take many years to improve this ratio to even 0.65 to 1 or 0.60 to 1. As a practical matter, therefore, either we must expand our supplies of electricity or the economy will need to stop growing; it's that simple. It is sometimes said that electricity is the life blood of our economy, and that statement is true.

For many years (i.e., all through the '80's and '90's), even though demand for electricity continued to grow every year, this increased demand could be met primarily by generating increased megawatt hours from existing coal-fired plants and nuclear plants. This was possible in part as a result of the huge capacity surplus left over from the oil price shocks of the 1970's and also because of the utility industry's success in the '90's in learning how to operate existing generating facilities more efficiently and maximize the number of megawatt hours obtained from each plant.

By the late '90's, however, utilities in the U.S. reached a point at which, during many hours of the year, they already were operating all of their non-gas fired units and even some of their existing gas-fired plants at maximum levels. To meet incremental electricity demand, therefore, they had no choice other than to build

additional generating capacity. Between 1999 and the end of this year, the industry has built more than 215,000 MW of new generating capacity – virtually all of it gas fired – at a cost of over \$100 billion. This is the largest construction program ever undertaken by the industry. Now that it has been largely completed, the U.S. has by far and away the largest fleet of gas-fired generating units in the world. More than 40% of all the generating units in the U.S. are now gas-fired (more than double the percentage just 5 years ago).

Further, there is now enough gas-fired generation in the U.S. to serve virtually all of the electricity demand in Europe using gas-fired units alone – reflecting a *huge* capital investment that can not easily be replicated. Many of the existing gas-fired units are not yet fully utilized. At least for the next 7 to 10 years, however (i.e., the minimum lead-time required to build alternative, non-gas-fired sources of generation), the U.S. is now dependent upon increased utilization of its existing armada of gas-fired generating units to meet virtually all of the incremental electricity demands of the U.S. economy.

Since nearly 100% of incremental demand must be served by generating units that all burn the same fuel, even relatively a modest increase in electricity demand (i.e., an average of 2.2% per year) can lead to a *huge* increase in use of natural gas as a fuel to generate electricity (i.e., growth rates that can easily be 3-4 X as high).

Our firm has recently completed a study of what this will mean for the U.S. market. The results are shocking: power sector demand for natural gas is likely to grow by *at least* 350 to 500 BCf per year *every* year for at least the next decade. Further, the year-over-year increase in consumption is likely to be even larger in 2004 -- since the economy is growing rapidly and summer weather in 2003 caused demand to be lower than will be typical in most years, setting a low standard of comparison. By 2010, demand is likely to increase by at least 3.8 TCf compared to 2010 levels; by 2015, the figure increases to 6.1 TCf. In a market in which supplies are likely to be increasingly tight, this growth in power sector consumption inevitably will put unprecedented demand on natural gas prices in the U.S. market – and therefore inevitably Canada as well.

Powers: Please explain the how the dynamics of natural gas “demand destruction” have changed over the past few years.

Weissman: Over the past four years, at the same time that power sector demand for natural gas has begun to grow rapidly, there have been sweeping changes in industrial use of natural gas. While not yet widely recognized, the effect of these changes is to leave the market even more vulnerable to severe price spikes than it has been in the past. We saw this in part last winter – when the spot market price at Henry Hub briefly went as high as \$18.85 U.S. It is also part of the reason that the spot market price reached the high \$6.00 U.S. range this past December, even though the weather in December was not particularly cold on the U.S. side of the border and the amount of natural gas in storage was at higher than normal for this time of year (in part as a result of continued mild temperatures in November). These steep increases, however, may just be a small taste of what lies ahead – potentially as soon as this winter.

Powers: How specifically has industrial demand for natural gas changed in recent years?

