

Pembina



Sustainability Indicator Frameworks in Alberta

Setting the Context and Identifying
Opportunities

MARCH 2006

Amy Taylor

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Sustainability Indicators in Alberta: Setting the Context and Identifying Opportunities

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About the Pembina Institute

The Pembina Institute creates sustainable energy solutions through research, education consulting and advocacy. It promotes environmental, social and economic sustainability in the public interest by developing practical solutions for communities, individuals, governments and businesses. The Pembina Institute provides policy research, consulting services, leadership and education on climate change, energy issues, green economics, energy efficiency and conservation, renewable energy and environmental governance. More information about the Pembina Institute is available at www.pembina.org or by contacting info@pembina.org.

Table of Contents

1	Introduction.....	4
2	Alberta’s Genuine Progress Indicator.....	5
3	Government of Alberta’s <i>Measuring Up</i> Reports	7
4	The Canadian Index of Wellbeing	10
5	Sustainable Calgary’s <i>State of Our City</i> Reports.....	12
6	Reconciling Alberta’s Indicator Initiatives.....	14
7	Indicator Frameworks in Alberta: Next Steps	19

1 Introduction

There is a global trend towards increased use of indicators to track and report on progress and performance. This is true for governments, communities, businesses and non-governmental organizations alike. The Alberta government has been a leader in the use of indicators. In fact, Alberta was the first provincial government in the country to adopt publicly reported indicators to track progress on a number of important social, economic and environmental goals. A number of other important indicator initiatives have also been undertaken in Alberta. More specifically, the Pembina Institute has completed the Alberta Genuine Progress Indicator, tracking 51 social, environment and economic indicators over a more than 40-year period. Sustainable Calgary has developed and reported on 36 indicators of wellbeing in its *State of Our City* reports. And the Canadian Index of Wellbeing is being developed with input from Alberta-based indicator experts.

This report will review and compare these important indicator frameworks and identify future directions for indicator developments in Alberta. To that end, this report provides brief overviews of each of these initiatives and then compares them to the Alberta Genuine Progress Indicator (GPI). The similarities and differences between the GPI initiative and each of the others are identified. This comparison helps inform the final chapter of the report, which describes future directions for indicator work in Alberta. Appendix A is a power point summary of this report.

2 Alberta's Genuine Progress Indicator

In 2000, the Pembina Institute completed the first Alberta Genuine Progress Indicator (GPI) project. At that time, the GPI tracked 51 indicators for the province of Alberta from 1960 to 1999. On the occasion of Alberta's 100th anniversary in 2005, the Pembina Institute updated the 51 indicators to the year 2003.¹

Alberta's Genuine Progress Indicator (GPI) is a comprehensive framework for measuring total societal wellbeing. It is composed of 51 environmental, social and economic indicators and was developed to respond to the shortcomings of the Gross Domestic Product (GDP) as a measure of total wellbeing. The GDP, while extremely useful and appropriate as a measure of the total value of economic transactions that take place in a defined region over a certain period of time, is misused as a measure of wellbeing. The GDP measures the sum of all economic transactions (spending); it does not distinguish between transactions that contribute to societal wellbeing and those that detract from it. Thus, the more crime that takes place, the more money people spend on alarm systems and security guards, and the more the GDP increases. But is society really better off if the source of the expenditure was increased crime? Likewise, the GDP increases when there are more automobile accidents, environmental disasters, obesity cases, liquidation of natural resources and problem gambling. At the same time, the GDP does not include non-valued transactions even if they contribute to societal wellbeing. The GDP does not value time spent with children, time spent taking care of elders or time spent volunteering. Thus, if a person were to reduce the amount of time he or she dedicated to paid work in exchange for one of these forms of non-paid work, the result would be a decline in the GDP, but society may not necessarily be worse off if the reduced paid hours were replaced with volunteer hours. As Robert Kennedy observed, "The GDP measures everything except that which makes life worthwhile." While common measures of wealth and prosperity, like the GDP, suggest that we are better off (over 400% better off since 1960 in the case of Alberta), a closer look at the conditions of the things that make life worthwhile provides a much more holistic picture of our wellbeing and quality of life.

Despite the shortcomings of the GDP as a measure of wellbeing, it is often used in this context. Simon Kuznets, one of the principal architects of the international system of National Accounts (on which the GDP is based), warned the U.S. Congress in 1934 that "the welfare of a nation can scarcely be inferred from a measurement of national income" as defined by the GDP. He argued that when using money measures like the GDP, a distinction must be made between "quality and quantity of growth" and that decision makers should specify growth "of what and for what." Unlike the GDP, the GPI is a measure of wellbeing or progress that takes into account environmental, social and economic considerations. The GPI recognizes that in some cases, limits to growth are desirable and draws attention to the key factors that contribute to wellbeing. The Genuine Progress Indicator increases when crime declines, fewer automobile accidents occur, people spend less time commuting, income equality increases and greenhouse gas emissions are reduced. The GPI recognizes the economic gains associated with non-renewable resource depletion as well as the costs of depleting these exhaustible resources. The GPI takes into account expenditure that detracts from societal wellbeing and values all forms of work, whether paid or not. The table below shows the 51 indicators that comprise the GPI.

¹ Details of the Alberta GPI project can be found at www.fiscallygreen.ca.

