



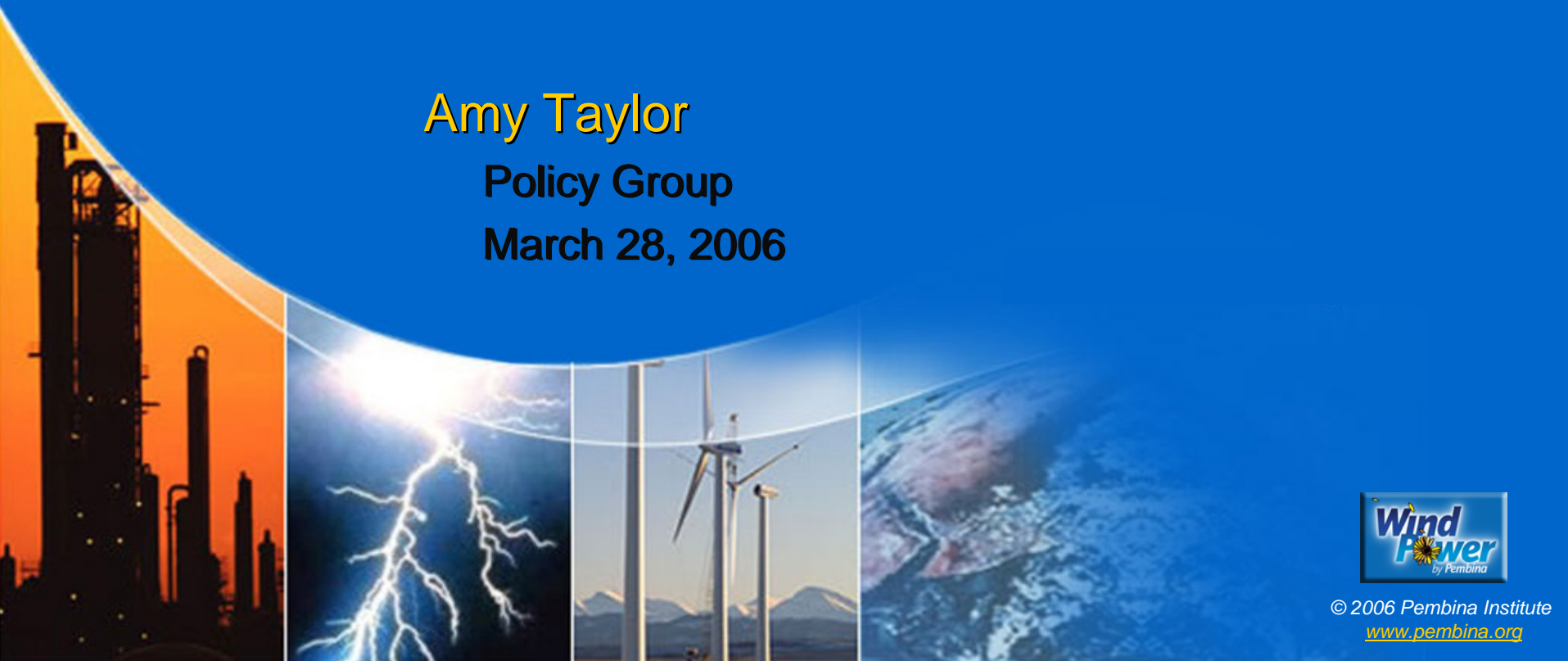
Measuring Progress in Alberta

The Genuine Progress Indicator (GPI)

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Policy Group

March 28, 2006



Presentation Outline

- About Pembina
- What is the GPI
- Why the GPI
- The Alberta GPI project
- GPIs in other regions
- What is next

About Pembina

- Non-profit environmental organization
- Focus on energy related issues
- National organization
- 45 employees

Advance sustainable energy solutions through research, education, consulting and advocacy

www.pembina.org
www.fiscallygreen.ca

Pembina's EFR Program

“fiscal policies for environmental objectives”

- Raise awareness
- Document
- Advocate
- Advance policy



What is the GPI?

- Framework for measuring the progress or well-being of a region
- Designed to respond to shortcomings of traditional measures of well-being (GDP)
- Accounts for environmental, social and economic factors

What gets measured, matters!

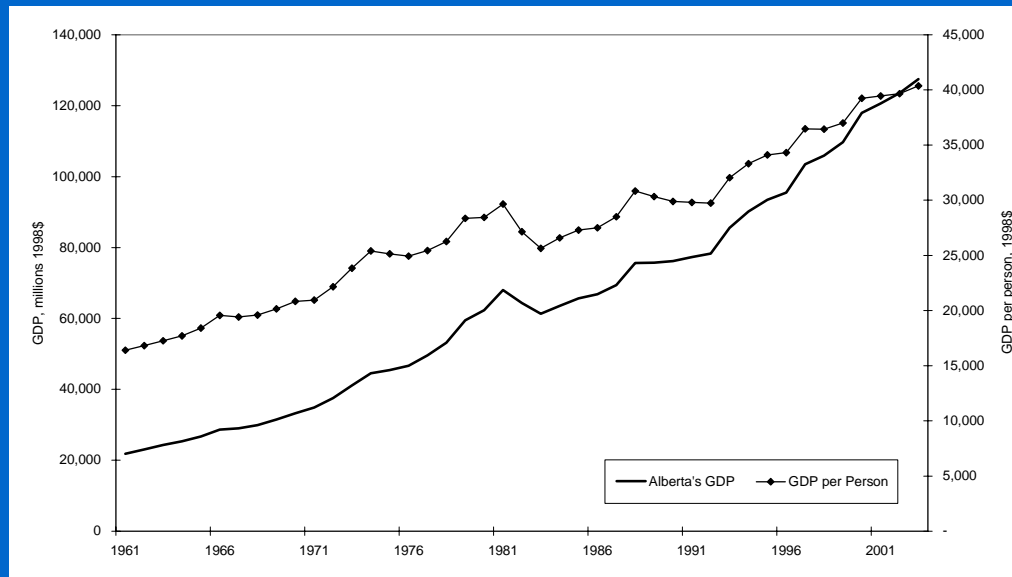
The Gross Domestic Product

- A measure of progress
- A measure of the health of an economy
- A measure of economic prosperity
- But....
 - The GDP does not distinguish between costs that contribute to well-being and those that don't

