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Robin G. Adams*

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Dominant Strategic Themes of the Natural Resource Industry

Robin G. Adams

Abstract

Speech given at Session 3: Challenge Facing Resource Development. Mr. Adams highlighted the dominant strategic themes that he believes will characterize the natural resource industry as we enter the new century. It should be a period of solid underlying growth for mineral demand, although he added that periodic interruptions reflecting the usual cycles in the world economy will occur. Against this market background, the industry will be dealing with a number of unresolved issues from the late twentieth century, of which the taxation of economic rents, the cost-effectiveness of environmental regulations, and the impact of privatization and deregulation on the competitive cost structure of the industry appear to be the most important. He believes that the companies that correctly understand and manage these issues will be more likely to succeed than those who do not.

DOMINANT STRATEGIC THEMES OF THE NATURAL RESOURCE INDUSTRY

*Robin G. Adams**

It is an honor to have been invited to address this fiftieth annual conference of the International Bar Association. An occasion such as this is an appropriate one to reflect upon the major themes of the political economy that have influenced the natural resources sector over the past fifty years and, more importantly, to try to anticipate what may lie ahead.

Mining is the most political of industries. In many countries around the world, the ownership of undeveloped mineral resources is vested in the government at some level. The public perceives mining as the removal of a finite, non-replaceable resource and, historically, this perception has been used to justify special taxation arrangements and a high level of regulation of the industry and its affairs. Because of this high political profile, I will begin with a quick review of the official way in which the thinking about this industry has developed over the last half century.

I. *HISTORICAL TRENDS*

From the end of World War II until approximately 1960, the structure of the industry was that major companies located in industrial countries exploited natural resources from their own countries and their colonies, former colonies, or, in the case of the United States, closely allied countries. The main goal of government action in that period was firstly to remove war-time controls as soon as possible; secondly, to promote the reconstruction of physical facilities from the damage experienced in World War II; and, thirdly, to ensure that adequate materials would be available for any future national emergency. In other words, governments actively promoted the growth and expansion of the industry.

Beginning in about 1960, a fundamental change took place. Decolonization in the Third World and the spread of the welfare state in the industrial countries created an environment in which

* President, Resource Strategies.

the view was taken that natural resources should be regulated so that a significant portion of the economic rent available from these resources would be captured by the public sector. This thinking resulted in policies such as the nationalization of, or compulsory government participation in, foreign-owned mining companies in Third World countries and aggressive tax regimes to capture economic rent. This was not just a Third World problem. It happened to a lesser extent in such countries as Australia, Canada, and part of Europe. However, it was worse in the Third World. The result was that, regardless of geological potential, much of the world became increasingly unattractive for mineral exploration and development.

The oil crisis of 1973/74 ushered in another major change in thinking. It popularized the theory, developed by the so-called "Club of Rome,"¹ that the world was gradually running out of natural resources. Oil was simply the first of many commodities where major price increases were inevitable. The determination of governments in producing countries to capture economic rents was, thus, reinforced sharply. In addition, there was now the desire to actively manage the production side of the industry in order to bring forward these price increases. The bauxite-producing countries actually copied the oil-producing countries in imposing massive new taxes. The copper-producing countries tried to promote a more activist, OPEC-type² role for their intergovernmental organization, CIPEC.³ The tin producers used their voting power in the long established International Tin Council ("ITC") to raise floor prices significantly in real terms by treating newly-imposed taxes as "costs" requiring price increases.

The major assumptions underlying such policies turned out to be completely wrong. The world was not running out of re-

1. See GARETH PORTER & JANET WELSH BROWN, *The Emergence of Global Environmental Politics*, in GLOBAL ENVIRONMENTAL POLITICS 23-25 (1996) (discussing 1972 "Limits to Growth" study by Club of Rome, which suggested economic development and population growth would strain earth's carrying capacity resulting in depletion of natural resources and degradation of ecosystems).