Table 1 The 51 indicators of Alberta's Genuine Progress Indicator

ECONOMIC	SOCIAL	ENVIRONMENTAL
<ul style="list-style-type: none"> • Economic growth • Economic diversity • Trade • Disposable income • Weekly wage rate • Personal expenditures • Transportation expenditures • Taxes • Savings • Household debt • Public Infrastructure • Household infrastructure 	<ul style="list-style-type: none"> • Poverty • Income distribution • Unemployment • Underemployment • Paid work • Household work • Parenting and eldercare • Free time • Volunteerism • Commuting • Life expectancy • Premature mortality • Infant mortality • Obesity • Suicide • Drug use • Auto crashes • Divorce • Crime • Problem gambling • Voter participation • Educational attainment 	<ul style="list-style-type: none"> • Oil and gas reserve life • Oilsands reserve life • Energy use • Agriculture sustainability • Timber sustainability • Forest fragmentation • Fish and wildlife • Parks and wilderness • Wetlands • Peatlands • Water quality • Air quality-related emissions • Greenhouse gas emissions • Carbon budget deficit • Hazardous waste • Landfill waste • Ecological footprint

The indicators listed above are grouped into one of a number of “capital” accounts: time use, social, human health and wellness, natural resource and environmental, and economic.

Within the GPI framework, the indicators are presented in their raw data form and are also converted to indices where for each indicator, 100 is set equal to the benchmark (best) year over the study period and change from that benchmark year is measured as movement towards zero. Once indexed, the indicators are combined to demonstrate overall trends for economic, societal and environmental wellbeing. These three indicators are then summed to form one overall Genuine Progress Indicator. The GPI framework also allows the results to be presented in monetary terms. In this case, the Gross Domestic Product is adjusted such that “regrettable” expenditures (expenditures that do not contribute to wellbeing) are subtracted from the GDP and unpaid work (time spent with children and elders and volunteerism) is added. The result is a monetary measure of the Genuine Progress Indicator that can be compared with the Gross Domestic Product. Whether in the indexed form or the monetary form, the result is a comprehensive measure of wellbeing that more closely reflects the factors that contribute to quality of life.

3 Government of Alberta's *Measuring Up* Reports

The Alberta government is a recognized leader in Canada when it comes to using indicators to measure and report on the province's progress. As required under Section 10 of the *Government Accountability Act*, every year the Alberta government publishes the *Measuring Up* report. This report, compiled by the Performance Measurement Unit of Alberta Finance, tracks the government's progress towards achieving a set of defined goals.

The most recent *Measuring Up* report, published in the spring of 2005, assesses progress towards 12 goals identified in the *2004–07 Government of Alberta Business Plan*.² Progress is tracked using 76 indicators. The report is designed to allow Albertans to compare what the government said it would do with what the government did. The table below presents the 12 goals and associated indicators as published in the *2004–05 Measuring Up* report.

Table 2 Goals and indicators contained in the Government of Alberta's *Measuring Up* Reports

GOAL	INDICATORS
Albertans will be healthy	<ul style="list-style-type: none"> • Life expectancy at birth • Participation in healthy behaviour • Self-reported health status • Overall quality of health care received • Ease of access to physician and hospital services
Albertans will be well prepared for lifelong learning and work	<ul style="list-style-type: none"> • Literacy and numeracy levels Grade 9 • Educational attainment of Albertans ages 25-34 • Lifelong learning • Adult participation in learning • Participants employed post-intervention
Alberta's children and youth will be supported in reaching their potential	<ul style="list-style-type: none"> • Social and economic development • Parenting skills
Albertans will be self-reliant and those that are unable to provide for their basic needs will receive help	<ul style="list-style-type: none"> • Persons with developmental disabilities funded services
Aboriginal communities and people in Alberta will have improved social and economic circumstances	<ul style="list-style-type: none"> • Source of income • Participation in the economy • Aboriginal affairs
Alberta will have an effective, responsive and well-managed local government sector	<ul style="list-style-type: none"> • Municipal financial accountability • Albertans' satisfaction with their local government • Local authorities' cost of borrowing from Alberta Capital Finance Authority • Local authorities' satisfaction with Alberta Capital Finance Authority

² Alberta's *Measuring Up* reports can be accessed at <http://www.finance.gov.ab.ca/publications/measuring/measup05/index.html>.

Table 2 Continued

<p>Alberta will have a prosperous economy</p>	<ul style="list-style-type: none"> • Gross Domestic Product • Job growth • Labour force participation rate • Labour productivity • Personal disposable income • Value-added industries • Export trade • Tourism industry revenue • Barriers to trade • Business connectiveness • Sponsored research at Alberta universities • Industrial disposition planning • Biodiversity monitoring system • Oil sands production
<p>Alberta will have a financially stable, open and accountable government and a strong intergovernmental position in Canada</p>	<ul style="list-style-type: none"> • Intergovernmental relations • Provincial credit rating • Accumulated debt • Tax load • Government financial accountability
<p>Alberta will be a fair and safe place to work, live and raise families</p>	<ul style="list-style-type: none"> • Effectiveness of human rights protection • Violent crime rate • Property crime rate • Perception of safety in the neighbourhood • Workplace lost-time claim rate • Involvement of drinking drivers in fatal collisions • Work stoppages • Harmonized securities legislation
<p>The high quality of Alberta's environment will be sustained</p>	<ul style="list-style-type: none"> • Greenhouse gas emissions intensity • Municipal solid waste to landfill • River water quality index • Air quality index
<p>Albertans will have the opportunity to participate in community and cultural activities and enjoy the province's historical resources and parks and protected areas</p>	<ul style="list-style-type: none"> • Participation in arts and cultural activities • Sports and recreation participation • Visitor satisfaction with provincial historical sites, museums and interpretive centres • Public library use • Level of community volunteerism • Film production employment opportunities
<p>Alberta will have effective and sustainable government-owned and supported infrastructure</p>	<ul style="list-style-type: none"> • Physical condition of health facilities • Physical condition of learning facilities • Physical condition of government owned and operated buildings • Physical condition of provincial highways • Utilization of provincial highways • North-south trade corridor • Ring roads in Edmonton and Calgary • SuperNet completion • Physical condition of water management infrastructure (headworks, dams and irrigation canals)