Alberta's GDP

- Simply a measure of economic transactions
- Doesn't account for environmental and social considerations

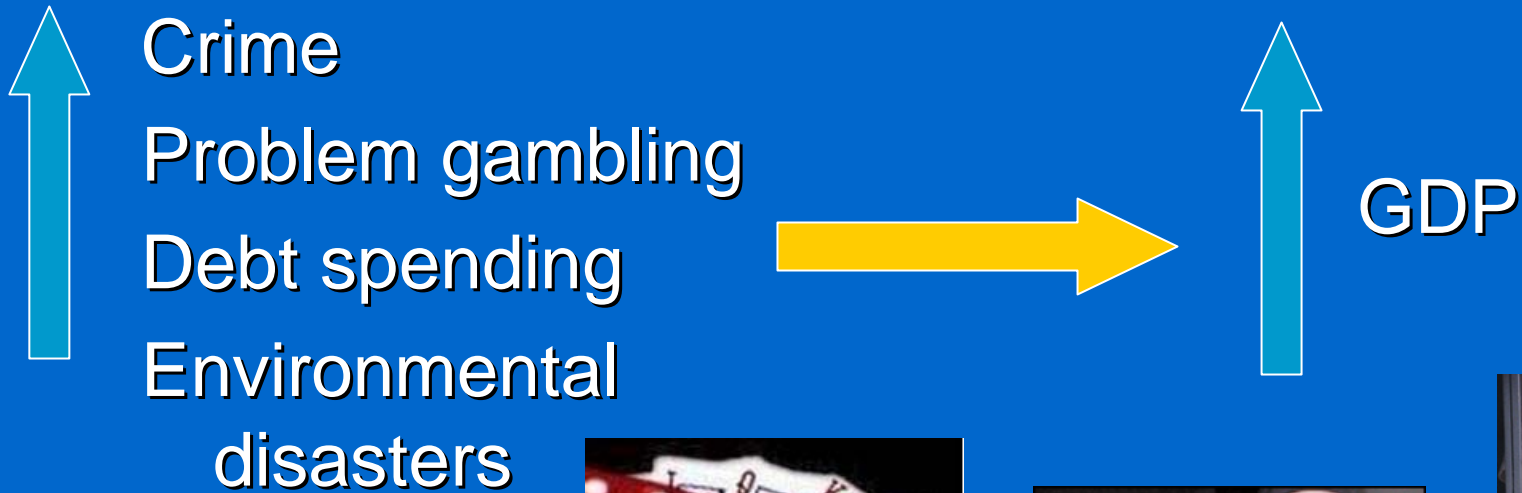
- 483% increase since 1961



The GDP doesn't tell us about:

- Pollution
- Excessive waste generation and disposal
- The value of production that occurs outside the market:
 - Volunteerism and childcare
- Income inequality
- Unsustainable resource depletion

An Inadequate Measure

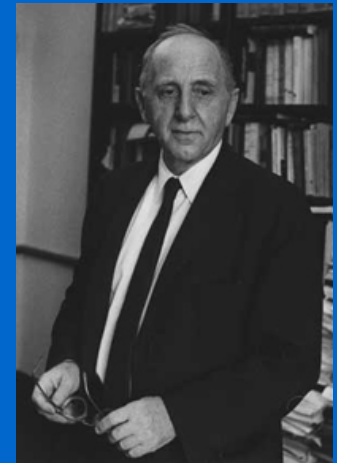


Measuring Progress

- Progress: To advance; grow; develop; improve; get better

“the welfare of a nation can scarcely be inferred from a measurement of national income as defined by the GDP”

Simon Kuznets, GDP Architect



The GDP and the GPI

■ GDP

- The more growth the better
- Increases with crime
- Increases with environmental disasters
- Decreases when a parent quits their job to raise children

■ GPI

- Limits to growth
- Decreases with crime
- Decreases with environmental disasters
- Values time spent parenting as well as working

Alberta's First GPI

- Completed in 2001
- Team of 5 researchers
- One year worth of work
- Tracked 51 indicators
- Data from 1961 to 1999

Alberta Sustainability Trends 2000

The Genuine Progress Indicators Report
1961 to 1999

April 2001

Mark Anielski
Mary Griffiths
David Pollock
Amy Taylor
Jeff Wilson
Sara Wilson

 Pembina Institute
for Appropriate Development

The Indicators

ECONOMIC	SOCIAL	ENVIRONMENTAL
<ul style="list-style-type: none"> • Economic Growth • Economic Diversity • Trade • Disposable Income • Weekly Wage Rate • Personal Expenditure • Transportation Expenditure • Taxes • Savings Rate • 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, Gas Reserve Life • Oil Sands Reserve Life • Energy Use • Agriculture Sustainability • Timber Sustainability • Forest Fragmentation • Fish and Wildlife • Parks and Wilderness • Wetlands • Peatlands • Water Quality • Air Quality • Greenhouse Gas Emissions • Carbon Budget • Hazardous Waste • Landfill Waste • Ecological Footprint

The Data

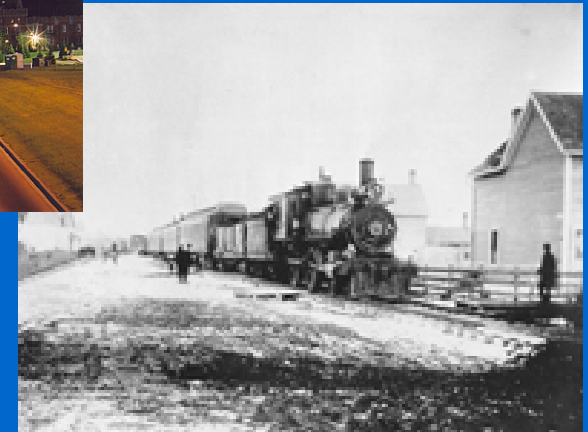
- Tracked in raw form
 - 1961 to 1999
- Indexed
 - Benchmark year = 100
- Monetized
 - Regrettable expenditures
 - Unpaid work

The Centennial Update

After 100 years of progress, is Alberta really prospering?



