

**Yukon Sustainable Progress Indicators:
Framework, Indicators and Implementation Approach
for Reviewing the Yukon Economic Strategy**

**Prepared for
The Yukon Council on the Economy and the Environment**

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1.0 Executive Summary

In the fall of 1999 and winter 2000, the Yukon Council on the Economy and the Environment (YCEE) commissioned this report by consultants (the Pembina Institute for Appropriate Development) on Sustainable Progress Indicators for Yukon.

The original impetus, and primary goal, of the project was to develop a set of indicators against which to measure the state of Yukon economy and progress toward desired results. This is to be done initially by using the indicator set to report on progress toward the goals and intent of the Yukon Economic Strategy (YES).

It was recognized from the outset that the definition of economy needed to be in its broadest sense, in keeping with the concept of sustainable development. This means a set of indicators that reach well beyond the narrow measure provided by the Gross Domestic Product (GDP) and other conventional economic indicators. Indeed, the YES has as its four broad goals:

1. The option to stay in Yukon (opportunity for Yukoners to support themselves in this desirable place to live, work, learn and raise a family);
2. Control of the future (increased regional and local decision-making authority, and higher level of Yukon ownership);
3. An acceptable quality of life (wages, business opportunities, public services and unspoiled natural environment);
4. Equality (development that ensures an equal economic chance for all Yukoners).

In keeping with these four broad goals, and the nature and intent of more detailed goals and objectives within the YES, the consultants developed a framework in which to organize a set of sustainable progress indicators. The consultants drew upon expertise and experience from other jurisdictions, as well as a review of numerous relevant Yukon documents. Yukon stakeholders and YCEE members were consulted on a draft set of indicators, and the final set revised to incorporate input as appropriate. The results are presented in this report, along with a summary of approaches in other jurisdictions, and recommendations for using this indicators set, employing the evaluation framework and proceeding with an implementation plan.

The framework has three categories of indicators: economy, environment and society. Necessarily, there are linkages and some overlaps between the categories, as all these factors are intertwined. Economic progress depends on strength, health and diversity in the environment and society as well as in the economy. In each of these three categories, key goal statements were selected to capture the essence of the YES and related Yukon strategy documents. Moving to another level of detail, objectives were set out within these goals. A number of key indicators (63 in total) were selected that could be used in measuring progress toward these goals and objectives. If Yukoners decide to change the goals and objectives, or place more emphasis on some versus others, the indicators remain useful for displaying the state of the economy, environment and society. While they are proxies for real trends , the measures provide directional signals about key factors that exhibit the state of sustainable progress.

Indicators were selected for their practical nature, and the extent to which they measure what is desired to be measured. For the most part, indicators were selected for which data is already collected; some new ones were added that Yukon could consider measuring in the future to round out the set and look to new avenues of defining progress.

A set of supplemental indicators is provided, which could be used to provide more detailed information. Some of these may become key indicators over time. Also, examples of monetized indicators that

could be used in developing a Genuine Progress Indicator (GPI, or modified GDP) for Yukon are provided.

This report includes summaries of approaches to sustainable progress indicators in other jurisdictions. These methods were reviewed in the context of Yukon, and an overall framework recommended suitable for Yukon. This evaluation framework involves, in a progression over time:

1. Obtaining measurements for the set of indicators and presenting this information publicly every two years.
2. Developing indexes of individual and composite indicators to assist in measuring and tracking trends in overall progress over the years.
3. Working towards developing a Genuine Progress Indicator (sustainable income statement) for Yukon, in which the GDP measure is revised to show a more comprehensive picture of the state of the economy, environment and community.

The evaluation framework feeds directly into the recommendations and implementation plan, which coincide with the three main steps outlined above. It is recommended that Yukon (Yukon government and YCEE) proceed in this manner, in consultation with Yukoners.

This report provides an initial set of Sustainable Progress Indicators associated with key goals and objectives that have arisen in various Yukon planning documents. It will be important to check over time to ensure they are measuring factors that are still deemed to be the most important. As the Yukon Economic Strategy is replaced with other sustainable development strategies over time, it is hoped that this indicator set has captured the main elements that serve to measure sustainable progress in future. Nonetheless it is important that it be treated as an evolving framework for Yukoners to work with over time.

2.0 Introduction

Impetus for this Study and Contents of the Report

The Yukon Council on the Economy and the Environment (YCEE) has the responsibility to publicly promote and provide advice to Cabinet on sustainable development. This includes monitoring progress on the implementation of the Yukon Economic Strategy.