Weissman: As recently as 3 years ago, industrial demand still was thought to account for up to 40% of total demand in the U.S. market. When the first major winter price spike occurred in December of 2000, therefore, there still was a large amount of demand that could be driven out of the market relatively quickly, moderating the upward pressure on price. This demand included:

- Aluminum smelters in the Pacific Northwest – who shortly after the price spikes began late in

- 2000 shut down their operations and in all likelihood never will resume production the U.S.;
- Other price sensitive industrial users, many of whom also have permanently shut down or scaled back production or shifted production overseas; and
- Owners of dual-fuel capable boilers who could switch from natural gas to fuel oil.

It also was possible, with very little lead time, to begin leaving in the gas stream as much as 1.0 BCf/day of Natural Gas Liquids that previously had been stripped to be sold as product – effectively increasing natural gas supply on very short notice by 1.0 BCf/day.

The net effect of these changes was to quickly improve the supply/demand balance by as much as 3.0 – 4.0 BCf/day – or 21 to 28 BCf/week. Further, in addition to these measures on the industrial side, in late 2000, it also was possible to reduce fairly dramatically the utilization of natural gas to generate electricity (which is low in the winter months to begin with) by generating substantially more electricity from oil-fired generating units – particularly in Florida and New England (two of the most natural gas-dependent regions of the country). The net effect of this increase in the use of oil-fired plants, at its peak, was to reduce power sector consumption of natural gas by 3.7 BCf/day -- or 26 BCf/week.

Thus, after natural gas prices began rising late in 2000, in very short order it was possible to improve the supply/demand balance by approximately 50 BCf/week – changing the supply/demand balance materially. This reduction in natural gas use, coupled with milder weather in January, February and March of 2001, was enough to ease pressures on the natural gas market considerably. By February of 2001, prices were back in the \$5.00U.S. range – and remained there for much of the remainder of the winter. Since that time, however, a great deal has changed.

Net supplies available to the U.S. market – which were at an all time high during the fourth quarter of 2000 and the first quarter of 2001 – have begun to diminish rapidly. Further, a significant portion of the industrial demand that existed as of December of 2000 – perhaps as much as 20%, or 3.5 to 4.0 BCf/day – either never returned to the market or has subsequently disappeared. Finally, many of the oil-fired generating units in Florida and New England that were ramped up in December of 2000 either have been permanently converted to natural gas or, in some instances, permanently retired and dismantled. As a result, much of the “safety valve” that existed in the market as recently as December of 2000 no longer exists.

Even as recently as November of 2002, however, when the 2002/2003 withdrawal season began, there still was at least *some* slack left in the system if conditions in the market tightened. By and large, extraction of Natural Gas Liquids was still at normal levels (meaning that the option still remained to retain a higher percentage of Natural Gas Liquids in the gas stream – just as had occurred in 2000). There still were at least some significant number of dual-fuel capable boilers that had not yet switched to fuel oil and there still was the potential to displace natural gas-fired generation by increasing utilization of oil-fired generating units.

Since that time, however, most of this remaining flexibility has been eliminated. Retention of Natural Gas Liquids has been at or near the maximum level that is permissible from an operating standpoint all year long during 2003. Almost every industrial boiler that could switch to fuel oil did so by no later than February of 2003 and many have never switched back. And many of the remaining oil-fired generating units that had been dispatched in January of 2001 started to be dispatched again in February of 2003 and generally have been utilized ever since.

Even as compared to last winter, therefore, the slack that remains in the system today is only a small fraction of what it was last winter. This does not mean that there are *no* fuel switching opportunities that remain in

either the industrial sector or the generation sector or that every price sensitive industrial user already has left the market; instead, some opportunities undoubtedly still remain. It does mean, however, that the most price sensitive industrial users for the most part left the market long ago and haven't returned; those who remain by definition have demonstrated a willingness to stay in the market even at prices as high as \$8.00 to 10.00 U.S.

Further, the industrial users who remain also tend to be far more heavily hedged than in the past – and therefore often are relatively insensitive to fluctuations in the spot market price of natural gas. The end result of these changes in the industrial sector, coupled with the continued fall-off in supplies, is that the market is now tight as a drum. As we have seen this past December, even a relatively small increase in demand, due to the first two or three episodes of winter-like weather, can be enough to send prices soaring – even while the amount of natural gas in underground storage remains relatively high. And this, in all likelihood, is only the beginning.