2. See 8 HOWARD R. WILLIAM & CHARLES J. MEYERS, *THE LAW OF OIL AND GAS* 757 (1995) (discussing formation and purpose of OPEC ("Organization of Petroleum Exporting Countries")).

3. See George P. Tateosian, *Copper Industry is Still Changing*, AMERICAN METAL MARKET, Feb. 6, 1990, at 10 (discussing activist role of CIPEC ("Council of Copper Exporting Countries") in production and sale of world copper mines).

sources. Although mining companies in some sectors were exploiting lower ore grades at new mines, this mostly reflected the fact that the richest ore bodies were locked away in countries that were now too hostile to be acceptable for private sector exploration and development.

Worse still, the impact of the oil price increases in 1973/74, and again in 1979/80, on the world economy was to trigger significant recessions which reduced metals demand in the short term. Instead of increasing, metal prices fell — in some cases very sharply. Instead of the expected financial bonanza, state-run mining companies began to experience losses, and because of the political constraints on their operating decisions they were slower and less aggressive than their private sector competitors in adjusting to these new circumstances.

II. *RETHINKING THE FUNDAMENTAL ANALYSIS*

The historian John Lukcas wrote that the twentieth century began in 1914 and ended in 1989. It is that year which I pick as the next decisive political watershed in the affairs of the natural resources industry. By 1989, there was virtually no government left anywhere in the world believing that mineral extraction was an abnormally profitable undertaking that could be tapped as a cash cow for public financial purposes. Instead, it had been identified as a sector that was fundamentally unsuitable for public investment. It is characterized by high price volatility leading to unstable earning flows. It involves high risk exploration activities, significant environmental management problems, and, above all, is a highly capital-intensive sector which cannot properly be financed by heavily indebted governments.

The key events that led to this radical change in perception were the following:

1. The post-1980 determination by governments in the industrial countries to act decisively to break inflationary expectations caused a recession-induced collapse in resource prices and fatally wounded the notion that real assets were a safer bet than financial assets.
2. The collapse of the oil price in the mid-1980s showed that markets, if allowed to work, would eventually induce suppliers and consumers to modify their behavior and break-even the strongest cartel. The collapse of the Interna-

- tional Tin Council several years later reinforced this message.
3. The example of Chile, which opened its mining industry to foreign private capital in the early-1980s and actively encouraged new entrants, where, by the mid-1980s, an exploration boom was in progress. By the late-1980s, projects to double Chile's mining capacity were under construction, which presented a vivid contrast to the stagnant mining industries in most other Latin American countries.
 4. The collapse of the planned economies of the CIS and Eastern Europe was the final psychological blow. It is interesting to note that the proximate cause of the attempted coup against President Gorbachev at this time was the imminent ratification of a new Union Treaty between the various Soviet Republics, the most important provision of which was to transfer ownership of mineral resources from the central government to the Republics, thereby providing them with independent access to international purchasing power.

The radical transformation in attitudes in the second-half of the 1980s has produced a situation in the 1990s where virtually all countries with significant mineral potential have now reformed their regulatory and tax regimes and are actively encouraging new mineral development. Suddenly, the world has become much larger. Much of the geological potential locked away for nearly a generation is being made available to meet the needs of the twenty-first century.

III. THEMES FOR THE TWENTY-FIRST CENTURY

A. *The Asian Miracle*

This brings us to the future. The first and most obvious development that will affect these industries is the Asian Miracle.⁴ It is clear that the countries of South and East Asia have reached the point of economic take-off, equivalent to where Japan was forty years ago. Just as Japan drove world natural resources demand between 1955 and 1973, the Asian countries will almost certainly exert a similar influence on the markets over the pe-

4. See WORLD BANK, WORLD BANK POLICY RESEARCH REPORT, THE EAST ASIAN MIRACLE: ECONOMIC GROWTH AND PUBLIC POLICY 10 (1993) (generally defining "Asian Miracle" as sustained high growth rates attained by East Asian economies).

riod to 2015. Although India and China have average per capita incomes well below the level of about US\$2,500 which appears to be the trigger for such a take off, the averages are misleading. The emerging Indian middle-class numbers at least 100 million people and has the entrepreneurial and intellectual basis for such development. India is, for example, already in the top five countries worldwide in the production of computer software.

