Information Bulletin

NUMBER 85 • NOVEMBER 2005

ALBERTA HERITAGE FUND: BLESSING BECOMING CURSE?

PRESENTED JULY 2005
CONFERENCE OF THE ACADEMY OF INTERNATIONAL BUSINESS
QUEBEC, CANADA

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with support from: The George M. Cormie Endowment

National Library of Canada Cataloguing in Publication Data

Warrack, Allan A.
Alberta heritage Fund . blessing becoming curse? / Allan A. Warrack

(Information bulletin ; no. 85)
"Presented July 2005 Conference of the Academy of International Business Quebec, Canada" Quebec, Canada
Includes bibliographical references.
ISBN 1-55195-913-5

Alberta Heritage Savings Trust Fund. 2. Investment of public funds—Alberta. 3. Fiscal policy—Alberta. 4. Alaska Permanent Fund Corporation. I. University of Alberta. Western Centre for Economic Research II. Academy of International Business. Meeting (47th . 2005 Québec, Québec) III. Title. IV. Series: Information bulletin (University of Alberta. Western Centre for Economic Research) . no. 85
HJ795.A6W36.2005 332.67′252′097123 C2005-906834-5

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Alberta Geography and Energy History

Alberta is a province in Canada. Historically Alberta is young, becoming a separate unit of jurisdiction in 1905. It is geographically large, sparsely populated (three million) and increasingly urbanized (one million each in the major cities of Edmonton and Calgary). Alberta is landlocked (not on tidewater).

Alberta has an unusual array of geographic features, including short grass prairie, black-loam parkland, northern boreal forest, foothills, mountains, and an extensive Lakeland zone. Resources have always comprised the primary economic base. Until about 1950, that base primarily was agriculture – farming and ranching. Agriculture remains a basic industry; Alberta is a major cereal crop producer and is Canada's largest producer of red meat. A future geographic constraint on economic development may be watershed distribution. Most of Alberta's watershed flows north (emptying into the Arctic Ocean); most of the watershed is away from population density. Another feature is the harsh, cold climate. This climate imposes higher energy costs and greater infrastructure requirements.

About two-thirds of Alberta's land surface is publicly owned. Public land tends to be intensively used (*e.g.* provincial parks), extensively used (*e.g.* livestock grazing), specialized in use (*e.g.* transportation corridors or military reserves), and land with special features (*e.g.* national parks). Nearly all agriculture production is from privately owned land. Commercial forestry is wholly from public land. There is limited private ownership of Alberta oil and natural gas (see Figure 1) and coal resources. The massive tar (oil) sands deposit is a publicly-owned resource.

Figure 1. Oil and Natural Gas Production

- Approximately 75% of oil and natural gas in Canada is from Alberta
- 80% of oil and natural gas is publicly owned*
- 100% of tar (oil) sands is publicly owned

* Public ownership of these resources means owned by the province of Alberta, not the country of Canada

Alberta's economic history is tied to resources. Prosperity levels have been relatively low until recent decades, and subject to severe economic cycles. Despite periods of prosperity, economic strength in the province has been undermined by instability. A challenge is to achieve *both* prosperity and stability over time.

In the early 1900s the province's first oil discoveries were made in the "Black Gold" area southwest of Calgary, Alberta. These discoveries thrust Calgary into its historic and present position as Canada's centre of conventional oil and gas exploitation. While the Black Gold discovery was important at the time and continues to produce today, it is now minor in relation to subsequent energy events and contemporary requirements. Coal is a very important energy resource in Alberta. There is low-sulphur thermal coal, found on the plains of the province and used to generate most of Alberta's electricity. There also is metallurgical coal, found in the mountain regions and prized for its higher heat content and chemical properties in steel making; this coal is mined for export, especially to Japan.

In February 1947 a huge discovery of oil was made in central Alberta at Leduc (near Edmonton). A frantic pace of exploration, discovery and production ensued. Soon there were thousands of producing oil wells with "grasshopper" pumps dotting the rural landscape. Alberta had entered the big league of oil. Originally, natural gas was handled as an inconvenient by-product and "flared off". Natural gas pools now are recognized as highly significant and valuable. An important dimension of Canadian energy policy has become the fuel substitution of natural gas for oil. In the late 1970s Alberta built a unique rural gas distribution system covering the settled parts of the province.

The dominating event of Alberta's energy resource development was the Natural Resources Transfer Act of 1930. It is important to note that both renewable (*e.g.* forestry) and non-renewable resources were included in the scope of that legislation. The transfer of ownership of *public* resources from federal to provincial *ownership* had been included in the terms for Alberta and Saskatchewan becoming provinces in 1905. It was a quarter century before the transfer was implemented. Ownership of resources is the basis for lessor-share royalty (for oil and gas) and stumpage (for forestry) regimes. *Resource economic rent is the pivotal concept underlying the Alberta Heritage Fund*.

Alberta Oil and Natural Gas Industry Structure

Alberta is the *owner* of subsurface public resources within its boundaries. Even though certain surface land holdings (e.g. military reserves) were retained by the federal government, their subsurface resources, nevertheless, became provincial property. The federal-to-province ownership transfer was only that of publicly owned resources. Privately owned (freehold) resources were not directly affected.

As depicted in Figure 2, the economic structure of Alberta energy industry development has been that of many small and geographically dispersed operations, and a few large operations. A web of pipelines traversed the province as Alberta became a world leader in pipeline technology. The hydrocarbon resources found were of high quality, abundant and reasonably accessible. While oil and gas operations were large in the provincial aggregate, individual operations were relatively small and thus reasonably compatible with host rural communities.

Figure 2. Energy Industry Characteristics

- The bulk of energy production is from provincial public resources
- Energy industry activity is primarily in the private business sector
- The economic structure primarily is numerous smaller operations with a few large operations
- The pace of development historically has been limited by markets rather than production capacity.