What we are seeing is that there has been a fundamental change in the slope of the demand response curve in the U.S. market. No one knows for sure what the future shape of the demand response curve will turn out to be; we're entering uncharted waters. The likelihood is very high, however, given the huge amount of industrial demand that has already been driven out of the market continuously over a 3 year period beginning in December of 2000 that *very* steep price increases will be required to drive out of the market even relatively small increments of the remaining industrial demand. This does not bode well for end users, given the huge, unavoidable increases in power sector demand for natural gas that are certain to occur over the next several years and the pressure these increases inevitably will create on the supply and price of natural gas in the U.S. market.

Powers: Let's turn our attention to the supply side of the equation. Clearly, natural gas production from the US and Canada is falling. Please give us a little background on the changes you have seen in North American gas production.

Weissman: At this point, Bill, I believe there is beginning to be a consensus on the U.S. side of the border that there is not likely to be any meaningful increase in supplies at any point in the foreseeable future. This is perhaps best documented in the Study completed for Secretary of Energy Spencer Abraham this fall by the National Petroleum Council ("NPC") – the most comprehensive study of North American supply and demand undertaken in many years.

This Study, the Executive Summary for which can be found on the Council's web site at www.npc.org, takes a bleak view of likely future production from what the Council describes as "traditional North American sources of supply" (a term which the Council defines to include every source, south of the Arctic Circle), concluding that production from these sources has hit a plateau and is not likely increase materially under any of the scenarios considered by the Council.

This conclusion stands in stark contrast to the Council's last prior assessment of North American supply, issued in December of 1999 (the "1999 Study"), which reached significantly more optimistic conclusions (now effectively revoked) regarding the ability to increase supplies from the lower 48 States and Canada over the next 20 years.

This Study – the conclusions of which have now been explicitly found to be incorrect – in turn was an important factor supporting the decision to build our massive new fleet of gas-fired generating units – many of which were started during the 24 month period immediately after the 1999 Study was issued. The Council's new Study reduces the Council's estimate of long-term North American supply by a staggering 6.0 Tcf per

year by 2010 (a decrease of almost 20% relative to the Council's last estimate, published less than 4 years ago). Even larger reductions are projected for subsequent years. The effect of these reductions is to create a massive hole in expected North American supplies of natural gas -- which in BTU equivalent terms is equivalent to the sudden loss of all of the oil being imported into the North American market from the Middle East.

Between now and 2015, the cumulative deficit, compared to the Council's 1999 assessment, is on the order of 50 TCf. This is comparable to 50% of total U.S. energy consumption in every sector, excluding only mobile sources, in any one year. I believe that if the public better understood the dimensions of this shortfall there would be – and in fact should be – an outburst of concern. Modern economies cannot function without adequate energy supplies and feedstock for key manufacturing processing.

From the evidence now available, it is apparent that over the remainder of this decade, we are likely to run desperately short of supplies of natural gas – which currently accounts for 24% of total U.S. energy supply, which had been expected to be the fuel experiencing the most growth and for which, in the short to mid-term, for the most part, no substitutes are available. Further, my own concern, personally, is that there ultimately could be a continuing *deterioration* in supplies – beyond the levels projected in the National Petroleum Council Study or any Department of Energy Report. The trend is certainly in that direction and I see no apparent reason to be optimistic that it will soon be reversed.

Powers: Do you believe LNG (liquefied natural gas) or Arctic pipelines will help the supply situation in North America this decade?

Weissman: With only limited exceptions, unfortunately no. It is still possible that the Mackenzie Valley Pipeline, if approved very soon, could make at least some contribution before the end of this decade. The future of the proposed Alaskan pipeline, however, is still very uncertain. Further, even if all major roadblocks to financing, permitting and construction of this pipeline can be successfully overcome, it is very unlikely that the pipeline will be started soon enough to bring it into service before the middle of the next decade, at the earliest. The potential is somewhat greater for increased imports of LNG to make at least some contribution to North American supply this decade.