For each of the indicators contained in the *Measuring Up* report, the government presents relevant data for several years to show the trend in progress over time. A target for the indicators is also identified as well as expenditure by various government ministries towards the goal. The *Measuring Up* report allows the government and citizens of Alberta to track progress and identify areas of improvement and weaknesses. It is used by the Treasury Board to assess the overall performance and direction of the government along its key policy platforms.

4 The Canadian Index of Wellbeing

The purpose of the Canadian Index of Wellbeing (CIW) is to provide Canadians with a clear, valid and regular accounting of the things that matter to them and the genuine progress of Canada. Roy Romanow, founding chair of the Canadian Index of Wellbeing and former Saskatchewan premier, describes the CIW as an initiative that “will provide Canadians with a new basket of indicators that reflect the values that Canadians regard as important to their quality of life . . . [and] point the way to long-term sustainable economic prosperity” (Atkinson, 2005: 2). The CIW is still in the development stage with a number of organizations and experts from across Canada contributing to its evolution. In Alberta, Sustainable Calgary and Anielski Management³ are contributing to the development of the CIW. To date, this work has been funded by the Atkinson Charitable Foundation.

Much like the Alberta Genuine Progress Indicator, the Canadian Index of Wellbeing is designed to form a more comprehensive and accurate measurement of how well society is doing and respond to the shortcomings of using narrow economic indicators to gauge society’s progress. More specifically, a briefing note on the Canadian Index of Wellbeing states the following:

We currently gauge how we are doing as a society according to a narrow set of indicators of economic activity....Such a narrow perspective on wellbeing means we fail to capture many of the things that matter to Canadians. As our natural environment is depleted, life for Canada’s Aboriginal peoples fails to improve, the gap between the rich and poor gets bigger, and the pressures of time stress mount, it is no wonder that a rosy economic picture is often at odds with what Canadians know to be the reality of their everyday lives....This narrow perspective also means that we fail to seize opportunities to take action on those factors that will fundamentally improve our health, wellbeing and economic prosperity....We place great stock in the value of capital, measuring how well off we are according to our material wealth, and even measuring our progress as a society by whether our collective wealth is growing....But we ignore other kinds of wealth that are just as valuable, and we don’t pay enough attention when they depreciate, or when it’s time to reinvest. Under our current way of measuring growth, we count timber cutting as economic gain, but we don’t count the depreciation of our forest wealth. Fish stocks decline and soil erodes, but the national balance sheets do not track the health of natural capital, even though its deprecation can affect future production of timber, fish, and crops as if we sold off machinery.

To respond to these and other issues, the CIW, once fully developed, will be a new tool for accounting for change in our human, social, economic and natural wealth. The CIW will be built around and measure the extent to which Canadians are realizing our values and goals as a society. Ultimately, the CIW should

³ Mark Anielski, the president of Anielski Management, was the project lead on the Pembina Institute’s original project to develop a Genuine Progress Indicator for Alberta.

provide decision makers with information they need to measure the full benefits and costs of policy changes.

The Canadian Index of Wellbeing is an index (or set of indicators) that

- distinguishes between good things (like health and clean air) and bad things (like sickness and pollution);
- promotes volunteer work and supports unpaid care giving as social goods, and overwork and stress as social deficits;
- puts a value on things like educational achievement, economic security, a clean environment and social equity; and
- values a better balance between investment in health promotion and spending on illness treatment.

The experts and organizations working on the CIW have identified seven domains of wellbeing that will comprise the CIW. Within each of the domains, they have also identified the key factors that determine societal wellbeing. These will form the bases of the performance indicators as the project moves forward. The table below identifies the seven domains as well as the associated factors.

Table 3 Canadian Index of Wellbeing Domains

Domain	Factors that Determine Wellbeing
Living standards	Secure and meaningful employment, adequate income, low-income rate, gap between rich and poor, food security and affordable housing
Time allocation	Balance between paid work, unpaid work and free time, the capacity to make choices about the use of time and the stress of overload.
Healthy populations	Self-rated health; functional health; disability-adjusted life expectancy; infant mortality; low birth weight; mortality and morbidity due to circulatory diseases, cancers, respiratory diseases and diabetes; rates of depression and suicide; body-mass index; smoking; and physical activity.
Ecosystem health	Good air and water quality, healthy forests, soils and marine environments, greenhouse gas emissions, waste diversion and environmental sustainability.
Educated populace	Literacy, numeracy, and indicators of educational attainment and quality.
Community vitality	Safe communities, cohesion, multiculturalism, identity, culture, arts and recreation and inclusion of all communities in our vision for a better world.
Good governance	Including civic engagement and meaningful participation.

The data for the Canadian Index of Wellbeing will be presented in separate reports, one for each of the domains. In addition, the CIW will strive towards integration of the data and results. In this regard, work is currently underway to explore the possibility of a composite indicator for at least four of the domains. The raw data underlying the results and the reports will be made publicly available. At this stage, there is no plan to monetize the indicators.