100 years of Progress



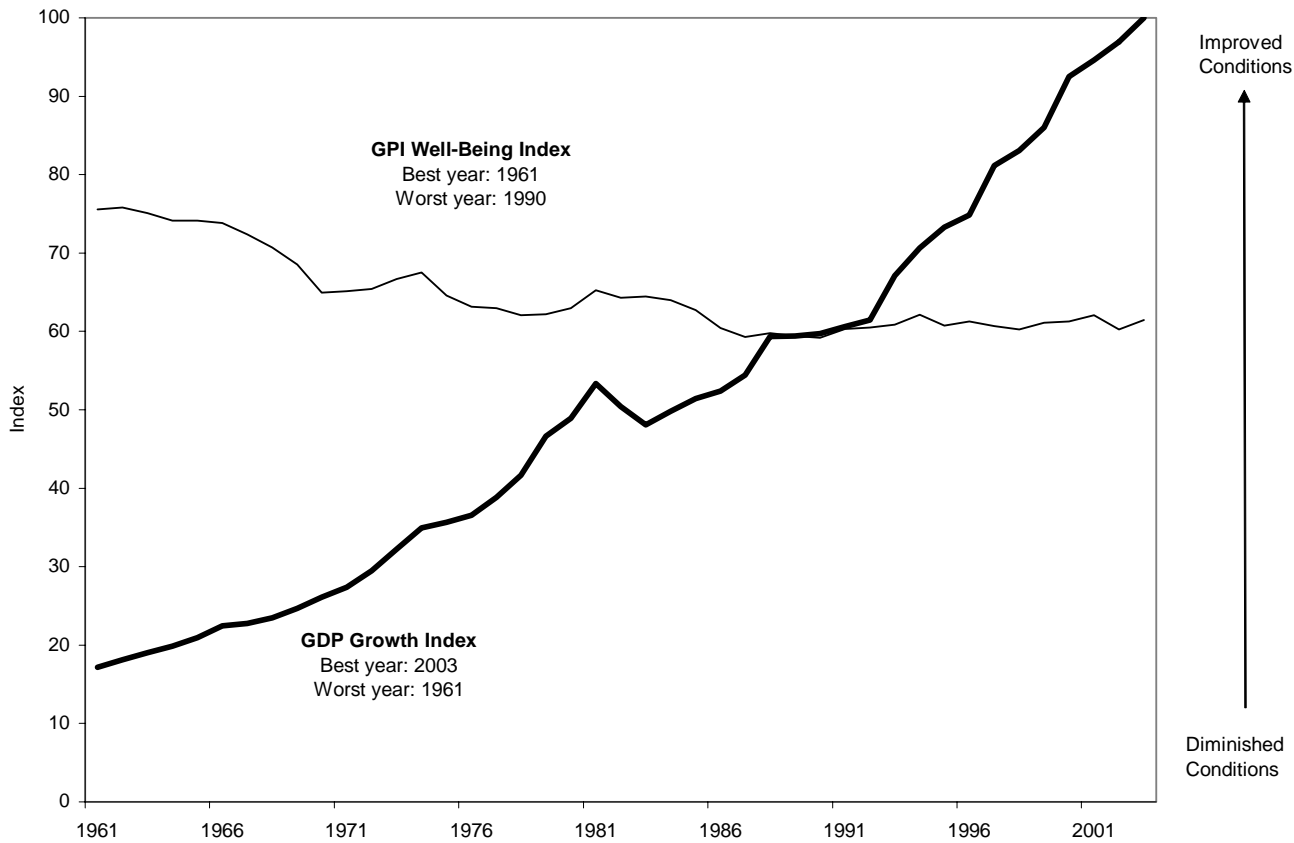
- But is it really?
 - Celebrate successes
 - Identify weaknesses
 - Inform decision making

The Centennial Update

- Funded by:
 - Alberta Ecotrust
 - Calgary Foundation
 - Suncor Foundation
- Extended data to 2003 from 1999
- Outreach
 - 8 part radio series
 - 8 part newsprint series
 - Meeting with non-government organizations



The Centennial Results...