As has been shown in Figure 1, about three-quarters of Alberta energy production is from provincially-owned public resources. Whilst the resources are owned by the public, the development activity primarily is private sector business. Lands are made available for exploration by the Government of Alberta energy department, and private businesses bid at auctions for access to the lands. The highest bidder wins the opportunity to explore and develop the resources lands; if the development is successful, royalty payments (owners' share) are made to the public via the mechanism of government revenues. Historically oil and natural gas development in Alberta has been limited by markets rather than production, but that is what has changed. Now conventional crude oil production is waning, and natural gas production is relatively flat. Meanwhile, oil and natural gas markets are booming across the world and prices are at high levels. The hydrocarbon production that is increasing in Alberta is tar (oil) sands production; these operations are located in Northeast Alberta and each operation is a multi-billion dollar mega project.

Constellation of Alberta Energy Policies

Major energy policy revisions were undertaken during 1972, pursuant to a new Alberta government being elected in summer 1971. Draft policy revisions were the subject of a Legislative (Parliament) public hearing in December 1972. This was an open and transparent opportunity for understanding, comment and debate on the proposed policies. Public groups and individuals could and did make submissions. Substantive submissions to the public hearing were made by the energy industry. Government legislators and experts had the opportunity to understand and consider submissions, and these resulted in significant policy revisions.

It is important to note that a constellation of major energy policy revisions was taking place simultaneously. The policy changes also preceded the important impact of the Organization of Petroleum Exporting Countries (OPEC), which burst onto the world scene in the fall of 1973. It also is important to note that (oil and natural gas revenues pursuant to) the energy policy changes became a basis on which the Alberta Heritage Savings Trust Fund came about a few years later. Figure 3 enumerates the most important of the energy policy revisions.

Figure 3. Alberta Resource Policies

- The public's ownership share should be markedly higher
- The non-renewable resources of oil and natural gas were priced below value
- Resource upgrading and employment opportunity in Alberta must e increased dramatically
- Albertans should have greater investment opportunity as their public-owned resources are developed

In the policy judgment of the newly elected Alberta Government, prices of oil and natural gas were below value and thus too low. The late 1972 price for oil was $US 2.35/barrel; the price of natural gas was $US 0.16 cents/mcf. The transmission of oil and natural gas, beyond Alberta to Eastern Canada and USA markets, was by respective oil and natural gas pipeline monopolies. Despite vigorous opposition, expressed at the public hearing and other opportunities, it was the firm policy conclusion that prices were too low; the Alberta Government initiated efforts to redress these prices. By late 1973, the power of OPEC was enforcing the same conclusion on world markets, and the oil and natural gas prices levels soon exceeded Alberta policy objectives. OPEC remains a huge force today, although the world oil market is changing and outcomes are uncertain. [Economist, 30 April 2005]

The inherited (in 1971) energy policy was that royalties on publicly owned oil and natural gas would be limited to one-sixth (16 2/3%). This limitation was written into each contract, so changes could only be enforced by legislation. These changes were legislated after public hearings that engaged very vigorous and often rancorous debate. During and after 1974, OPEC actions sparked a price revolution. The result was that Alberta began to receive a higher royalty share on far higher oil and natural gas prices. Significant revenue increases also began to flow to neighbouring provinces of Saskatchewan (especially oil) and British Columbia (especially natural gas).

Alberta resources policy called for upgrading *in* the province, rather than raw resources being shipped elsewhere, along with the employment opportunities. A petrochemical industry was launched in Alberta, driven by government policy. There were two bases for this launch: the availability of ethane feedstock; and, an entity to undertake the petrochemical upgrading. The ethane[*] "cut" was removed (by "straddle plants" – facilities that straddle the pipelines) from the natural gas stream in three Alberta locations, with pipelines to one petrochemical location in Central Alberta. An existing government-owned pipeline company Alberta Gas Trunk Lines (AGTL) had its mandate augmented legislatively so it could undertake petrochemical upgrading in addition to its pipeline business activities. The competition for Alberta petrochemicals was oil-based petrochemicals in Ontario. Both oil and natural gas prices increased sharply, but natural gas (*i.e.* ethane) maintained its competitive advantage.

A final and important resources policy in Alberta was to institute a vehicle for citizens to invest in the development of energy (and other) resources *owned* by the citizens. That vehicle became the Alberta Energy Company (AEC). It was capitalized at $150 million, with half the investment being provided by the provincial government; the other half was in $10 shares available to citizens. The AEC share issue was oversubscribed. Purchasers reaped handsome returns over the years, including stock splits and higher share prices. A few years ago, AEC merged with a pipeline company, and is now known as Encana.

It is to be noted that the constellation of foregoing energy resources policies were undertaken in a short time frame. As mentioned early, in that time frame, Alberta undertook a program of Rural Gasification; that program is now complete with town-to-town, village-to-village, and farm-to-farm service of natural gas for heating and related purposes. Another initiative was that in 1973 the Alberta Government purchased a private airline (Pacific Western Airlines) to protect the province's strong strategic position in serving Northern Canada with both passengers and cargo. Finally, during that same time, 1974-76, the Alberta Heritage Savings Trust Fund was initiated.

[*] *Ethane is "cut" or separated from the methane of the natural gas stream; ethane is readily converted into ethylene, the basic building block for many products.*

The Alberta Heritage Savings Trust Fund (AHF)

Basic Concepts

A prime condition leading to the Heritage Fund idea was the ready availability of unexpectedly large resources revenues from oil and natural gas royalties. There were immediate concerns as well. One was whether such current revenues could induce a level of government expenditures that would be unsustainable over the long term. Another concern was the absorption of such monies into the relatively small economy of Alberta without harmful distortions, including inflation. Finally, despite a history of honest governments in Alberta, there was fear of corruption.

The core concept, like any resource revenue fund, is resources economic management through time. Non-renewable resources revenues can be converted into a renewable financial pool of capital, hence a conversion of non-renewable into renewable. All or a portion of the resources revenues can be so managed. Capital management principles are applicable. The Alberta Heritage Fund (AHF) was formed as an instrument to manage economic rents (a portion of the oil and natural gas royalty revenues) into the longer term future of the province.

Resources economies are notoriously cyclical. Economies substantially dependent on natural resources, whether regional or national, tend to be cyclical. Alberta is such a case. Cycles can be large in magnitude and occur in rapid surges (booms) and slides (busts). The economic policy issues are not only prosperity but stability, in policy efforts to establish and maintain economic strength. Weather and market risks come to mind. But occasionally there are major and unexpected external "policy risks". Examples are from the globalized world (*e.g. 9-11)*, and from other orders of government (*e.g.* Canada's National Energy Program). A well-managed resources revenue fund, such as the AHF, should buffer some of the instability inherent in a resource-based economy.