5 Sustainable Calgary's *State of Our City* Reports

Sustainable Calgary is a Calgary-based not-for-profit society with the goal of “promoting, encouraging and supporting community level actions and initiatives that move Calgary towards a sustainable future.”⁴

The chief output of the group's work is the *State of Our City* reports. These reports, of which there has been three published to date, report on 36 indicators in 6 areas of relevance to the city of Calgary. The goal of this project is to develop the necessary tools and processes to help move Calgary towards a sustainable future. To accomplish this goal, the *State of Our City* reports track Calgary's long-term health and vitality by developing, monitoring and reporting on the 36 sustainability indicators.

The *State of Our City* reports were developed through a collaborative process involving broad participation and open dialogue with the citizens of Calgary. Through the Sustainable Calgary initiative, over 2,000 citizens participated in the identification and research of the indicators contained in the *State of Our City* reports.

The *State of Our City* reports are intended to be used to

- inform Calgarians of their progress towards sustainability;
- create a focal point for discussion of sustainability issues in general, and to raise these issues to a higher level of public debate;
- provide an educational tool that can be used by teachers, private and public decision makers, and community organizations;
- monitor issues, actions and policies that impact the sustainability and quality of life in Calgary;
- provide a basis for action, and to influence policy, planning and community processes; and
- demonstrate links among economic, social and ecological indicators.

The table below shows the six categories as well as the specific indicators in each.

⁴ More information on Sustainable Calgary is available at <http://www.sustainablecalgary.ca/>.

Table 4 Sustainable Calgary's State of the City report — list of indicators

CATEGORY	INDICATOR
Community indicators	<ul style="list-style-type: none"> • Crime rate and rate of victimization • Leisure activity • Membership in community associations • Number of and attendance at public festivals • Sense of community • Valuing cultural diversity (representation in leading positions) • Volunteerism
Economic indicators	<ul style="list-style-type: none"> • Economic diversity • Food bank usage • Hours required to meet basic needs at minimum wage • Housing affordability • Income inequality • Unemployment rate
Education indicators	<ul style="list-style-type: none"> • Adult literacy • Daycare worker salary and turnover • Grade 3 achievements scores • Library use • Average class size
Natural environment indicators	<ul style="list-style-type: none"> • Air quality • Bird population surveys • Food grown locally • Pesticide use • Surface water quality • Water consumption
Resource use indicators	<ul style="list-style-type: none"> • Domestic waste • Ecological footprint • Energy use • Population density • Transit usage for work trips • Transportation infrastructure spending
Wellness indicators	<ul style="list-style-type: none"> • Access to primary and alternative health resources • Childhood asthma hospitalization rate • Healthy birth weight babies • Self-rated health • Youth wellness (obesity and youth activities) • Support for the most vulnerable (poverty)

The 36 indicators are tracked and reported on in their raw data form. For each indicator, the report presents the current picture, the trend over time, the importance, linkages to other indicators and identifies individual and collective actions related to the indicator. The report also presents an overall rating for each indicator of negative (shown by an unhappy face-☹), positive (shown by a happy face-☺) or neutral (shown by a face with a straight mouth-☺).

6 Reconciling Alberta's Indicator Initiatives

In the sections above, we briefly described four significant indicator initiatives underway in Alberta. In addition to the Pembina Institute's Genuine Progress Indicator project, we highlighted the Government of Alberta government's *Measuring Up* reports, the Canadian Index of Wellbeing and Sustainable Calgary's *State of Our City* reports. This chapter of the report will demonstrate the similarities and differences between these initiatives and the Genuine Progress Indicator in particular and ultimately demonstrate how the initiatives are complementary to each other.

Alberta's Genuine Progress Indicator and the Government of Alberta's *Measuring Up* Reports:

The government's *Measuring Up* reports and the Pembina Institute's Genuine Progress Indicator project have a number of similarities. For example, they are both transparent in the way they present data. Data are presented in both reports in its raw form, and each of the indicators is presented individually. They show trends in data over time to allow users to draw conclusions about progress in Alberta (albeit for a much longer time period in the case of the GPI project). As well, a number of the indicators reported on in the Government of Alberta's *Measuring Up* reports are the same or similar to those contained in Alberta's Genuine Progress Indicator. For example, the following indicators are contained in both frameworks: life expectancy, educational attainment, gross domestic product, personal disposable income, export trade, debt, crime, air quality, river quality, municipal waste, volunteerism and public infrastructure. Both the Alberta Genuine Progress Indicator and the *Measuring Up* reports provide frameworks for tracking progress and aiding in decision making. Despite these similarities, a number of differences in several areas exist between the initiatives. One difference is the form in which the indicators are presented. The *Measuring Up* reports present data in its raw form. The GPI project does the same but also presents the data as indices and in monetary terms. By presenting the data in both raw forms as well as in indices and monetarily, the GPI framework allows for the transparency achieved in the *Measuring Up* reports and allows the indicators to be summed to show general trends at different levels of aggregation, i.e., for the environmental indicators, the social indicators, the economic indicators and for the GPI as a whole. By indexing the data and also presenting it in monetary terms, the GPI can be compared with the GDP and the major reasons for any divergence between these two measures identified. As well, the monetization of important indicators allows for the creation of a new balance sheet and a sustainable income statement that accounts for all forms of capital (natural, built, human and social) to guide decision making.