Source: Alberta GPI Accouns 1961-2003

- GDP up 483%
- GPI down 19%

Economic Trends



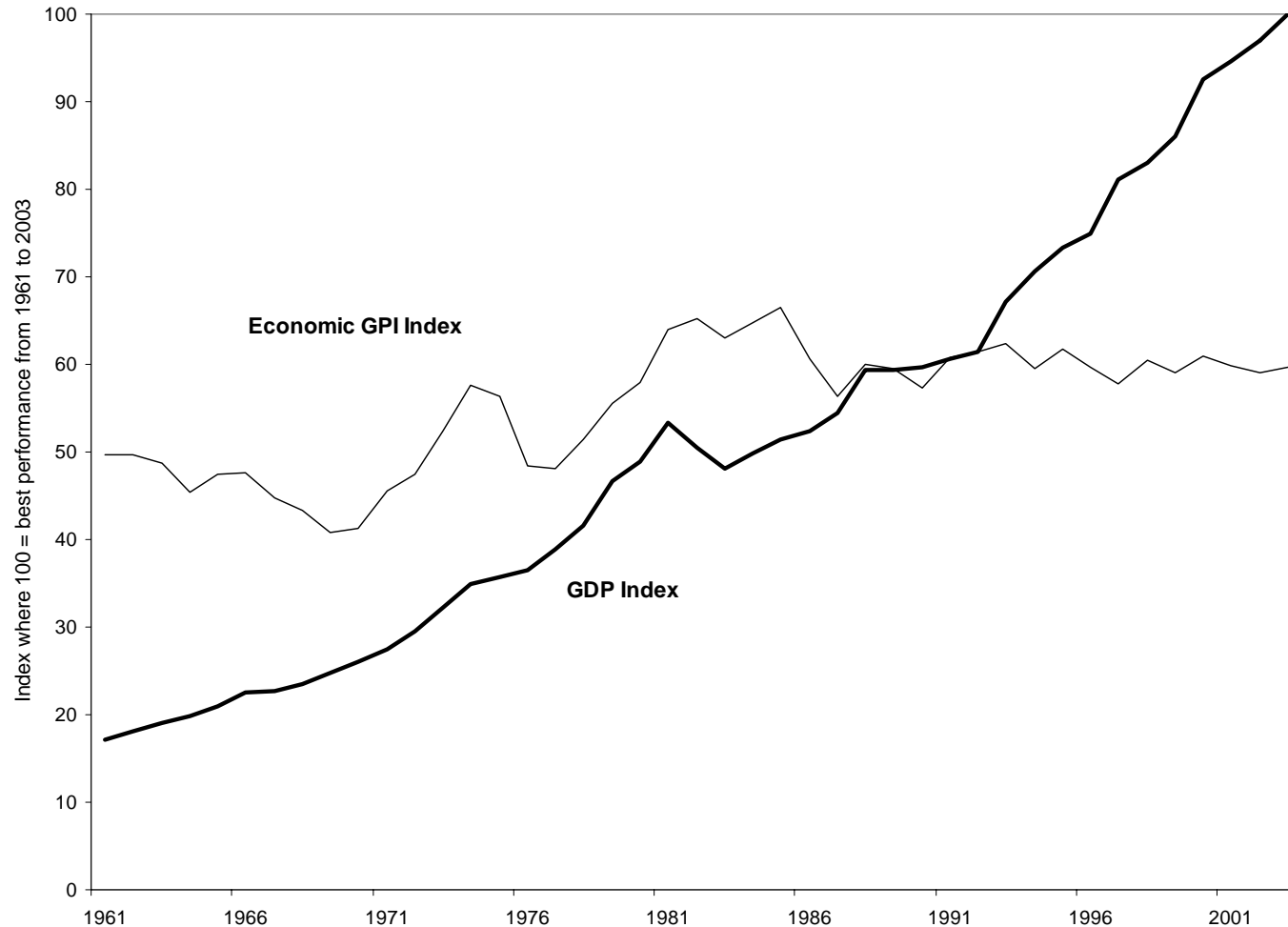
- Expenditure
- Disposable income
- Weekly wage rate
- Debt



- Savings



GDP vs. Economic Index



Source: The Alberta GPI Accounts, 1961 to 2003

Social Trends



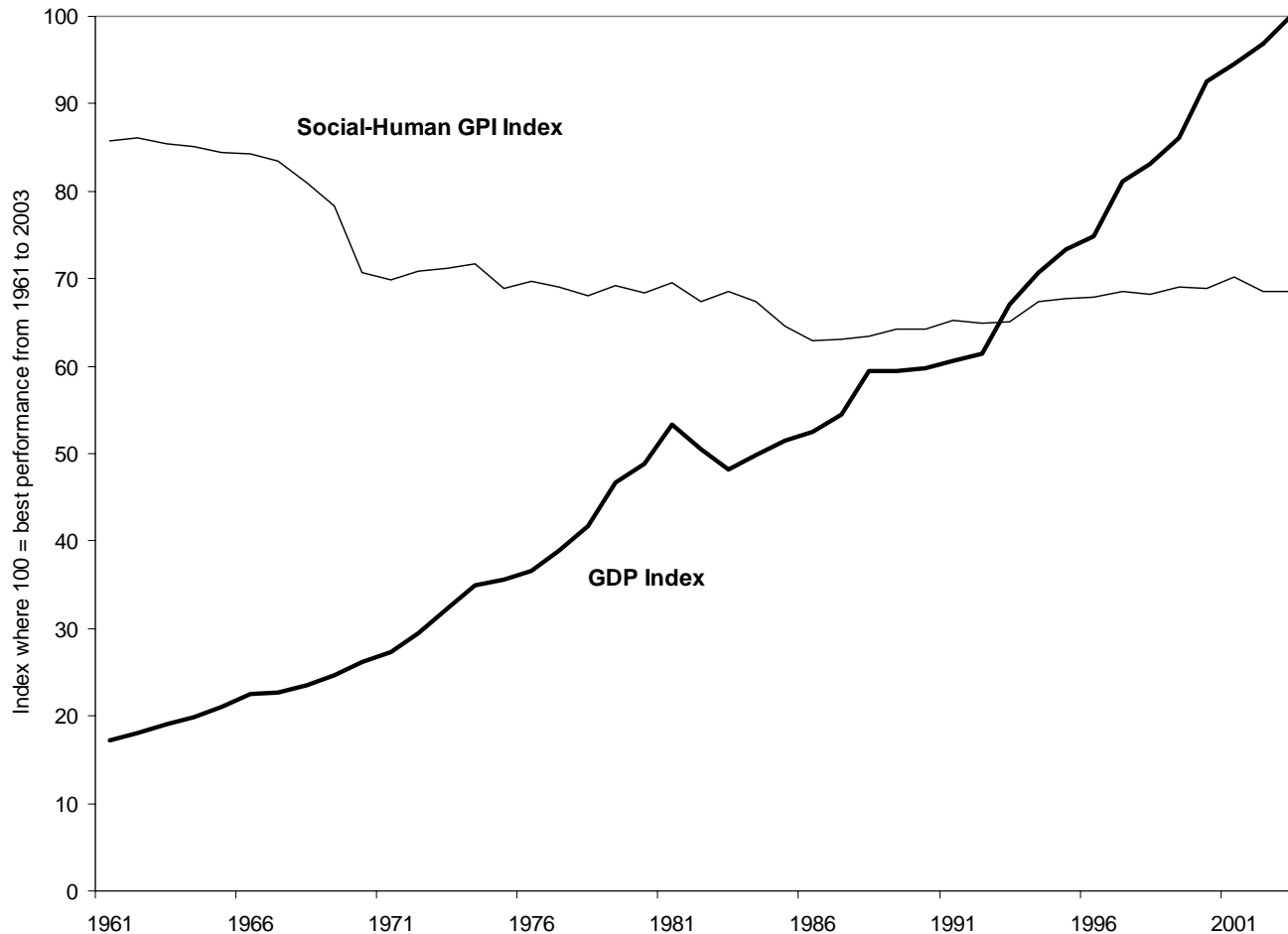
- Gap between rich and poor
- Poverty
- Life expectancy
- Suicide
- Problem gambling
- Commuting time
- Educational attainment