Resource conservation is the attempt to establish the socially most desirable levels of resources exploitation over time. Having proper regard for future generations, to what extent of finite non-renewable resources can a particular generation feel entitled? And resources high-grading (using the cheapest/highest quality first) must be taken into account. Drawdowns of non-renewable resources stocks can be offset by setting aside monies for future investment uses. The AHF is such an instrument.

The environmental context of natural resources development is exceedingly important. There need not be a conflict between economic growth and environmental concerns. There is responsibility to leave a healthy environment and resource base for future generations. The central issue should not be "whether", but "how" adverse environmental impacts will be remedied. Environment restoration can be viewed as capital investment, and a capital pool such as a resource revenue fund may facilitate needed improvements.

Drivers for Alberta Heritage Fund Policies

The *single* strongest driver of the AHF priority was to be *fair to future generations*. For reasons of resources conservation, environment preservation, and economic opportunity, future Albertans must be made better off for the AHF policies to have succeeded. There was recognition that future Alberta citizens are too young, or even not her, to express their views and vote. The current generation has the responsibility to be their proxy. If this is done effectively, future generations will have widened choices about their lives.

Figure 4. AHF Policy Drivers

- Fairness to future generations
- Strengthen and diersify economy
- Quality of life improvements
- “Rainy day” revenue source

The *second* driver recognized a fundamental Alberta economic weakness. Cyclically prosperous, the province had always been subject to instability. Economic strength encompasses both prosperity and stability needs. The economy would be stronger if diversified, and perhaps also more prosperous. Besides diversification, a stronger economy would emerge with extensive and high quality infrastructure. Economic infrastructure (bridges, utilities, water and sewer systems, etc) can reduce obstacles in business models for successful investments. As well, educational and research infrastructure would enhance accessibility and quality of educational training and research leading to both life enhancements and business opportunities. It is to be noted that the payoffs from this driver would not be directly financial; instead, it should facilitate persons and businesses to succeed and pay future taxes.

The *third* driver was a “quality of life” striving for social dividends. Life and society always contain “nice to have” options for healthy and enhanced lifestyles. These can include both indoor and outdoor facilities. Examples: urban and special features parks; art galleries, theatres, and music halls; enhanced world-class medical research and practices, reflecting aging (*e.g.* cancer) and continuing (*e.g.* heart) and tragic (*e.g.* childood) diseases. As a bonus, it may be that attracting and maintaining highly skilled and managerial personnel is easier when these capabilities are available to individuals and their families.

Finally, a “rainy day” revenue source was expected to be valuable occasionally. In a cyclical economic environment, with cyclical tax revenue flows struggling to sustain public expenditures, a financial buffer would be needed from time to time.

There are many implementation difficulties in a policy of deferring benefits into the future. Many individuals have trouble saving for their own or the family’s future. It is far more difficult on a societal (government) basis. The future “gain” is distant, diffuse, and uncertain. The current “pain” is immediate, specific and certain. People can have fanciful demands of what others should do for them and pay on their behalf. In Alberta now (Fall 2005), with the price of oil exceeding $US60/barrel and natural gas over $US14/mcf – many Alberta citizens think it is “raining”! Although the economic principle of deferred benefits may be logical and socially just, the politics can be exactly contradictory. Any jurisdiction should be forewarned of this reality.

Decision Factors and Processes

Many factors entered into the decision to establish the AHF as an energy revenue resource fund. The post-OPEC new and sudden financial flows have been noted. Economic strength and stability strategies have been recognized. Social acceptance of an activist and interventionist government became an issue; the pace of change was much faster than many Albertans' were accustomed to. But the major concern became one of whether any government could be trusted to have control over so much money. What were the safeguards of openness, transparency, and accountability?

In 1974 legislation was drafted for an Alberta Heritage Savings Trust Fund. An election was due in early 1975, and one option was to complete the legislation and go into the election with the AHF as part of the government's record. There was little resistance to the policy rationale. But there was serious and widespread concern about assurances of due process – especially transparency and accountability. This concern was strong, and reflected within as well as outside the government political party. The government submitted "draft legislation" which was tabled, but with a commitment not to pass it into law until widespread public review was possible. The result was that the concept of the AHF policy was put to the public in the March 1975 election, with one opposition party against the policy and the other "on the fence". After a highly favourable election result, the newly re-elected government determined how to proceed. Many concerns and suggestions had been accumulated during the electoral process. Few of these concerns were about enunciated AHF policy. But strong concerns were unmistakable with regard to processes of public information, review and feedback. Above all, the Alberta public felt very strongly that transparency, openness and accountability *must* be in place.

Widespread public discussion and debate took place during the post-election period of 1975. The outcome was a significantly reshaped Alberta Heritage Savings Trust Fund Act, 1976. [Revised Statutes of Alberta] The primary changes were not of policy, but of processes for accountability. Limits were placed on two of the AHF divisions. Any dispositions for other than *financial* investment would need to be approved by the Alberta Legislature (Parliament). A special Committee of the Legislature was formed, with the specific role of AHF review. This would be a permanent body of Legislators, holding meetings each summer and having the capacity to hold a public hearing each fall. Each year the committee's report would be tabled in the Legislative Assembly, and debated. The entire AHF would be audited by the officer of the Legislature (not government), the Auditor General. The process of establishing the AHF took two years, and it was time well spent.

The foregoing provisions were major changes from original drafts of AHF law. There were other changes as well. It is to be noted that the vigorous and protracted debate left the fundamental policy parameters intact, but with consequential changes demanded and agreed in processes of public information and accountability.

A lesson for any jurisdiction undertaking an energy revenue fund: Build in as many processes as possible to assure its public of honesty and integrity in the allocations and management of the monies. This is *only* possible if openness and transparency are assured in the strongest possible terms. Only then will accountability be *believed* by citizens, business investors, and the world at large. It is time consuming and difficult, but worth the effort. The result can be enhanced lives of the citizens, improved investment climate for business and entrepreneurs, and credibility among world leaders.