The same comment can be made of China, which is really two distinct economies — a booming outward-looking coastal region whose prospects will be greatly enhanced by a successful return of Hong Kong, and a relatively backward and impoverished interior.

From the perspective of the natural resources industries, these developments are of enormous importance, principally because of the impact that they will have on demand for metals and minerals of all kinds. In fact, the underlying rate of growth or world demand for many key metals like aluminum, copper, and nickel has already begun to accelerate, although, for the past five years, this accelerating trend has been masked by a sharp decline in demand from the former Communist countries. This is obviously a one-time event that reflects a major structural adjustment in these countries. Once it is complete, which may be very soon indeed, the underlying strength of demand will begin to exert a very positive influence on these industries.

B. *Economic Rents*

The second point that I would like to make is that the issue of economic rent has not gone away, although it is true that most governments have backed off from the nearly confiscatory tax and royalty regimes that they applied to extractive industries in the 1965-1985 period. Three important Latin American countries — Chile, Mexico, and Peru — have even gone so far as to eliminate all royalties or production taxes on the minerals industries. However, it is still the case that natural resource-based operations are treated differently from normal property rights, and that mining operations are fundamentally captive to specific locations in a way that most other businesses are not.

Very occasionally, the mineral exploration people still strike the proverbial “elephant” — a deposit so rich that its potential production costs, including a normal return on all past and fu-

ture capital investment, result in a cost structure that is far below any probable market price scenario. The resulting windfall profit can be truly remarkable. The most recent noteworthy example is the Voisey's Bay nickel deposit, the rights to which after discovery, but before any significant capital expense had been incurred, were sold to Inco for over US\$3 billion. It is stretching credulity to believe that in such circumstances the host governments will not try to share in such windfalls over and beyond the normal income taxes. After all, unlike oil and gas concessions, which are often auctioned so that the competitive market place puts a value on the mineral rights, mineral exploration concessions are typically made available for fairly nominal administrative fees.

I am sure that you have all heard of the infamous Bre-X gold mine in Indonesia which was said to contain US\$21 billion in resource value. It is a pity that public attention is focusing on what we now know to be the fraudulent assay results. What is deserving of more attention is the activities of rival factions in the Indonesian governing elite as they aligned themselves with rival "senior" mining companies, Freeport and Barrack, to muscle in on what they obviously thought was the massive economic rent available in this project.

The measurement of economic rent is extremely complex even when undertaken on a purely objective basis. Overtaxing economic rent very quickly destroys the market for undeveloped mineral properties, damages the small and medium mining sector, and discourages exploration activity. It is a recipe for stagnation. On the other hand, completely ignoring economic rents, while it may be an option for the majority of projects, is bound to create a political backlash when the proverbial elephant is discovered. In practice, I suspect that the future will develop somewhat along the following lines. A majority of normal projects will be subject to either a royalty free or a nominal royalty regime with arrangements for projects over a certain threshold, subject either to special legislation or to a contractual regime. The integrity of the governing process and the transparency of such arrangements then becomes absolutely crucial. Therefore, I expect to see continued international pressure from investors, financial institutions, and overseas governments to deal with the corruption problems that regrettably still exist in many countries.

C. The Environment

My third observation is that international environmental issues will become ever more significant in the years ahead. These issues involve a complex interaction of technical, legal, and economic considerations. At the heart of the technical debate is a divide between regulations that mandate specific processes and procedures and those that are more flexible and mandate instead specific outcomes, leaving companies to achieve these in whatever way they like. The key characteristic that differentiates mining from most other industries in this debate is that each mine-site is unique in terms of its physical characteristics. It is virtually impossible to specify processes and procedures that will be cost-effective in all cases. Thus, the mining industry very strongly prefers regulations that specify outcomes.