- Unemployment
- Infant mortality
- Fatal car crashes
- Voter participation



GDP vs. Social Index



Source: The Alberta GPI Accounts 1961 to 2003

Environmental Trends



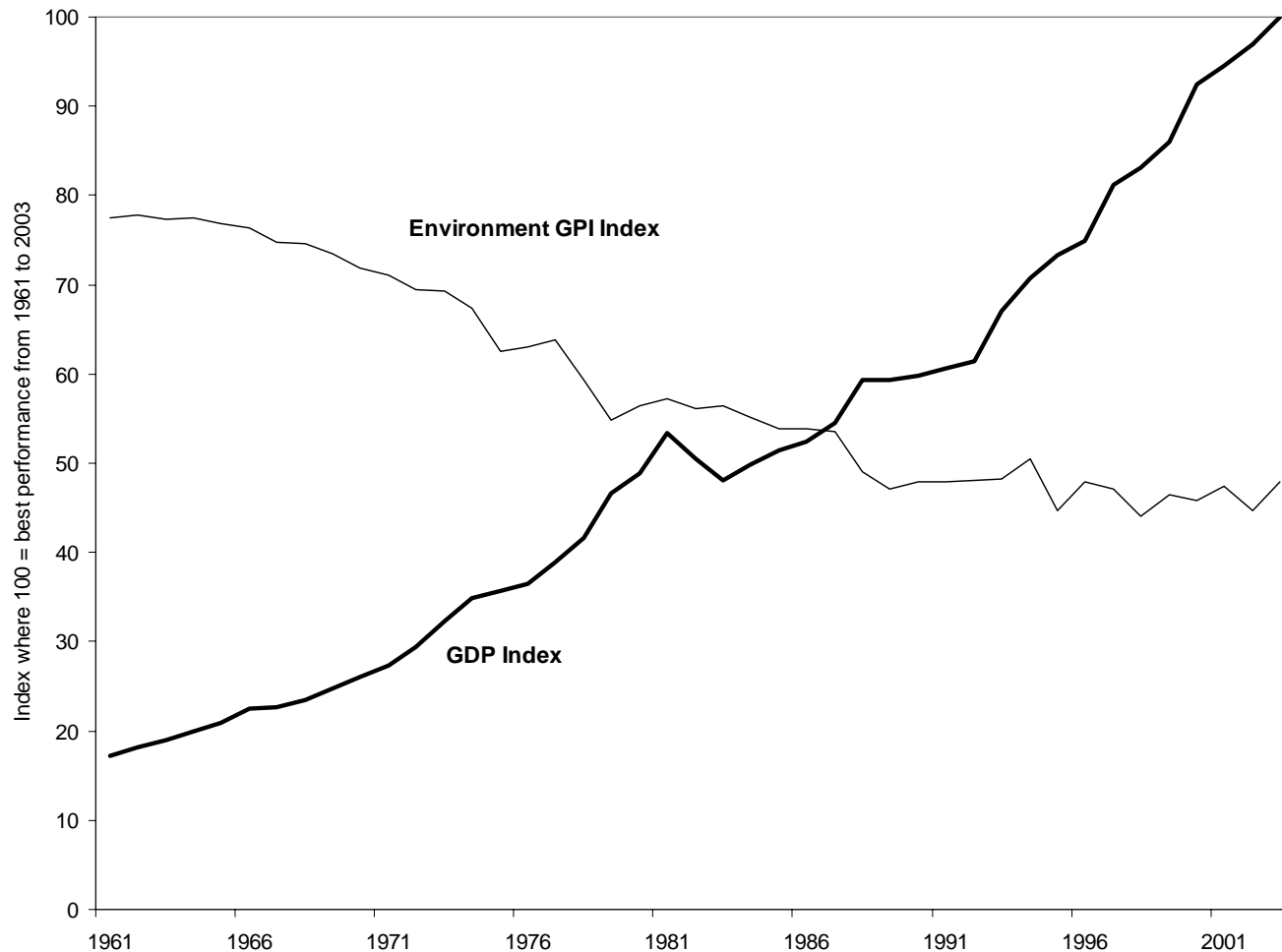
- Energy use
- Greenhouse gas emissions
- Hazardous waste
- Ecological footprint



- Oil and natural gas reserves
- Wetlands and peatlands



GDP vs. Environment



Source: *The Alberta GPI Accounts 1961 to 2003*

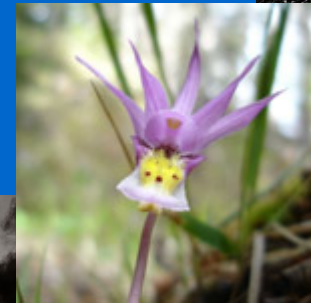
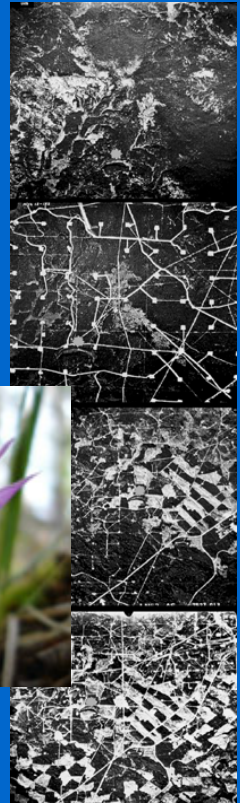
Successes