A second difference between the two indicator frameworks is the level of detail and focus of the particular indicators. The *Measuring Up* reports contain more indicators than the GPI project (76 versus 51) and substantial details with respect to social and economic indicators. The social and economic indicators in the government reports are very specific to Alberta and make reference to particular programs in Alberta (for example, sponsored research at Alberta universities, ring roads in Edmonton and Calgary, and SuperNet completion). In contrast to the extensive focus on economic and social indicators in the *Measuring Up* reports, environmental indicators are underrepresented. The GPI framework contains a more balanced split between environment, social and economic indicators. The figures below demonstrate

the split between the social, economic and environmental indicators for the two initiatives — the focus on social indicators in the *Measuring Up* reports is clear.

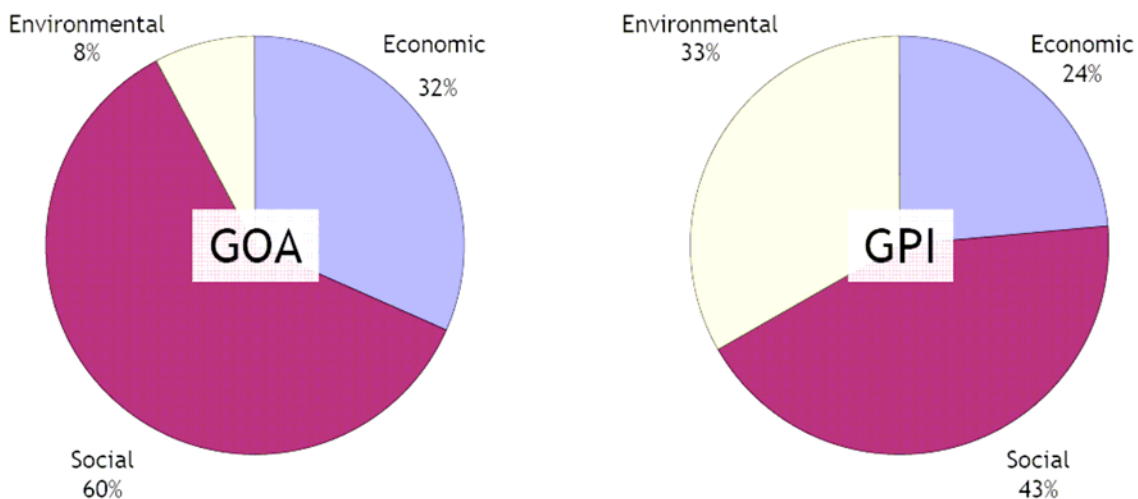


Figure 1: Comparison between distribution of economic, social and environmental indicators used by (i) the Government of Alberta (leftmost pie chart) and (ii) the GPI (rightmost pie chart)

The extensive focus in the *Measuring Up* reports on social indicators means that a number of such indicators are present in the government's reports that are absent in the GPI framework. This is true, for example, of indicators related to aboriginal wellbeing. The lack of attention to this important component of Alberta's society is a weakness of the GPI framework that should be corrected in future work in this area. At the same time, the lack of focus on the environment within the *Measuring Up* reports is a weakness of the government's reporting framework. This is especially true in the context of non-renewable resource depletion. The GPI framework explicitly recognizes that as non-renewable resources are depleted, the natural capital wealth of the region declines. The *Measuring Up* framework reports only on the development of the oil sands resource and does not acknowledge the depreciation costs associated with the liquidation of this finite resource. Just as we measure the depreciation of built capital in balance sheets and accounting frameworks, we should account for the depreciation of our natural capital, as does the GPI initiative.

Alberta's Genuine Progress Indicator and the Canadian Index of Wellbeing:

Of the indicator initiatives included in this report, the two that appear to be the most similar are the Canadian Index of Wellbeing and the Alberta Genuine Progress Indicator. The main similarity lies in the overarching objectives of these initiatives. They are both intended to respond to the shortcomings of the Gross Domestic Product as an indicator of wellbeing and provide a comprehensive framework for informing policy decisions. The background materials on the CIW indicate the need for a framework that treats all capital, whether economic, natural, social or human, the same way. Such a framework would measure the depreciation costs associated with liquidating non-renewable natural resources and recognize the need to invest in human capital to maintain the social and intellectual wealth of a region. Alberta's Genuine Progress Indicator is based on the same philosophy: to maintain the wealth of a region, we need to ensure we are making appropriate investments in the human, social, natural and built capital while balancing the benefits and costs of liquidating non-renewable resources.

While the specific indicators that will comprise the CIW are still unknown, the domains already identified are similar to themes contained in the GPI. For example, the CIW identified a time-allocation theme, and

the GPI has time-use accounts. The CIW has an ecosystem health theme, and the GPI has natural capital and ecosystem accounts. The CIW has a healthy populations theme, and the GPI has human and social capital accounts. Other examples also exist. Like the GPI, there is an intention within the CIW framework to index at least some of the data. One obvious difference between the two initiatives is geographic scale: the CIW has a national focus and the GPI a provincial one. Note, however, that the GPI framework can and has been applied at the national level in Canada and elsewhere. As well, there is no intention at this point to monetize the CIW results.