The Yukon Economic Strategy (the Strategy) was released in 1988. It establishes four goals for the Yukon economy:

1. The Option to Stay in the Yukon (through increased economic self-reliance);
2. Control of the Future (through increased regional and local decision-making, and higher levels of Yukon ownership);
3. An Acceptable Quality of Life (through wages, business opportunities and public services comparable with the rest of Canada); and
4. Equality (through development that ensures equal economic opportunities).

The Strategy has been reviewed three times since its release, in terms of what policies, programs, funding and activities have been undertaken that work towards its goals and objectives. However, the strategy has not been reviewed annually, nor with respect to results (as opposed to actions taken) in the economy, environment and society.

This study and report are a first step in developing a set of sustainable progress (development) indicators for the Yukon. These indicators may be revised and refined, then used on a consistent and regular basis for tracking the well-being of the Yukon economy, in the context of the environment and society that form its foundation. The report provides recommended indicators within the context of a framework, and provides an evaluation methodology, implementation plan and further recommendations for the Yukon.

Inadequacy of the GDP and Need for other Measures

One of the most fundamental challenges in achieving a sustainable economy is asking the question “more growth for what, of what and for whom” and at “what price” to community, quality of life and the environment. Conventional economic thinking and measures of economic progress, such as the GDP (Gross Domestic Product) were designed over 50 years ago to measure the overall income, production and consumption of national economies. Simon Koznets, the U.S. economist and chief architect of the system of national income accounts and the GDP following WWII, wrote “the welfare of a nation can scarcely be inferred from a measurement of national income as defined by the GDP.” He noted that calls for more economic growth should first specify, of what and for what. What started as a measure of productivity of nations, the GDP is now commonly and misleadingly interpreted as a measure of economic health and welfare.

The word “economics” comes from the Greek “eco” meaning “house or habitat” and “nomos” meaning “management.” Thus the goal of economics is literally about ensuring the all needs of the “household” at all levels in Yukon are met and sustained, including maintaining the health and integrity of the natural environment.

Yet current economic measures do not adequately measure the overall state of the households and the

surrounding environment. The GDP is simply the sum total of all transactions in an economy – the total monetary value of consumption and production of households, businesses, and governments. The GDP makes no distinction between healthy versus regrettable economic activities.

Major deficiencies of the GDP as an economic measure include that it:

- does not track reductions in levels of a country's stock of natural resources;
- does not account for degradation of the ecosystem's future productive capacity, or reduction of key ecosystem services on which economic activity depends;
- does not distinguish between economic activity yielding goods and services that increase human welfare from those activities that arise from a reduction in human welfare (such as conducting more cancer treatment for pollution-induced cancers); and
- does not include changes in value-added transactions which improve human welfare but occur in the "informal" volunteer and household economy, and the subsistence economy.

Alternative indicators of social and economic well-being are emerging, many which use the GDP as a useful starting point. Some of these indicators, which measure trends in overall well-being include:

- the **Measure of Economic Welfare** (MEW) developed by William Nordhaus and James Tobin and estimated for Canada by Statistics Canada;
- the **Genuine Progress Indicator** (GPI), developed by Redefining Progress for the U.S. and estimated for Canada by Statistics Canada and for Australia ; and its predecessor, the **Index of Sustainable Economic Welfare** (ISEW),¹ developed by Clifford Cobb which first appeared in "For the Common Good" by Herman Daly and John Cobb Jr. which has been estimated for British Columbia, most European nations, South Korea and Chile.
- the **Index of Economic Well-Being** (IEWB) developed by the Centre for the Study of Living Standards;
- the **Index of Social Health** (ISH) developed at Fordham University and estimated for Canada by Human Resources Development Canada; and
- the **Index of Living Standards** (ILS) produced by the Fraser Institute.
- the **Human Development Index** (HDI) developed by the United Nations Development Program;
- the **Quality of Life Index** (QOL) developed by Ed Diener of the University of Illinois; and
- the **Index of Social Progress** (ISP) developed by Richard Estes of the University of Pennsylvania.