- Economic growth
- Weekly wage rate
- Unemployment
- Volunteerism
- Life expectancy
- Educational attainment
- Water quality



Weaknesses

- Economic diversity
- Debt and savings
- Poverty and income distribution
- Greenhouse gas emissions
- Forest fragmentation
- Parks and wilderness
- Ecological footprint





Two Page Summaries

Commuting Time



Noteworthy:

- The number of registered personal automobiles in Alberta increased by 200% between 1961 and 2003.
- According to Statistics Canada's General Social Survey, 77% of commuters traveled alone in 1996, while 65% were alone in 1986.
- Commuting cost Albertans an estimated \$442 million (1998) to \$5.417 million (1998) in 2003. That is a 1,236% increase in the cost of commuting.

Volunteerism



Noteworthy:

- In 1961, volunteerism accounted for 1.2% of the total GDP.

Volunteerism in Alberta: How Much?

Volunteerism in Alberta continues to rise substantially, hours per capita (for the population 15 years of age and over in Alberta) have remained relatively stable. Specifically, while total volunteer hours in Alberta increased by 182% from 1961 to 2003, the hours per capita declined by 4% over the same time period. Albertans aged 35 to 54 were the most likely to volunteer.

Forest Fragmentation



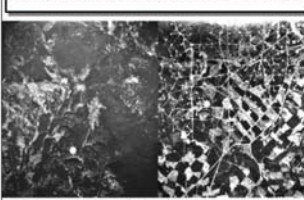
Noteworthy:

- The cumulative impact of forest activity, including oil and gas exploration, forestry, residential, and other activities, has led to a significant increase in forest fragmentation in Alberta. In 1961, the total area affected by energy and other industrial development in Alberta's Crown forest lands was 1,402,430 hectares—roughly 11% of the land base area. By 1991, this area had increased to 1,482,430 hectares—roughly 12% of the land base area.
- A 1998 report for Alberta Environmental Protection, The Best Forestry Practices in Alberta, found that only 38.4% of the land base area of Alberta's Crown forest lands is still managed as forest.
- The rate of deforestation (1961-1991) in Alberta's southern forest lands was found to be significantly higher than the annual rate of deforestation for the Amazon rain forest (1973-1986).
- Agriculture development is responsible for the largest area of wildlife habitat loss in Alberta. The development has caused more than 50% of the habitat fragmentation.

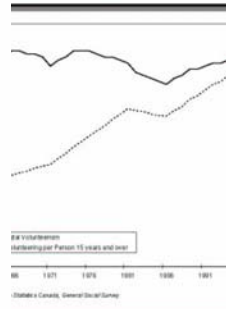
Forest Fragmentation in Alberta: The condition of forest ecosystems

Alberta's forests are highly fragmented due to the impacts of timber harvesting, roads, utilities, seismic lines, pipelines, power lines, and other forms of linear disturbance. The extent of forest fragmentation can best be illustrated in aerial photographs. The images below show the same area of the Swan Hills forest in 1949 and 1991. Up until 1991, the total area affected by energy and other industrial development in Alberta's Crown forest lands was 1,402,430 hectares—roughly 11% of the land base area. By 1991, this area had increased to 1,482,430 hectares—roughly 12% of the land base area.

Alberta's Swan Hills Forest Ecosystem, 1949 (left) and 1991 (right)



Volunteerism in Alberta, 1961 to 2003



Household Debt



Noteworthy:

- Real household debt per capita grew by an average of 3.6% per annum from 1961 to 2003, surpassing the 2.1% per annum growth in real disposable income and the 3.2% per annum growth in real GDP per capita.
- Albertans are financially stressed with 25% reporting in a 1999 national survey that they would not have enough savings to last one month.
- We estimate the cost of all debt (household, business, farm, and government) per Albertan in 1999 is \$36.79 (1998), the equivalent of 132% of GDP.

Debt in Alberta: How Much?

Financial debt burdens individuals, households, students, business, farmers, and government. Debt financing hinders economic growth, investment and consumption by households, business and even government. Cautionary progress is made if the levels of debt do not become excessive in relation to disposable income and spending power. All the household and personal level, debt is mounting even as the Alberta Government has eliminated its debt. For our analysis, we used Statistics Canada data for personal and household debt at the national level and estimated Albertans' share of this debt. Our analysis shows that household debt rose from \$5,204 per Albertan (1968) to \$16,100 in 1999—a 209% increase. Per capita real disposable income increased only 128% over the same period. The average household debt per Albertan has increased from 15% to 111% of real disposable income from 1961 to 2003. When we add Albertans' share of outstanding federal government debt, municipal government debt, and farm and business debt, the average total debt per Albertan in 1999 was \$56,179 (1998), or 273% of average per capita real disposable income.

Alberta Household Debt vs. Disposable Income and Consumption Spending



The Cost of Household Debt in Alberta: What is included?

- The cost of household debt servicing is based on an estimate of the interest payments on a shorthair bank consumer loan.
- We estimate the cost of household debt servicing in 2003 at \$4.7 billion or roughly \$70 billion (1998) in total outstanding household debt. This expenditure is roughly 5% of Alberta's 2003 GDP.

Fish and Wildlife



Crime



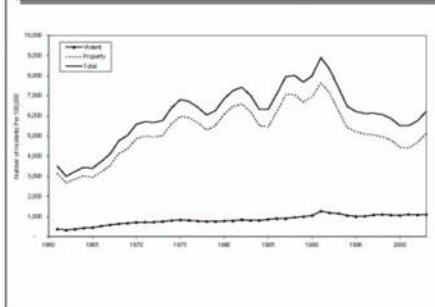
Crime in Alberta: How Much?