For this to happen, however, many hurdles will have to be overcome – including, but not by any means limited to the siting of new re-gasification terminals. Even if these hurdles can be tackled successfully, however, we believe it is unlikely that imports of LNG into the U.S. market will increase by more than 1.0 TCf this decade (i.e., 3.0 BCf/day). This is less than ½ the amount assumed in many estimates. There are simply not enough new supply projects already under way in the Atlantic Basin and the lead time for completing new projects is too long for it to be realistic to expect more – especially given likely competition from European purchasers for these same supplies.

In the meantime, the amount of natural gas needed by the power sector in particular will continue to increase significantly every year. It is likely to be many, many years, therefore, before supplies of LNG can be ramped up sufficiently to catch up to continuously increasing North American demand – which is likely to continue increasing all through the next decade. In the interim, in a de-regulated, supplier driven market for natural gas, LNG prices may well be dictated more by the market-clearing price in an increasingly tight North American market than by the cost for producing LNG in the Atlantic Basin and delivering it into the pipeline system in the U.S., Canada or Mexico.

Powers: In two of the last three winters we witnessed natural gas prices spike to over \$10US. Will we see a

repeat of double-digit gas prices this winter?

Weissman: In my judgment, the only way we can avoid double-digit prices this winter is if we have extremely mild weather all through January and February. At this point, this seems extremely unlikely. Instead, we could have double-digit prices well before your readers receive the next issue of your newsletter.

Powers: You mentioned in your recent research that the next spike in natural gas prices is going to be different than previous spikes. How so?

Weissman: Fundamentally, I believe there will be two differences: First, as startling as last winter's increases were to many people, the next severe price spike could be even more severe and last much longer. Fundamentally, I do not see much evidence that significant amounts of demand can be quickly driven out of the market by price increases to the \$8.00 U.S. level or even the \$10.00 U.S. level. Instead, while \$8.00 to 10.00 prices may be sufficient to drive significant amounts of demand out of the market over a period of one or two years, in the nearer term (e.g., the 10 to 12 weeks remaining this winter), if conditions begin to tighten, prices may have to rise to well above these levels on a sustained basis for the market to clear.

Second – and perhaps more importantly – if prices spike this winter, I don't believe that the price increase will be a "winter only" phenomenon. Whatever the market clearing price turns out to be this winter, prices may calm down briefly in the spring – when demand is at or near its low point for the year. As we move into the summer, however, and the likelihood of far higher power sector demand for natural gas this summer becomes increasingly clear, I expect prices to again head right back up – in all likelihood to at least the \$8.00 to 10.00 U.S. range and quite possibly the \$10.00 to 12.00 U.S. range, if not higher. Further, rather than this being a "one year only" phenomenon, this price increase – whatever the final level turns out to be – is likely to be the beginning of a sustained, multi-year period, lasting for at least the remainder of this decade during which, more often than not, prices are at far higher levels than in the past.

Powers: I have found there to be a tremendous amount of complacency regarding natural gas prices. Few seem to realize the gravity of the situation. How would you categorize people's attitudes towards today's natural gas situation?

Weissman: I agree with you entirely, Bill, that the urgency of the situation we face and the potential risks to the economy resulting from tight natural gas supplies and far-higher-than expected prices are not well understood. This continues to be the case despite laudable efforts by no less a luminary than Alan Greenspan to draw attention to the issue (as Mr. Greenspan did repeatedly in Congressional testimony last year).