(source: Sharpe, Andrew. 1999. A Survey of Indicators of Economic and Social Well-being. Centre for the Study of Living Standards. Based on a paper prepared for Canadian Policy Research Networks, July 22, 1999

3.0 Objectives and Scope

The main objective of this study is to develop a comprehensive set of realistic, common-sense indicators that would allow Yukoners to gauge the progress towards a sustainable and healthy economy, community and environment. Sustainable progress, like the term "sustainable development", can be defined as achieving the desired outcomes for economic prosperity of the current generation of

¹ The GPI is an expansion of the original Index of Sustainable Economic Welfare (ISEW) conceived and developed by John B. Cobb, Jr., Clifford Cobb and Herman Daly (see *For the Common Good* by Daly and Cobb, 1989, 1994). The GPI embodies these earlier pioneering efforts. The GPI has been replicated in Australia (Hamilton and Saddler, 1997) and Canada (Messinger and Tarasofsky, 1997 and Colman, 1998, in the case of the Atlantic Canada GPI). The ISEW has been developed for United Kingdom, Germany, Austria, Sweden, Netherlands, Italy, Australia, Chile, and Korea (Jackson and Marks, 1994; Diefenbacher, 1994; Hochreiter et al., 1995 and Stockhammer et.al. 1997; Jackson and Stymne, 1996 and Tammo and Roseburg, 199X; Guenno and Tiezzi, 1996; Hamilton and Saddler, 1997; Castenada, 1997, and Won and Jeong, 1997).

Yukoners without compromising the quality of life and environmental integrity of future generations. Common sense suggests that there are some things which should grow – jobs, productivity, wages, capital and savings, knowledge and education – while other things – pollution, unsustainable resource use, waste, crime, and poverty – must not. Minnesota acknowledges that “a sustainable economy replenishes its environment as it supports citizens and their communities.”² This means that the indicators must provide a meaningful “picture” of the overall health of the economy as well as the health of the environment and communities. The indicators are intended for use in measuring progress toward the goals of the Yukon Economic Strategy, and sustainable development strategies that are developed in future.

The scope of the project includes the development of an initial set of indicators that can be used for periodic review. The indicators are designed to provide proxies of progress related to the Yukon Economic Strategy and associated strategies (e.g. the Yukon Conservation Strategy), as well as progress toward overall sustainable development (e.g. including health and other social factors). The project deliverables and outcomes do not include a set of indicators to measure directly against each of the many objectives and actions in the Yukon Economic Strategy. Rather, to be effective, a smaller set of key indicators of progress is desired. The project scope includes an evaluation framework, implementation plan and recommendations.

The project includes interviews with key Yukon stakeholders to get their preliminary input and feedback on the approach and set of indicators. The scope of the project does not include full public consultation, nor consensus on the set of indicators. The result of this project represent a starting point upon which future iterations and improvements to the sustainable progress indicators framework can be built. This would need to be undertaken as a subsequent initiative.

4.0 Study Methodology

Approach and Steps Taken in Conducting this Study

The general approach to this study was to review various Yukon policy, strategic and business plan documents as the basis for identifying goals and objectives along three main themes: economy, environment and society. Potential sustainable progress indicators for each of the three of themes were identified based on a review of international sustainable development and quality of life indicator reports and literature, with a view of tailoring them to the Yukon context. Refer to Appendix A for a full list of reference documents and selected websites.

Experience gained from other performance indicator work was drawn upon to complete the Yukon indicators framework. A series of Yukon stakeholder consultations were held to obtain feedback and reaction to an initial framework and set of indicators. Refer to Appendix B for a list of interviewees. Along with a peer review, this input was used to revise the set of indicators within the framework. A methodology for using the framework to evaluate the state of the Yukon economy was developed and provided along with associated recommendations. Specific steps in conducting the work were as follows:

- 1.0 Meet with the YCEE working group designated to oversee this project, to ensure a common understanding of the work.

² *Smart Signals – Economics for Lasting Progress*. Minnesota Planning – Environmental Quality Board. St. Paul, MN. November 1999.

- 2.0 Gather and review documents and other sources of information on sustainable development indicators, and on Yukon goals, objectives, indicators and data in various sectors.
- 3.0 Identify characteristics of effective indicators, to provide to interviewees and keep in mind when selecting indicators for inclusion in the set.
- 4.0 Develop a package for distribution to interviewees, including project background, characteristics of effective indicators, interview questions, and matrix of goals, objectives and potential indicators.
- 5.0 Develop list of interviewees, invite them to participate, and distribute information package.
- 6.0 Conduct interviews with some 40 key stakeholders in about 15 groups.
- 7.0 Revise the matrix of goals, objectives and indicators, and provide to peers for internal review.
- 8.0 Conduct meetings and document review, and seek other input, including preliminary assessment of data availability for indicators within the set.
- 9.0 Prepare draft report including indicators framework, evaluation methodology, and recommendations.
- 10.0 Present findings and recommendations to the YCEE.
- 11.0 Taking YCEE comments into account, revise and complete the draft report.
- 12.0 Circulate the draft report internally among project team members and peers, and finalize based on input received, for delivery to the YCEE.