Noteworthy:

- Crime in Alberta increased by 319% between 1961 and 2003.
- In 1993, 24% of adults in Canada were the victims of at least one criminal act within the preceding 12 months.
- The cost of crime in Alberta increased by 133% from 1961 to 2003.
- Albertans are increasingly spending money on burglar alarms, home security systems, locks, security guards and private investigators.

Despite reductions in crime in the last 10 years, the crime rate in the 1990s was still substantially higher than it was in the 1960s. Our analysis shows that total crime in Alberta has increased by 319% since 1961—an increase of 287% for property crimes and 583% for violent crimes. In 1993, 24% of adults in Canada were the victims of at least one criminal act within the preceding 12 months. According to a 1993 survey by *Maclean's* magazine, some 50% of Canadians feel less safe than they did five years ago. The same survey found that 48% of women and 18% of men felt that there were areas close to their homes where they would be afraid to walk at night. This increase in crime is costing Albertans a lot of money. In fact, the estimated cost of crime in Alberta increased by 133% from 1961 to 2003. The cost of crime in Alberta in 2003 (valued at over \$2.1 billion) was worth 2% of total provincial Gross Domestic Product (GDP).

Crime in Alberta, number of incidents per 100,000 people per year, 1961 to 2003




The Cost of Crime in Alberta: What is included?


- Violent crimes
- Property crimes
- Police
- Courts
- Corrections
- Legal aid
- Security guards
- Private investigators
- Home security devices

Other GPI Products

- Website
- Context report
- Summary report



gENUINE pROGRESS iNDICATOR
Measuring society's well-being



Progress: For better? Or worse??

The **Genuine Progress Indicator (GPI)** measures how well we are doing as individuals, families, communities and as a province using 51 economic, social and environmental indicators. Traditional economic indicators of progress such as the Gross Domestic Product (GDP) measure only one factor—the flow of money through the economy. This means car crashes, oil spills and floods all increase the GDP!


The GPI includes indicators such as volunteerism, timber sustainability, and even traditional economic measures such as the GDP. It provides a more balanced picture of progress.

For Alberta's 2005 Centennial, Pembina Institute economist Amy Taylor has updated 51 **summary reports** - one for each of the indicators. The Pembina Institute has a history of involvement with the GPI.

What did we discover?

While Alberta's GDP continues to rise, the province's GPI has leveled off. This indicates that our economic prosperity may be occurring at a cost to the environment and the social well-being of our communities.

- For more information, see the [Alberta GPI Summary Report](#)



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Genuine Progress?



Noteworthy:


Alberta's Gross Domestic Product (GDP) has grown 1% since 1981. GDP per Albertan is at an average annual of 3.2% from 1981 to 2005. We are currently spending more money than at any time in history.

Alberta's Genuine Progress Indicator: What is it?

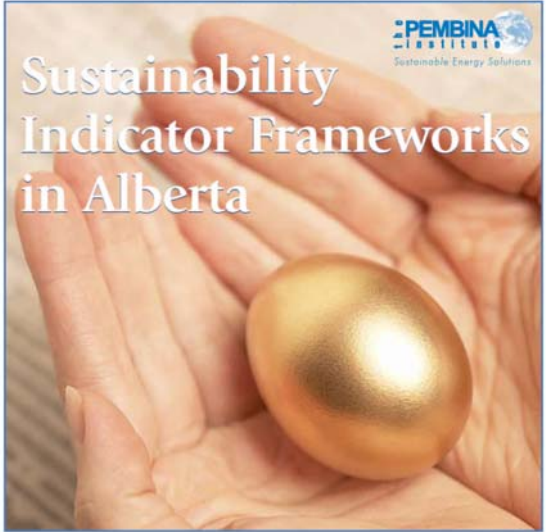
Alberta is seen as one of the wealthiest provinces in Canada. According to the traditional measure of economic growth, the Gross Domestic Product (GDP), Alberta's economy has grown by over 600% in the last 40 years. More growth is often assumed to imply a better quality of life. But while common measures of wealth and prosperity such as the GDP suggest we are better off, a closer look at the conditions that contribute to our quality of life provides a more holistic picture of our well-being. The Alberta Genuine Progress Indicator (GPI) provides a "state of the province" report describing trends in the most important issues shaping our quality of life and future well-being. The GPI considers not just economic factors, but environmental as well. While it suggests a lot of money for us, a number of times that cost the well-being sustainability signs of stress health. (GPIs are integrated measure our) never achieve