Alberta's Genuine Progress Indicator and Sustainable Calgary's State of Our City Reports:

Sustainable Calgary's *State of Our City* reports are similar to the Alberta Genuine Progress Indicator in a number of ways. The *State of Our City* reports are designed to track Calgary's progress towards sustainability and also to set an agenda for action to achieve sustainability goals. This objective is similar in nature to the objective of the Alberta Genuine Progress Indicator. The GPI is intended to be not just a venue for reporting on progress but also a framework for making policy decisions with the ultimate goal being sustainability. As well, a number of the 51 indicators contained in Alberta's Genuine Progress Indicator are also represented in Sustainable Calgary's *State of Our City* reports. For example, the following indicators appear both in the GPI framework and the *State of Our City* reports:

- crime rate
- volunteerism
- economic diversity
- income inequality
- unemployment rate
- air quality
- water quality
- domestic waste
- ecological footprint
- energy use
- transportation (public) infrastructure
- support for the most vulnerable (poverty)

The split between the number of environmental, economic and social indicators in the *State of Our City* reports is similar to that contained in the GPI framework (see figure below).

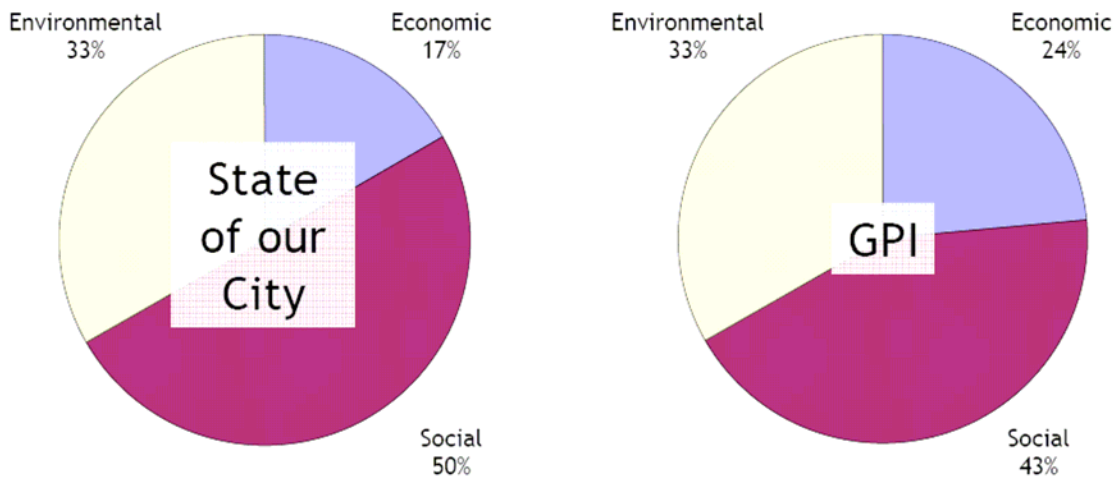


Figure 2 : Comparison between distribution of economic, social and environmental indicators present in (i) the *State of Our City* reports (leftmost pie chart) and (ii) the GPI (rightmost pie chart)

Like the GPI framework, the *State of Our City* reports are highly transparent with respect to data presentation. The data is presented in its raw form, and the trend over time is discussed. Unlike the GPI framework, the data is not converted to indices and rolled up to form more overarching indicators of wellbeing. The *State of Our City* reports draw conclusions about the progress of Calgary in achieving sustainability objectives, rating each of the indicators as negative, positive or neutral. The GPI takes a similar approach in that it assesses the trend in each particular indicator over time against a benchmark year (the best year over the 1961–2003 study period) to indicate whether the trend has been positive or negative.

Other than differences in some of the indicators as well as the data presentation, the other key difference between these two initiatives is the way in which the indicators were derived. In the case of the Genuine Progress Indicator, the Pembina Institute used a framework developed in the United States and adjusted it to be more appropriate for Alberta (adding oil sands for example). Sustainable Calgary used a citizen engagement and participatory process to identify and obtain the data for the 36 indicators contained in the *State of Our City* reports.

Summary

The four indicator frameworks reviewed in this document are similar in several ways:

- They all present frameworks for tracking progress over time.
- They are designed to provide frameworks to guide decision making and policy developments.
- The overarching objective of achieving sustainability is the same for three of the initiatives.
- Numerous indicators are the same across the initiatives.
- The presentation of data is consistent in that it is presented in its raw form and trends over time are demonstrated.

At the same time, there are a number of differences between the initiatives:

- The objective of the *Measuring Up* reports is to report progress towards a defined set of goals; the objective of the other initiatives relates directly to achieving sustainability.

- The Genuine Progress Indicator presents data not only in its raw form but also as indices and monetarily.
- The *State of Our City* reports and the *Measuring Up* reports present data in raw form only.
- The intention within the CIW is to present at least some data in the form of indices.
- The initiatives cover different geographic scales (municipal, provincial and national).

It is important to note that while differences exist between the initiatives, the differences are not fundamental and do not prevent the frameworks from being used in congruence with each other or from building off each other. The extensive list of social indicators contained in the *Measuring Up* reports can inform future selection of indicators in other initiatives. This is especially true for Alberta-specific initiatives and for Aboriginal wellbeing. At the same time, the *State of our City* reports and the Genuine Progress Indicator present a more balanced split between social, economic and environmental indicators and can inform the incorporation of additional environmental indicators in the *Measuring Up* reports in the future. As well, the means through which natural capital depletion is measured in the GPI framework can and should inform future reporting practices within the Alberta government.