AHF Composition and Financial Management

Revenue Flows

Until 1976, Alberta resources economic rents (100%) were used for the year-by-year general revenues of the provincial government. On 30 August 1976, precisely five years after the new government was elected, the initial allocation of $1.5 billion was made to kick off the Alberta Heritage Fund. A flow to the AHF of 30% of non-renewable resource revenues began; the other 70% continued to support general revenues of the government budget.

Figure 5 shows the pattern of revenue flows into the Heritage Fund, including the time span in which financial yields were allocated back into the Fund. The 30% flow was halved in 1982, but stopped in 1987. As of 1982, financial yields of the AHF were fully diverted into the government budget; none was allocated back to the Fund. None is allocated today. [Alberta Heritage Savings Trust Fund annual reports, various years]

Figure 5. AHF Revenues

- **1976:** $1.5b. initial allocation to AHF
- **1976–1982:** 30% oil and natural gas revenues (royalties and land sales) + ALL financial AHF yields allocated to AHF
- **1982–1987:** 15%, but NO yields allocations
- **1987–present:** NO allocations and NO yields allocations

AHF Divisions

The original law [Alberta Heritage Savings Trust Fund, Statute, 1976] provided for three divisions: Canada Investment Division (CID), Capital Projects Division (CPD), and Alberta Investment Division (AID). The first two divisions were limited to 20% each of the AHF size, with no AID limit. Beyond the three explicit divisions, there was a residual capacity to manage short-term financial and cash management instruments. The AHF was *not* permitted to hold equities shares. This limitation proved to be a fateful one, as very high inflation evolved in Canada during the 1980s.

Canada Investment Division (limited to 20% of total AHF):

Recognizing that a substantial proportion of recent high resource revenue flows had come from prices paid by other Canadians, Alberta wanted its Heritage Fund to have a Canadian dimension. That opportunity came about very quickly. Shortly after the 15 November 1976 election of a separatist government in Quebec (province), Canada's newest and poorest province, Newfoundland, needed to meet its borrowing requirements; the Quebec event was viewed by international financial markets as basis for higher risk in borrowing by *any* government in Canada. In January 1977, an AHF loan request from Newfoundland was agreed to. What interest rate? Alberta made a policy decision that AHF loans to other Canadian governments (and their entities) would be concessionary – according to the best credit rating of a government corporation in Canada. That was Ontario Hydro. Although neither Ontario Hydro nor the province of Ontario ever did borrow from the AHF, their high quality credit rating was the basis for interest rates in CID loans. Soon other provinces, especially in Atlantic Canada, (the country's poorest region) made similar loan requests including similar concessionary interest rates.

The scope of the CID loans covered six provinces and/or their agencies. Paradoxically, the largest loans eventually were made to Quebec Hydro. A total of 33 loans, worth $1.9 billion, were made by 1982. No loans have been made since that year. The CID outstanding loans have been repaid.

Three comments: First, because new revenues were no longer being allocated to the AHF, source loan funds were drying up. Second, despite good Alberta intentions in making Canadian loans available, some Canadians (especially the federal Government bureaucracy and politicians in Ottawa) viewed the loans with dark suspicion of whether Albertans were trying to control decisions by recipient provincial governments. These negative responses were not well received by Alberta citizens. Finally, due to high inflation driving up interest rates in the 1980s, Albertans found their house mortgages and business loans carrying far higher interest rates than their AHF was collecting from loans to other Canadians. Comments two and three drove a powerful and angry political message in the province of Alberta. Strained relationships persist to today.

Capital Projects Division (limited to 20% of total AHF):

The fundamental premise was that the CPD investments were to be for improved social and economic well-being in the longer-term future. Commercial financial return was *not* a priority. Improvements in economic infrastructure were expected to pay off in economic terms, but not in direct financial yield. Improvements in social infrastructure would pay off in lifestyle dividends, and help to attract and retain citizens, but without an expectation of financial returns. Projects undertaken in this division would be for improvements Alberta could otherwise not afford in normal budgetary circumstances.

The CPD allocations needed to be viewed as investments, but with the funds expended rather than being financial investments. As noted in the preceding accountability discussions, the CPD funds needed Legislative approval whereas financial investments for future yield did not. Moreover, the CPD allocations become "deemed assets" rather than financial assets, in the audit accounting process. *All* deployments from the CPD were to be capital in nature, but not all government capital programs were to be from the CPD of the AHF.

An acclaimed CPD entry is the Medical Research Endowment of $300million. In 1980, a separate Act was legislated and the endowment of $300 million was transferred to it from the CPD. Extensive facilities and research programs have been supported from the yield of the endowment; meanwhile, the endowment value has increased to $826 million. [AHMRF Annual Report, 2004] This case demonstrates the power of endowment financial management. Only much later (1997) did the Alberta government begin to phase in endowment management of the Heritage Fund.

Many economic infrastructure projects were undertaken with CPD funding. In agriculture, irrigation works and grazing reserves were upgraded and grain hopper cars were purchased. An investment was made in the Port of Prince Rupert in British

Columbia. Sewer and water systems, and some drainage projects were included. Transportation: airstrips and terminals were built. Land reclamation, flood control, forest nursery and reforestation were renewable resource projects. Urban parks in Edmonton and Calgary were built. Hydrocarbon technology research, especially for oil sands, was funded. Education projects included Heritage Fund Scholarships and special library development funds. A small venture capital (Vencap) company was formed, with limited success.

The CPD undertakings were funded during the time period from 1976 to 1995. The total funding was $3.5 billion. Again, it is to be recognized that these are deemed assets that were allocated but are not counted as current financial assets of the Alberta Heritage Savings Trust Fund.

Alberta Investment Division (no limit):

The AID undertakings were directed to financial return. It was hobbled by not being permitted to invest in stock market equities, especially when capital gains were essential to counter high inflation in the 1980s. The primary use of the AID was as private placement banker for provincial government-owned corporations: Alberta Government Telephones; Alberta Mortgage and Housing Corporation; Alberta Municipal Financing Corporation; Alberta Opportunity Company; and Alberta Agricultural Development Corporation. These loans totalled very large amounts, over half of the total AHF. As private placements, significant fees and commissions were saved as compared to private financing transactions. However, the process insulated the AHF and recipients from market forces and disciplines. The AHF difficulties are partly the result of this market detachment.