This, however, opens up significant potential problems. For example, at the Ok Tedi copper mine in Papua New Guinea, the company's original plan was to construct a tailings dam⁵ to contain the waste product from its copper concentrating operation. When the company encountered difficulties in building this facility, it persuaded the Papua New Guinea government (which as a significant minority stockholder had an obvious conflict of interest) to abandon the tailings pond and allow it to discharge waste material directly into a nearby river. Subsequently, it emerged that this practice had caused serious damage to the coastal fishing industry in the region. The company then had to contend with litigation brought not in Papua New Guinea, but in the Australian courts. Apart from the obvious confusion between specifying a technical solution and specifying a physical result, this case vividly illustrates that compliance with local laws and agreements is not necessarily an adequate business strategy.

Another twist in the complexity of environmental regulation is the potential exposure of lenders to liability if a mining project fails and leaves an environmental mess. During financial reorganization or bankruptcy proceedings, lenders may have effective control of operating decisions. As a result, they may become liable for both past and present pollution. From a more practical standpoint, lenders usually represent people with

5. See Van E. Housman, *Hazardous Waste from Mining: Federal Securities and Exchange Commission Disclosure Requirements*, 1 ENVTL. LAW. 793, 796 (1996) (defining tailings dams as unlined surface impoundments that collect mining waste).

“deep pockets” in these situations. Thus, in countries where the government lacks the technical and financial resources to specify and enforce adequate environmental controls, lenders are increasingly insisting on environmental regimes that are “up to best industrial practices.” While such a development is obviously welcome in the sense that it will discourage unsound practices that may be tolerated by governments that are either unaware of their consequences or corruptly turning a blind eye, it is a practice that is fraught with danger. Banks themselves have an obvious conflict of interest. Their first priority is to insure that the project has a cash flow to repay its loan, whereas better environmental standards almost always involve increased capital outlays and sometimes higher operating costs. Then the question arises as to whose environmental standards are state-of-the-art — those of the United States, Japan, or Europe? All are different. These differences can have a material impact on the technologies selected, the environmental outcomes that occur and, above all, on the costs involved.

On the economic front, an issue of growing importance and complexity is the affordability of specific environmental regimes. It is the old ninety-ten rule — ninety percent of the cost is in the last ten percent of the problem. In my experience, very little constructive dialogue takes place on this subject. Environmentalists frequently take extreme positions that contemplate zero pollution. The business community responds by resorting to political lobbying stressing the tax and job benefits of development. Some years ago, my consulting company tried offering mining companies and governments a methodology for understanding the affordability of different environmental regimes so that the decision-makers could better understand the trade-offs between a cleaner environment and the benefit of the development in question. We experienced a very disappointing response. The current developing country government approach is apparently to invite mining companies and financial institutions to tell them what the rules should be, and they will then pass the necessary legislation. This approach might not be quite as bad as it sounds if the mining industry had a stronger self-regulatory culture. Although the most responsible transnational companies have talked from time-to-time about a peer-enforced code of practice, the industry’s efforts do not compare well with

those of other environmentally sensitive sectors such as the chemical and nuclear power industries.

The present situation is profoundly unsatisfactory. Environmental standards remain uneven around the world, regulations often fail to recognize the unique problems of individual mine settings, the legal framework is still in flux, and an objective analysis of affordability and the related test of cost efficiency is largely neglected. With environmental issues becoming more global, as the climate change debate illustrates, I believe that these issues will become progressively more troublesome in the years ahead.

D. Privatization

My final observation is that the widespread international trend to privatization seems firmly entrenched. The mining industry is particularly dependent on certain infrastructure services, most notably transportation and electric power, which in the past have been either regulated or government monopolies. Because mining, smelting, and refining companies operate in a commodity market setting, they are not uncomfortable with a deregulated market for inputs, and in many ways welcome it. However, as the saying goes, "the devil is in the details." Here I would like to illustrate some problems and pitfalls by reference to electricity, which is a particularly important input in the conversion of ores to marketable metals.