7 Indicator Frameworks in Alberta: Next Steps

Alberta, and in particular the government, has been a leader in the use of indicators to track progress over time. The government's *Measuring Up* report is a significant initiative through which the government reports to the citizens of the province on progress towards achieving a number of important societal, economic and environmental goals. This initiative, along with the Pembina Institute's Alberta Genuine Progress Indicator, Sustainable Calgary's *State of Our City* reports and the Canadian Index of Wellbeing, provides a strong foundation for continuing leadership in Alberta on the use of indicators. With the current initiatives either well established or underway, it is an appropriate time to contemplate the future direction of indicator initiatives in Alberta. More specifically, it is useful to answer these questions: How can the foundation of leadership on the use of indicators in Alberta be leveraged and expanded to further improve indicator work in this province? What is the role of government in furthering indicator work in Alberta?

At the highest level, the answer to these questions is the same: by making sustainability the ultimate objective of the indicator frameworks. More specifically, **the Government of Alberta's work on indicators should be elevated from a system of tracking and reporting on progress to a full cost-benefit framework for making informed policy decisions that will move Alberta towards the ultimate objective of sustainability.** Sustainable progress means improving the conditions for present generations while managing all forms of capital (natural, human, social, built) in a way that will benefit future generations. Research by Noel Keough of Sustainable Calgary has concluded that sustainability indicators are an effective and important tool for the transition to sustainability and that the lack of integration of indicator initiatives into the policy and planning processes of local government is the missing link in moving from indicators to action.⁵ To achieve sustainability, the government therefore needs a robust decision-making framework that incorporates environmental, social and economic indicators.

Building on past successes in developing indicator frameworks and learning from other initiatives underway in Alberta and nationally, **the Government of Alberta should establish a comprehensive system for measuring, reporting on and making decisions about the total wellbeing and sustainability of the province.** Focusing on environmental conditions, as well as economic and social factors, means developing a comprehensive set of accounts for reporting on and managing all forms of capital (human, social, natural and built). To accomplish this, the government will need to integrate knowledge and expertise related to sustainability indicators into current financial accounting frameworks to develop a robust sustainability indicators framework that allows for a full cost-benefit analysis of policy decisions.

The fundamental difference between the government's current tracking initiative (*Measuring Up*) and the kind of framework that will provide a cost-benefit framework for informing policy decision is that

⁵ Noel Keough. 2006. *From Indicators to Action: The Contribution of the Calgary Community Sustainability Indicator Initiatives to Sustainability Praxis*. Department of Geography, University of Calgary.

environmental and social costs and benefits are incorporated into a financial accounting framework in the case of the latter. In other words, economic, environmental and social conditions are not only tracked and reported on through a set of indicators, they are included into accounting frameworks and treated in the same way as built capital. Current accounting frameworks such as the United Nations System of National Accounts or the Gross Domestic Product actually violate basic financial accounting principles. They treat the liquidation of natural capital assets, such as oil and gas, coal and timber, as income without accounting for the depreciation associated with the reduction in the inventory of total natural capital that results when these resources are exploited.

The new accounting framework should be capable of assessing the full benefits and costs of human, social, natural and built capital consumption. This means incorporating unaccounted-for benefits such as time spent raising children, caring for elders and volunteering. It also means measuring the depreciation costs associated with drawing down finite oil and gas stocks and unsustainable forestry and agricultural practices and incorporating these costs into accounting frameworks. Finally, it means estimating the liability costs of greenhouse gas emissions to global climate change, plus the liability costs of the cumulative impact of toxic waste storage and the potential cost (i.e., risk) to the environment from cumulative municipal landfill waste, and factoring these into accounting regimes.

Estimating human, social and natural capital costs and benefit is an important exercise. It allows us to distinguish between those contributions (expenditures) to economic growth that are genuine improvements in the wellbeing of society and those that are regrettable detractors. By adjusting accounting frameworks in this manner, decision makers will be able to take a more comprehensive look at the real costs of economic progress and will have a powerful tool for public policy development, strategic planning and budgeting. The resulting accounting framework will be able to tell us whether Alberta is better off or worse off — not just in traditional economic terms like GDP, but also in terms of how we use our time, the condition of our stocks of natural resources, and the health of individuals, households, communities and the environment. Understanding these conditions is critical to Alberta's future.

Developing robust accounting frameworks for managing the various forms of capital is vitally important and is relevant to public policy and budget decisions. However, it is more challenging than measuring and reporting on indicators in their raw data form. Methods for estimating these accounts can be complicated and controversial, but gains have been made. Statistics Canada, for example, has established *Econnections*, a program to link the environment and the economy through relevant statistics. Within this program, Statistics Canada has developed a system of environmental and resource accounts that quantify the links between the environment and the economy. The resulting “Canadian System of Environmental and Resource Accounts” includes physical and monetary statistics related to natural resources and the environment using classifications, concepts and methods compatible with those of the Canadian System of National Accounts — the accounts used to derive important indicators of economic activity, such as the Gross Domestic Product. To develop accounting frameworks that incorporate full economic, environmental and social costs and benefits, the government will need to draw on the best available academic work, methods and other research to estimate the full costs and benefits associated with wellbeing in Alberta. The work by Statistics Canada, the Alberta Genuine Progress Indicator and the Canadian Index of Wellbeing can help inform developments in Alberta in this regard.