The Syncrude Oil (bitumen) Sands mega project teetered on the verge of collapse in the 1970s. The project was rescued by the Alberta government, and AID funding ($500 million) was used to do so. This is one of relatively few economic development efforts made under this division. Syncrude eventually was a major success, helped by OPEC level oil prices. Later certain additional economic development projects had investments from the AID: Heavy Oil Upgrader ($400million), Forestry projects ($400 million); Grain Terminal ($100 million), with reasonably good results. There were several other projects that became misadventures, with heavy financial losses.

1980s Changes

Two new divisions were formed by 1980 legislative amendments. [Revised Alberta Statutes, 1980] A Commercial Investment Division was formed for the purpose of holding a portfolio of equity securities. The other was an Energy Investment Division, intended to be a vehicle for Alberta to make energy investments in Canada including those outside Alberta. However, in 1980 the federal Government of Canada imposed the National Energy Program (NEP). This policy surprised the energy industry and the provinces alike, and great damage was done. The damage was economic also in trust, resulting in federal government mistrust by both industry and other governments. An early casualty was the Energy Investment Division. It remains empty today. The Commercial Investment Division had limited composition, and limited results.

1990s Changes

The AHF changes were legislated in 1997. [Revised Alberta Statutes, 1997] Three major changes are denoted in the Appendix, a matrix that compares the Alberta and Alaska Funds. A major change was to reorient AHF financial holdings to portfolio management for long-term gains in portfolio value. This was an overdue change, but it was during unfortunate timing. Shortly after these changes, stock markets across the world plummeted; thus Alberta had the bad luck of good policy but unfortunate timing. Most individual investors had the same regrettable experience! Only in the last year have previous losses been reversed by portfolio gains. A related AHF change was to reorient the investment profile outward from Alberta, rather than impairing financial results by being constrained by an inward investment stance. Finally, and very important, Alberta would at last engage in inflation-proofing for the Alberta Heritage Savings Trust Fund – another overdue change. These 1997 changes to AHF legislation are very positive and progressive, and the AHF future results will be greatly improved.

Current Financial Status

AHF nominal value is unchanged from 1987, nearly two decades. Financial results since inception have been very poor. The financial value in 1987 was $12.1 billion; after recovering portfolio losses in the last year the value is $12.4 billion. (31 March 2004) [AHF Annual Report, 2004] Deemed assets via CPD carried at book value of AHF are listed at $3.5 billion.

Twenty six billion dollars of income has been generated as Fund income over the 28 year life of the Alberta Heritage Fund. The most recent year's yield was $1.13 billion. These monies are transferred to the Alberta Government budget, representing taxes Albertans do *not* pay for public services. A debate is re-emerging questioning whether it is fair to future generations that the yield of the Alberta Heritage Savings Trust Fund is (and has been since 1982) used wholly for current expenditure purposes.

Comparisons with Alaska Permanent Fund

There are many similarities between Alberta and Alaska. Among these similarities is that their respective funds began at the same time (1976), and with the same non-renewable resources revenues basis of funding sources. Alberta's AHF is $12.4 billion. ($15.9 billion if deemed assets are counted). [AHF Annual Report, 2004] Alberta's population is just over three million. Alaska's APF is about $30 billion, for a population of about 600,000. [APF Annual Report, 2004] Similarities and differences are noted in the Appendix. [Warrack and Keddie, 2002] Four major differences are vital to be noted, and seriously considered when recommending policies for another country or jurisdiction. Four differences are especially important in determining which Fund might be the most appropriate model for other jurisdictions to accept guidance.

Establishment

A crucial difference is that the Alaska Permanent Fund was established by Constitutional Amendment; a referendum was necessary to establish the APF, and Alaska citizens voted to pass such a referendum. As a result, APF monies were set aside for the future, away from current fiscal budgetary pressures. It was specified that a minimum portion of energy resources monies (25%) must be directed to the APF, and the

Fund would be managed by an "arms-length" Board of Trustees. By contrast, Alberta's Fund was established by ordinary legislative process*. Flows of funds could be and were interrupted (1987 to present), and worst, with AHF yields entirely diverted to current budgets (1982 to present).

Governance

The APF, under Alaska's Constitutional amendment, continues to be managed by independent Trustees. The only dispositions (dividends) are those made to individual citizens of the State. APF funds are managed for future value, and that is the clear mandate of the Trustees. In Alberta, the AHF is managed within the government bureaucracy. Dispositions have been made with only the limited public scrutiny of regular budget processes. A current government of Alberta could disband the AHF; a current government of Alaska could not disband the APF.

Financial Management

The AHF has been managed for income, but Alberta's Fund was hobbled from the first because it was not permitted to hold portfolio equities. A period of high inflation (1980s) was noted earlier; it is not possible to maintain and build value during inflation without access to the capital gains from equity holdings. Only with 1997 amendments did the AHF break out from this severe constraint on gains for the future. With unfortunate timing, the portfolio changes occurred just when stock markets fell markedly. The value of the AHF fell significantly below its $12 billion nominal financial value of 1982. Two years of stock market recovery has just made up the losses. In contrast, since its inception in 1976 Alaska's Fund has been invested in the marketplace as an endowment. The APF yields now exceed energy resources revenues, and these results are expected to continue in the years ahead. Alberta's Heritage Fund financial value is approximately $12 billion. Alaska's Permanent Fund current value is approximately $30 billion, despite citizen dividend payments each year since 1982.

Inflation-Proofing

This is a simple concept. The objective is to maintain purchasing power of the capital base; the method is to measure inflation in a given year, and re-invest an amount that would offset the erosion of purchasing power due to inflation. Alaska did this from the beginning of the APF. In the early years (1976-1982), Alberta did so by coincidence, inasmuch as ALL yields were reinvested. Once the AHF financial yields were diverted to the provincial budget beginning in 1982, no inflation proofing took place until the policy change of 1997. Meanwhile, poor AHF financial results were compounded by inflation erosion of the capital base purchasing power. Inflation-proofing is a vital dimension of energy revenue funds management.