My own view is that we face a crisis situation and that the U.S. ought to be taking immediate, urgent action to minimize the potential dislocations ahead as a result of lower-than-expected supplies of natural gas. So far, this hasn't happened, for two primary reasons:

1. In American politics, in recent years, there has been a huge tendency to look for villains and to engage in finger-pointing, rather than to get to the root of what is causing the system to dysfunction and develop a strategy to achieve agreed upon goals. In a sense, in the wake of the Enron scandal and others, this may be understandable. It is an easy way for politicians to score points. But it distracts from other, more important work that involves the need to understand why natural gas prices are increasing rapidly and what it might mean for the market. It is essential, therefore, that the finger-pointing be brought to a halt at the earliest possible date.

2. Just as importantly, however, I believe that the fundamental drivers of the recent price spikes are not yet well understood. As a result, there is a tendency to dismiss each price spike as an aberration, and a failure to recognize the underlying factors that are leading to the crisis, as we have been discussing today.

Once the fundamental drivers are better understood, and there is a broader recognition of the extent of the current mismatch between supply and demand, I believe much of this complacency will go away. Hopefully, as this begins to occur, the urgency of the crisis we face will begin to be better understood. And it is essential that this sense of urgency be developed soon. For there is no more critical issue we face than figuring out how to overcome the massive deficit that has developed in our expected energy supply for the remainder of this decade.

Powers: Please tell our readers about the Energy Ventures Group LLC and how they can contact you. Lastly, thank you so much for taking the time to discuss with our readers some of your outstanding research.

Weissman: Energy Ventures Group is an investment firm specializing in the energy industry, with offices in Washington, D.C. and San Diego, California. We manage a Hedge Fund with an outstanding track record that invests in publicly traded securities and commodities in the energy sector. We also publish a Weekly Report that provides an in-depth analysis of the U.S. natural gas market and periodically present seminars and other programs relating to natural gas issues.

Readers who are interested can obtain more information regarding either the Hedge Fund or our Weekly Market Analysis by contacting me by aweissman@energyvg.com, calling me at 202/944-4141 or writing me at 3050 K Street, N.W., Suite 205, Washington, D.C. 20007. Information regarding our next two natural gas programs, one of which will be held in New York City in late January and the other of which will be held in Houston, Texas in early February, can be found by logging onto www.energybusinesswatch.com (the web site for our conferencing affiliate).

I've enjoyed very much this opportunity to speak with you, Bill. Keep up the great work with your newsletter – which I learn from every issue!



I strongly encourage serious investors to sign up for Mr. Weissman's Weekly Update and to attend one of his seminars. I have found both to be extremely helpful in developing my investing strategy.

Gas Prices Explode!!

During the first week of December, we witnessed nothing short of an explosion in US natural gas prices. The four trading days immediately following the Thanksgiving holiday saw natural gas prices soar 28% to close on Thursday December 4th at \$6.34US. Much of the run-up in prices can be attributed to the first cold spell of the year in the US Midwest and East Coast and a larger than expected storage withdrawal figure from the US Energy Information Agency. Look for natural gas prices to hit \$10US this winter, with storage withdrawals increasing dramatically as cold weather continues to blast much of the US.

Canadian Dollar Weakens

I was somewhat surprised by the mid-December weakening of the Canadian dollar against its American counterpart. In the span of a couple of days, the Loonie fell from \$.77US to about \$.75US. Many analysts attributed the weakness of the CDN dollar to the possibility that the Bank of Canada (BOC) will lower its key overnight lending rate when its policy board meets in January. The BOC's key overnight rate stands at 2.75% -- a full 175 basis points above the US Federal Reserve's overnight lending rate.

While Canada's economic activity in the third quarter of 2003 was not nearly as robust as that of the US, the Canadian economy remained strong. (It should be noted that the hedonic adjusted figure of 8.2% growth in the US, as reported by the US Bureau of Labor Statistics, is a farce. Real economic growth was far slower as evidenced by the lack of job growth in the US.) I believe David Dodge, Chairman of the Bank of Canada, will make the prudent decision to leave rates at current levels. Given Canada's large current account surplus and continued federal budget surplus (Canada has run a federal budget surplus for six consecutive years), a rate cut at this time could add to inflationary pressures.

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