There is an emerging international consensus that the traditional electricity utility really is three separate businesses — power generation, transmission, and retail distribution. It is generally recognized that the generating business is one that is suitable for private investment and competition. After all, an electron is the ultimate non-differentiated commodity. On the other hand, transmission is still seen as a natural monopoly which must therefore be regulated. As far as the distribution business is concerned, there is less consensus. Nevertheless, industrial customers with loads of five megawatts to ten megawatts or greater who can take power at the transmission voltage are increasingly being allowed to enter the wholesale market and contract directly with generators for supply. The vast majority of mining and metals operations meet these requirements.

Unfortunately there are currently a number of obstacles

which inhibit the emergence of effective competition and, therefore, prevent major customers from realizing the full benefits. First, in a number of cases privatization has not created a sufficient number of significant players in the market. The U.K. privatization created two dominant generators whose size greatly exceeded those of a limited number of smaller competitors. By contrast, in the Australian state of Victoria, a much smaller economy, the government created seven separate generating companies of approximately equal size. Victorian wholesale prices have fallen thirty percent since deregulation, a much more pronounced benefit to customers than has occurred in the United Kingdom.

Second, some electric utilities have assets whose earnings potential under market clearing prices in a competitive commodity market are insufficient for them to recover their historical capital cost. In many instances this reflects past construction cost overruns for various reasons. The electric utility industry refers to these as "stranded assets." This concept is entirely foreign to the natural resources sector where it is as usual for some investments to produce non-existent returns as it is for others to yield windfall economic rents. In the former case the assets are either abandoned if they cannot earn any return at all, or else their capital value is written down to a level that can be supported by earnings in the competitive market. The electric utility industry, however, persists in seeking what amounts to a government bail-out through mechanisms such as exit fees, transmission surcharges, or other devices, the effect of which is to restrict competition.

Third, the regulation and management of the transmission system can be used to blunt the impact of competition by imposing unrealistic charges based on costs that do not really exist. This is a very complex topic worthy of a separate paper in its own right but, basically, the laws of physics dictate how power will flow into the electricity network and these flows will, in most cases, be quite separate from the contractual relationships. To put it more simply, the laws of physics insure that whenever a generator and a customer make an agreement, a whole series of physical swaps takes place among such other generators and customers on the network as are required to minimize the transportation costs of the system as a whole, regardless of whether or not any of those other players wish to participate in these swap activi-

ties. The "cost" associated with a new supplier and a new customer is therefore the marginal incremental cost to the network as a whole. Unless the network is congested, these costs are virtually nil. When you hear electric utilities or regulators talking about "postage stamp rates" for transmission, you know that either they do not understand the economics or the physics of the wholesale power market or, more likely, it is a code word for a desire to blunt competition. After all, the post office is hardly a stellar example of competitive efficacy.

The current trend to privatization and deregulation, whether of electric utilities or other essential services, is welcomed by the natural resources sector in that it brings the discipline of the market place to bear and should result in lower costs for essential inputs. The natural resources sector is ultimately, however, a customer for these services. A deregulation process that is poorly or deceptively implemented does not serve the industry well. Apart from denying the industry the benefits which should accrue, such a process will inevitably backfire. The danger is that a failure of deregulation to produce the advertised benefits will usher in a new phase of interventionist government during which the natural resources industry may once again experience some of the difficulties of the quarter century that ended in 1989.

CONCLUSION

I have attempted to highlight the dominant strategic themes that I believe will characterize the natural resource industry as we enter the new century. It should be a period of solid underlying growth for mineral demand, although I am sure that periodic interruptions reflecting the usual cycles in the world economy will occur. Against this market background, the industry will be dealing with a number of unresolved issues from the late twentieth century, of which the taxation of economic rents, the cost-effectiveness of environmental regulations, and the impact of privatization and deregulation on the competitive cost structure of the industry appear to be the most important. I believe that the companies that correctly understand and manage these issues will be more likely to succeed than those who do not.