Experience with energy revenue funds can be a basis to mentor any other jurisdiction considering such a policy. Alberta is better off due to its Alberta Heritage Fund; lessons have been learned and can be shared. Alaska is *much* better off due to its Alaska Permanent Fund. The Alaska results are significantly better than those of Alberta. It is important to have a full understanding of both funds. However, a comparative analysis

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* *Alberta could not establish its Heritage Fund by a constitution process because Canadian provinces do not have constitutions. American states do have constitutions, so Alaska could make that choice.*

leads to the important conclusion that the Alaska Fund should be selected as the better energy revenues model to emulate.

It would be a stretch to declare the Alaska Permanent Fund as a "gold standard" in managing energy resource revenues. Perhaps it is a "silver standard". Alaska has problems ahead with its Permanent Fund, unless new oil and natural gas development is permitted in the State. Alaska also has been lucky, in two ways. It is fortunate to have had a Constitution available as a basis for establishing its Permanent Fund. Alberta did not have this governance mechanism available. Alaska was lucky in another way. In 1969 it had experience with an "alpha" model of $900 million of income from auctions of 164 tracts of state-owned land at Prudhoe Bay. [Alaskan's Guide to the Permanent Fund, 2001] The State "invested" these funds in infrastructure much like the AHF Capital Projects Fund. The unexpected result was that the Alaska public generally felt the money was wasted. The outcome was that the "beta" model was to discontinue those policies and instead form the Alaska Permanent Fund.

Blessings and Curses?

On first instinct, how could energy revenues *not* be blessings? There is instructive literature on actual cases [Baena, 2004; Hannesson, 2001], the examination of which leads to a regrettable conclusion. On last instinct, the admonishment becomes "do *no* harm" – surely the availability of energy revenues can be managed so that the recipient society is not worse off!

The current paper examines the Alberta Heritage Savings Trust Fund (AHF). Has it been a blessing or a curse? To address this vital question, an evaluation grid has been devised; see Figure 6. The grid is comprised of three time frames, with eight evaluation parameters and an overall result for each time frame. Each result is a subjective one. The fundamental methodology proposes that the results change over time, and several important dimensions require separate and incisive assessment. Research is needed on each of the 24 cells in the grid. The final result for each time frame is a composite of the eight entries, and perhaps not each dimension should carry equal weight.

Figure 6. Blessing-Curse Evaluation Grid

Blessing-Curse Parameters	Short-Term (1976-82)	Medium-Term (1983-97)	Long-Term (1998 –)
Economic	Good	Fair	Fair
Financial	Good	Poor	Fair
Social	Good	Fair	Poor
Environmental	Good	Good	Fair
Educational	Good	Fair	Fair
Research –			
Medical	Excellent	Excellent	Excellent
Other	Good	Fair	Fair
Governance	Fair	Fair	Fair
Pan-Canadian	Good	Fair	Poor
OVERALL	**GOOD**	**FAIR**	**FAIR**

Time Frames for the AHF Evaluation

The three time frames for evaluation are not arbitrary; each is identified by major thresholds of policy changes. The primary basis for time frame separations is in Figure 5. However, not all changes made in 1997 are reflected in Figure 5.

Short-Term (1976-1982)

This time frame differs very significantly from the others. From the initial 1976 allocation onward, 30% of non-renewable revenues were allocated to the AHF. And *all* financial yields were allocated back into the AHF. Albeit coincidental, endowment financial rules (no more than 5% taken for current use) were abided by inasmuch as zero was taken. Also coincidentally, the AHF was inflation-proofed during these years because all financial yields were ploughed back into the AHF capital base. Each of these policy parameters changed abruptly in 1982.

Medium-Term (1983-97)

In 1982 the proportion of energy revenues set aside in the AHF was halved to 15%. This continued for five years until 1987, but *no* energy revenue allocations have been made to the AHF since then. Worse, financial endowment rules and inflation-proofing requirements were cast aside in 1982. The purchasing power of the AHF capital base was eroded seriously through the 1980s, because of high inflation. Moreover, financial yields of the AHF were used to subsidize lower taxes for the current generation of Albertans, at the expense of future grandchildren. Not a pretty sight! In 1997, after a set of public hearings, some important changes were begun.

Longer-Term (1998-present)

Public hearings were held by the AHF Legislative Committee in the mid 1990s. Many groups and individuals appeared; the author appeared in February 1995. After extensive input, discussion and debate three major changes were legislated. [AHF Amendment Act, 1997] The first change is that AHF investments would permit holding of equity stocks. As noted earlier, the timing proved to be unfortunate although the policy change was rational. Second, in the future, the AHF would be inflation-proofed. Although inflation was low at the time, it meant the new inflation-proofing policy would be imbedded for the inevitable time in the future when it would be badly needed. Finally, the government began a slowly phased process where an endowment policy would guide the "take" from the Heritage Fund. Ten percent of the AHF would be moved into an endowment each year; thus over a decade the transfer would be complete. These major changes underlie setting apart the evaluation time frame from 1998 onward to the present.

Blessing-Curse Evaluation Criteria for AHF Evaluation

Eight parameters are identified for evaluation in Figure 6. Each will be evaluated, with brief explanation, for each of the three timeframes. Each cell will contain a subjective evaluation: Excellent or Good or Fair or Poor. For each time frame, a similar expression of evaluation resulted.

Economic Parameter

In early AHF years the Government of Alberta aggressively utilized the Fund for economic development leverage. Major infrastructure funding was provided across the span of provincial government responsibilities. Special programmes for water and sewer facilities were undertaken. The Capital Projects Division was explained, with examples, earlier in this paper. Major successful initiatives were the investment rescue of the Syncrude Oil Sands project and the establishment of a petrochemical industry in Alberta. Crown corporations benefited from lower financing via the Alberta Investment Division, but with the counterpart reality of isolation from market forces. This was the beginning of the "Dutch Disease" in Alberta. In the medium-term years earlier Capital Projects Division undertakings were completed, but with few new initiatives. Some of the new ones were forays into the private sector and several were financial disasters. Major losses were absorbed, including by the AHF. No economic strategic plan was apparent. As the Alberta Government lurched from one disaster to the next, it became very unpopular. In the longer term, the government itself became anti-government in attitude. Not only was there no economic strategic plan, the "leave it to the private sector" mantra was the ideological driver. The "Dutch Disease" has been in full flourish for the last fifteen years. The AHF has been used as a "rainy day" fund to subsidize tax levels. Alberta's grandchildren will not thank the current generation.