Recommendations

To advance the Government of Alberta's measurement and accountability commitment, and elevate the current indicator framework to a comprehensive accounting framework that assesses the condition of the key assets (natural, human, social and built) of the province, we recommend the following next steps:

1. Review and learn from key accounting initiatives underway in Canada and other regions, which include not only built capital, but human, social and environmental capital accounts as well.
2. Identify key lessons and features of more inclusive accounting frameworks (including those highlighted in this report) and test for applicability in Alberta.
3. Engage experts in the provincial and federal governments, non-governmental organization sector, individuals and others in Alberta to support the advancement of a more inclusive accounting framework.
4. Identify and fill data gaps that would restrict the development of a more inclusive accounting framework.
5. Progressively develop and pilot natural, social and human capital accounts that build on the public infrastructure accounting framework of the Government of Alberta.

Appendix A:
Sustainability Indicator
Frameworks in Alberta.
Power Point Summary



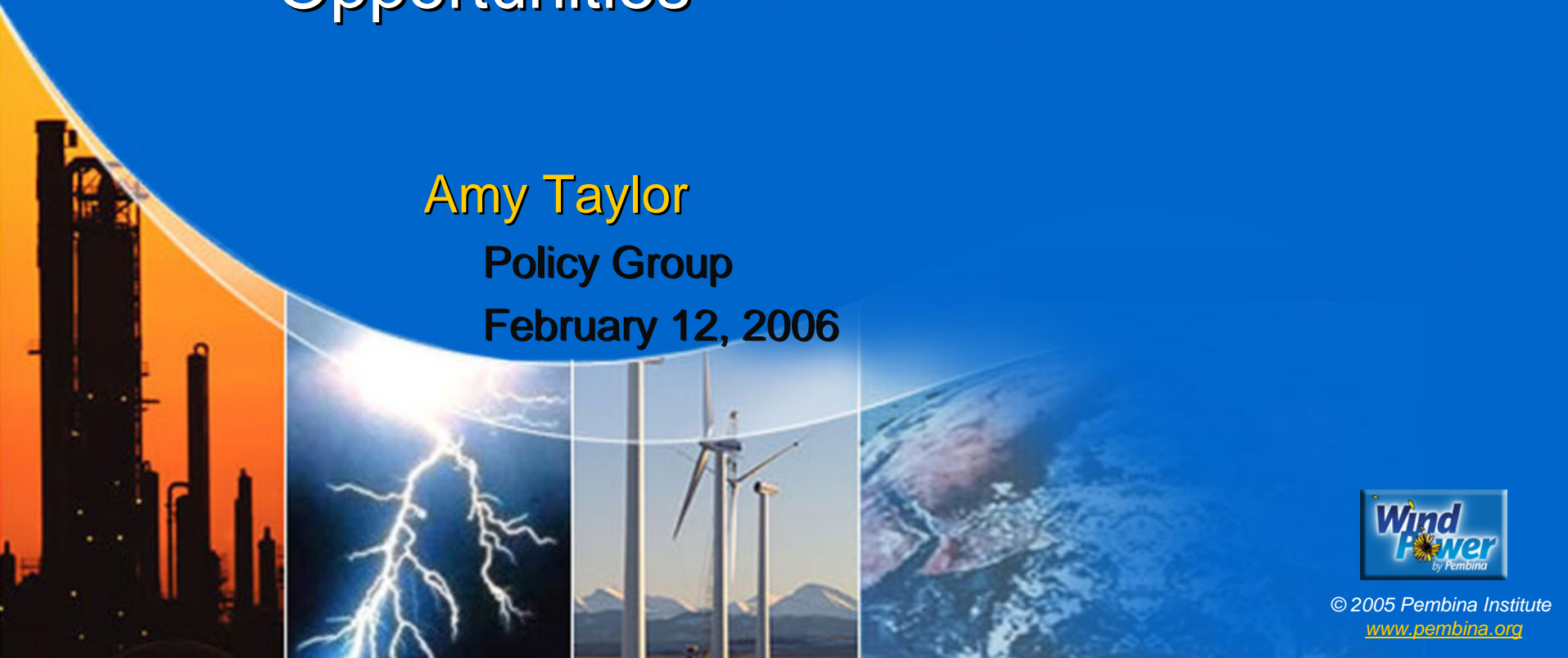
Sustainability Indicator Frameworks in Alberta

Setting the Context and Identifying Opportunities

Amy Taylor

Policy Group

February 12, 2006



Alberta, a Leader

- Government of Alberta's *Measuring Up* Reports
 - Track progress towards achieving goals
 - Annual reports
 - 12 goals
 - 76 indicators

Other Relevant Frameworks

- Pembina Institute's Alberta Genuine Progress Indicator
 - 51 environmental, social and economic indicators
- Sustainable Calgary's *State of Our City* Reports
 - 36 environmental, social and economic indicators
- Canadian Index of Wellbeing
 - Under development, will have numerous indicators in six domains

Key Strengths of MU

- Accountability
- Helps identify priorities
- Data transparency
- Trend over time
- Social indicators well represented

Opportunities to Advance

- Full cost-benefit framework
- Includes social and environmental considerations
- Accounts for reporting on and managing all forms of capital:
 - Human, natural, social and built

Benefits of Improvement

- Measure progress towards ultimate objective of sustainability
- Use existing accounting frameworks
- Distinguish between expenditures that contribute to wellbeing and those that detract from it
- More comprehensive look at real costs of economic progress
- Guide public policy, strategic planning and budgeting

Recommendations

- Review key initiatives in Canada and elsewhere
- Identify lessons
- Test applicability in Alberta
- Identify and fill data gaps
- Develop and pilot sustainability wealth accounting