Genuine Progress Indicator in Alberta, 1961 to 2005





Sustainability Indicator Frameworks in Alberta



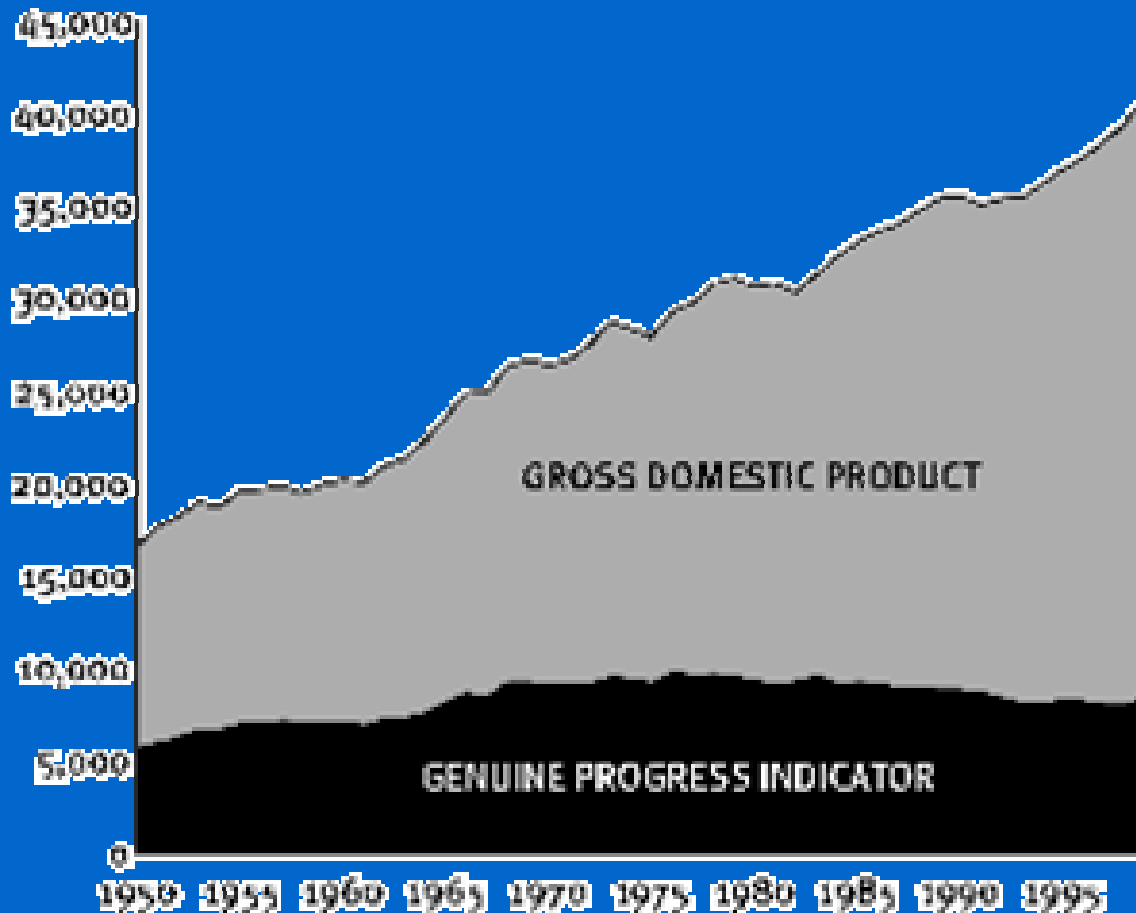
Setting the Context and Identifying Opportunities

Amy Taylor

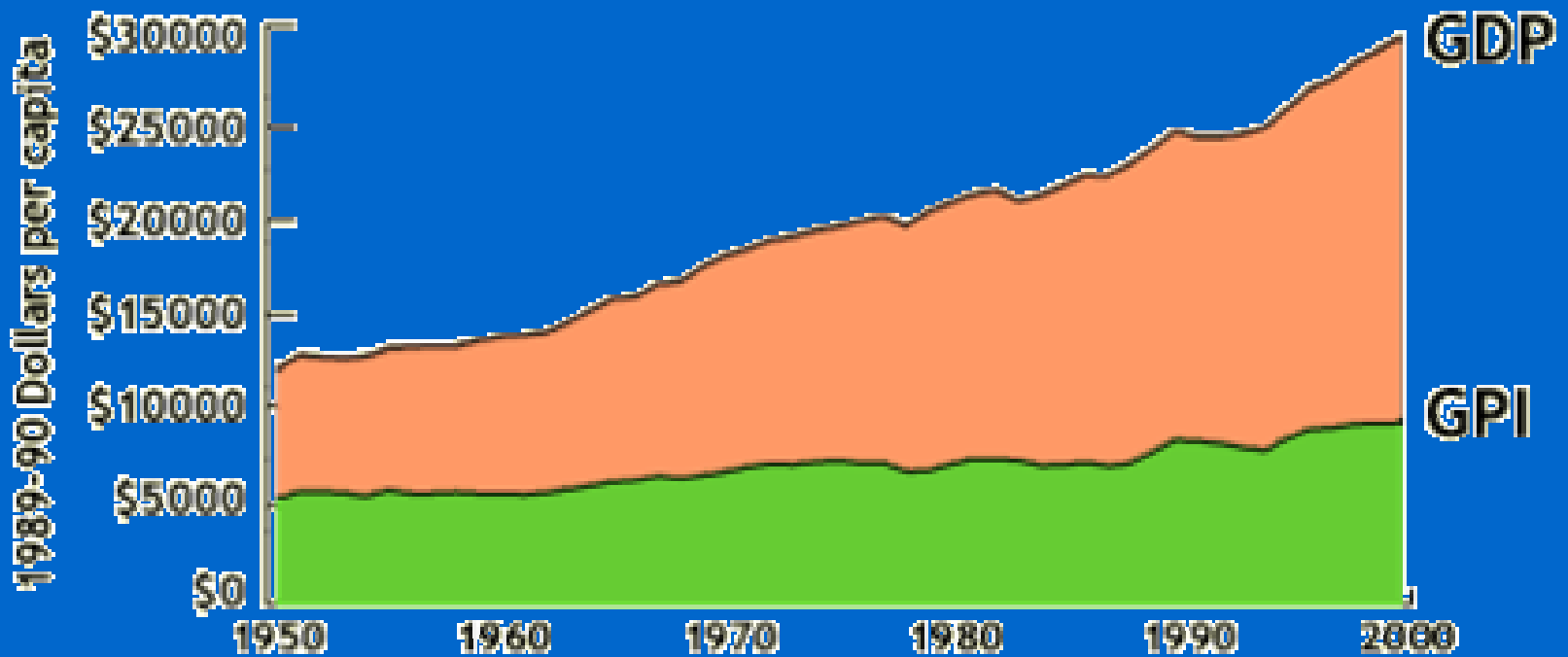
Centennial Conclusions

- Economic growth at the expense of environmental and social factors
- Alberta's boom is not evenly distributed
- Need a comprehensive system for measuring well-being
- Decisions based on triple bottom line accounting

United States 1950 to 1999



Australia 1950 to 2000



What is Next?

- Government of Alberta has been a leader in the use of indicators
 - *Measuring Up* reports
- Need to build on this leadership
- Track progress towards ultimate goal of sustainability
 - All forms of capital: human, natural, social and built

Opportunities to Advance

- Transition to a full cost benefit framework
 - Social and environmental considerations as well
- Distinguish between expenditures that contribute to well-being and those that detract from it
- More comprehensive look at the real costs of economic progress
- Guide public policy, strategic planning and budgeting

For more information

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