Results: Good; Fair; Fair.

Financial Parameter

The initial timeframe was good because 30% of energy revenues and all yields were reinvested in the Fund. However, the evaluation rating is not excellent because these results were coincidental rather than due to policy formulation and commitment. Another gap in financial evaluation is that AHF monies were managed strictly by the bureaucracy. Despite advice to the contrary, no set of trustees or formal advisors were established. By the medium term, the results were telling. Private sector investors feared competition by the government underwritten by AHF leverage. Meanwhile, extraordinarily high inflation ravaged the AHF; each year severe erosion of Fund purchasing power ebbed. The Government of Alberta also had the bad luck of sharply declining oil and natural gas prices, with accompanying revenue shortfalls in provincial government revenues. Large annual budget deficits accumulated a very large government debt in Alberta. There were demands to "cash in" the Heritage Fund. In fact, this gradually was taking place already. After a change in government leadership, huge cuts in government spending and employment were implemented. "Rough justice" was administered. AHF hearings yielded the general sentiment to *not* abolish the Fund, with many suggestions for improved management. In 1997, several of the policy suggestions were implemented.

Results: Good; Poor; Fair.

Social Parameter

Strong social initiatives characterized the AHF at the outset. Human Rights legislation led the legislative parade. Administration of the lower courts was revised. Arts facilities and support were given high priority. Provincial urban parks were instituted for the first time in Alberta's history. In the medium term, funds became much very scarce but certain initiatives were pursued with success (*e.g.* a large Mountain Provincial Park). Regulations for handicapped access facilities were passed, with funding assistance to ensure a reasonable pace of implementation.

However, funding of handicapped programs was sharply curtailed. In the most recent years in Alberta, social policies literally have fallen off the "radar screen" including no impact from the Heritage Fund. Through time, the AHF has been used to support social programmes strongly, then weakly, then virtually not at all.

Results: Good; Fair; Poor.

Environmental Parameter

A strong environmental consciousness accompanied the newly elected (1971) government to power, and was reflected in the early uses of the AHF. The energy-environmental interface became a priority of government attention. A new Coal Conservation Act was legislated; major amendments were made to the Hydro and Electric Energy Act. When the Alberta Heritage Savings Trust Fund came into force and effect, with its Capital Projects Division monies, significant environmental initiatives were begun. Flood abatement projects were undertaken. Historic coal mine reclamation projects were tackled, providing heavy-equipment instruction and experience to young learners. Water conservation was given high priority, pursuant to the opposition to north-south water transfers in Alberta. Irrigation works were rebuilt. A new forestry reforestation nursery was established. These and other environmental efforts characterised both the short-term and medium-term timeframes evaluated in Figure 6. The Capital Projects Divisions for environmental purposes were completed during the 1980s, but eventually no new ones were funded. In more recent times the environment has fallen to much lower priority, with no AHF funding. Environmental regulation largely has been left to the private sector for "self regulation". Some of this self-regulation worked successfully, arguably with the forestry sector as a good example.

Results: Good; Good; Fair.

Educational Parameter

Education can be viewed as human capital investment. As such, it can be considered an opportunity to convert non-renewable resources (oil and natural gas) into the renewable resources of knowledge and technology. Viewed in the context of "capital asset management", a rationale for AHF use can be identified. Major capital upgrades took place on university and college campuses in the province. A unique donation-matching policy was initiated, enhancing fundraising leverage by educational institutions. An Alberta Heritage Scholarship Fund was funded using AHF resources, and a special library development fund was established for Alberta schools. Education initiatives were pursued aggressively in the early years of the Heritage Fund. However, deep cuts in education funding were implemented by the Alberta government starting in the late 1980s. Consistent with these actions, AHF initiatives for educations were curtailed.

Results: Good; Fair; Fair.

Research Parameter (Medical)

The hallmark success has been the Alberta Heritage Foundation for Medical Research. Funded by $300 million from the AHF, since 1980 the monies have been endowment-managed and grown significantly. Research facilities were built and extensive world-class researchers have been attracted to work and live in the province. Recently, the Alberta Government added $500 million of surplus energy revenues to the medical endowment. Most of the facilities and research are at the University of Alberta and the University of Calgary. In addition, funding has been provided for research and clinical care in cancer, heart and children's diseases. Truly this is a success story!

Result: Excellent; Excellent; Excellent!

Research Parameter (Other)

Certain additional research priorities were undertaken with AHF support in its early years. This work primarily was in areas of energy research. The most major research effort was via the Alberta Oil Sands Technology and Research Authority (AOSTRA). Looking ahead to future energy supplies, the importance of the vast oil sands resource was recognized. Notably, by far most of this resource is too deep to surface mine. Thus the big and continuing challenge is "in situ" production at competitive costs. Renewable energy research was funded. Finally, a coal research facility was built and work began. The energy research work continued, although with little new initiative, during the medium-term years. Research in many areas became characterized by the recent Alberta government as "wasteful administration" and funding was curtailed, in some areas entirely eliminated.

Result: Good; Fair; Fair.

Governance

In the 1970s, unlike now, there were few resources revenues cases to learn from. The Alaska Permanent Fund was being formulated in the same timeframe. So were others such as Norway. Unfortunately, as Canadian provinces do not have constitutions, a vital governance option used by Alaska was not available. The "genius" of constitution-based energy resource fund means buffering from ongoing fiscal demands. Alaska had that option, and driven by its "alpha" initial experience, chose it; the energy revenues regime was put to their public by referendum and approved. Thus the capital base of the Alaska Fund cannot be dismembered without public approval by referendum. Alberta had no such option, and it is speculative whether it would have taken the constitution approach if it had been possible. The reality is that the AHF was established by conventional legislative means and the monies were managed by the government bureaucracy. Intentions were good, and with high energy revenues flows, governance in the short-term period appeared satisfactory. Time has demonstrated that the governance system in place was faulty -- it was not resilient to changing fiscal circumstances. As fiscal pressure manifested itself, first *all yield* from the AHF was taken into general revenues. At the same time, energy revenues flows were *halved* for five years and then curtailed. Insidious inflation erosion of capital base sapped the purchasing power without correction. In effect, Albertans ended up paying lower taxes than the value of goods and services received. This was "financed" by the current generation transferring value from future generations. Alberta's stance is that has paid off its debt, but does it owe a debt to its future generations? Once again, not a pretty sight! Without an arms-length mechanism resilient to/from ebbs and flows of fiscal demands, it seems impossible for a political system to manage energy revenues responsibly. That is a sad lesson for Alberta, the province being far less successful than Alaska.

Result: Fair; Fair; Poor.

Pan–Canadian

An important issue is whether the existence and management of the Alberta Heritage Savings Trust Fund enhanced Alberta's credibility and image across the country. The results are regrettable, as follows. Despite apparent good intentions, the Canada Investment Division loans became a problem. Recipient provinces, Canada's smaller and poorer ones, were helped but had little clout in Ottawa and elsewhere in Central Canada. Alberta's CID loans were viewed with suspicion by the Federal Government and with resentment by Canada's largest province, Ontario. Ontarians felt they were putting much of the money into the Heritage Fund, and they understandably felt wronged by the former "Ottawa Valley Line"[*] of oil pricing in Canada. To Albertans, it appeared they were making sacrifices for ungrateful fellow Canadians. Into the 1980s, due to high inflation driving high interest rates, Albertans found themselves paying higher house mortgage and business loan interest rates than the AHF was garnering from loans elsewhere in Canada. Soon, political "prairie fires" began to poison the country's atmosphere. Rhetoric ranged from Western Separatism (a member was elected to the Alberta Legislature) to "the West wants in" as the mantra of the Reform Party (later Alliance Party) that displaced the Progressive Conservative Party in Canada's Parliament. In Calgary, unhelpful bumper stickers appeared saying "Let the Eastern Bastards Freeze in the Dark". Meanwhile, the Mayor of Calgary (now Premier of Alberta) disparaged Ontario "creeps and bums" coming to the province. A few years ago, a "firewall" proposal was publicized by several prominent Albertans, geared to the isolation of the province from the rest of the country. Now, one of the leading firewall authors is leader of the Official Opposition in Parliament. In more recent years, Alberta's government has become even more dismissive of intergovernmental matters. The zenith of the attitude was the sudden (impolite?) departure of the Alberta Premier from a Prime Minister's dinner, at his residence with Canadian Premiers, from whence he went to a Casino! Alberta's pan-Canadian status has fallen to a new low. Because of the Heritage Fund? Not entirely, but because of it Alberta's actions are viewed through a more intense prism of scrutiny. Like a prominent athlete, a higher standard of example is expected. Alas, Alberta is seen as the "rich kid" and all that the term implies. [Gibbins, 2005]

Result: Good; Fair; Poor.

[*] Pursuant to the 1950s "great pipeline debate", Ontario was forced to pay higher prices for Canadian (*i.e.* .Alberta) oil whilst Quebec was allowed to pay lower prices based on oil imports. The dividing line was the Ottawa Valley.

Lessons

Blessings are not automatic. Whether energy revenues become a curse, or not, depends on leadership and management. It seems to be especially difficult to prevent early blessings from lapsing into longer-term curses. Yet surely it is within human wit to sustain the blessings. From experience with the Alberta Heritage Savings and Trust Fund, and comparisons with the much more successful Alaska Permanent Fund, a set of lessons are offered. No jurisdiction seems to have established a "gold standard" for handling energy revenues, but I would award a "silver" award to Alaska. Alberta warrants the "bronze" award. Regrettably, many (most?) jurisdictions finish "out of the medals". Yet many more jurisdictions have an opportunity to establish and sustain energy revenues blessings for their people; the following lessons are for them.

Lesson One

Form a *permanent* Fund from energy revenues, to confer non-renewable resources benefits through the generations of people. Such a Fund can convert non-renewable energy wealth to renewable financial wealth.

Lesson Two

Establish arms-length *governance* by Trustees at the outset, preferably by Constitution. It is and will always be essential to buffer a Permanent Fund from ongoing short-term fiscal pressures and politics.

Lesson Three

Insist on a *process* of policy formulation and legal approval that is *transparent*, with the fullest, widest and most open and inclusive consultation and debate.

Lesson Four

Determine a fair proportion of *ownership share* energy royalties, about one-third of value; and determine a fair proportion of these royalties for the *future generations*, also about one-third of royalty revenues streams.

Lesson Five

Adopt a mandate of e*ndowment* financial management –

- Preserve purchasing power of capital,
- Inflation-proof annually,
- "Harvard Rule" yield disposition, not more than 5 % taken for current purposes (4.0 – 4.5% is preferred, to reduce risk).

Lesson Six

Involve the *public* directly and frequently, with direct payments of at least half of yield disposition – *e.g.* if 4.5% yield taken, 2.25% payout to citizens

- citizens have incentive to be attentive and knowledgeable of their own Fund,
- social equity gains, inasmuch as equal dividends are allocated to the poor.

Lesson Seven

Independently *review* policies and mandates every five years, including accountability rules and open transparency-to-public rules. Hold wide-ranging public hearings. Learn from the successes, and failures, of others – there may be no need to "reinvent the wheel".

Appendix

Comparisons: Alberta Heritage Savings Trust Fund

vs.

Alaska Permanent Fund

	Alberta Heritage Savings Trust Fund	Alaska Permanent Fund
Time Era	Mid-1970s	Mid-1970s
Resources Base	Hydrocarbons	Hydrocarbons
Philosophy	Nationalization	Privatization
Establishment	Legislation	Referendum
Governance	Bureaucracy	Trustees
Economic Development	Yes	No
Social Dividends	Yes	No
Financial Management	Income	Endowment
Stocks Holdings	No/Changing (1997)	Yes
Inflation Proofing	No/Changing (1997)	Yes
Investment Profile	Inward/Changing (1997)	Outward
Fund Size	Smaller	Larger
Fund Growth	No	Yes

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