Characteristics of Effective Indicators

Based on the experience in performance indicators development in the international community, a common set of characteristics of what constitute effective indicators is emerging. These following characteristics were taken into account in selecting indicators for inclusion in the Yukon sustainable development indicators framework.

Relevant and Meaningful

- Fits the purpose for measuring (goals, desired outcomes)
- Reflects the most important factors and issues meaningful to the community
- Indicator provides a reasonable proxy for value being tracked
- Measure results, not just process

Understandable and Inclusive

- Easily understood by all Yukoners
- Citizenry are consulted and feel buy-in to the set of indicators

Practical and Timely

- Manageable number (i.e. not too many)
- Practical and affordable: not too complex nor expensive to monitor
- Data is available (now or in future), and on a timely (e.g. annual) basis

Reliable and Objective

- Trust in what the indicator shows
- Objectively measurable
- Based on timely and reliable data
- Represent quantitative as well as qualitative attributes
- Can be consistently measured over time for assessing trends
- Monetary and non-monetary indicators
- Grounded in well-established theory

Useful

- Can be linked to desired outcomes, goals, objectives, or targets
- Shows the links among the economy, environment and society
- Focus on the long range view
- Comparable to other regions
- Tailored and usable by Yukon communities
- Useful to policy makers
- Can be integrated into decision making

Overview of Stakeholder Feedback

Generally, stakeholders provided the following feedback:

- Not keen on the term ‘sustainable development’, as it can be taken to mean so many things until it lacks meaning or can be misused.
- Concern that indicators do not reflect economic dependency on federal transfers and territory government expenditures
- Satisfied to see that the YCEE is taking this broader approach to defining the economy, as reflected in the YES, and getting past single monetary measures such as the GDP to measure progress.
- Appreciate the approach of keeping to a small set of understandable key indicators for which data is largely available already: simple and practical.
- Agree with the approach of looking at the essence of the YES, YCS and other strategies, rather than trying to measure against each objective and action plan from the 1988 report.
- Interested in supplementary indicators in order to provide more information in telling the story behind the core set of indicators.
- Reticent to take the indicators at face value, due to measurement issues and possible misunderstandings; need to recognize these are proxy measures that point in a direction.
- Good idea to correlate some indicators with others to see the interrelationships, tradeoffs, and multiple effects of different actions.
- Good to get the indicators out there; then it is up to people to decide if they think progress is being made in a positive direction or not.
- Walk before running: develop and use the core set before adding many supplemental indicators or proceeding to composite indexes and monetization for use in a GPI.

5.0 Framework of Goals, Objectives and Indicators

The Yukon Sustainable Progress Indicators framework or matrix has been constructed based on a review of several Yukon strategy, planning and policy documents. The matrix is organized under three main themes of sustainable progress: economy, environment and society. Each of the three themes uses an accountability framework or structure that is consistent with conventional public sector strategic-business planning models adopted by jurisdictions such as Alberta, Minnesota, Florida and Oregon.

The sustainable progress indicators are aligned with goals and objectives that are consistent with a host of Yukon strategic planning, business planning and policy documents. The following architecture is used:

- Goals - statements of key desired outcomes for Yukon’s economy, environment and

- community-society
- Objectives – more definitive statements of specific outcomes that are desired to help achieve the goals.
- Key Sustainable Progress Indicators – qualitative and quantitative indicators that serve as proxies of progress towards the objective and goal statements. Mark – would we rather use the term “core” to replace “key” throughout, or not bother
- Supplemental Information – including supplemental indicators or information that provides a more complete picture of the goal and objectives that are being gauged or measured.

For each of three themes (economy, environment, community), goals, objectives, key sustainable progress indicators and supplemental information (indicators) have been identified. These are summarized in the table below.

The “economy” theme has 6 goals, 11 objectives, and 24 key sustainable progress indicators. An additional 42 optional supplemental indicators have been identified that would provide greater detail in support of the key sustainable progress indicators.

The “environment” theme has 6 goals, 14 objectives, and 23 key sustainable progress indicators. There are an additional 25 supplemental indicators.

The “community” theme has 6 goals, 15 objectives, and 23 key sustainable progress indicators with an additional 25 supplemental indicators.

In total there are 18 goals, 40 objectives and 70 key sustainable progress indicators that serve as a gauge for understanding the state of Yukon’s journey towards a sustainable economy, environment and society.

The goal and objective statements have been selected to represent the intent expressed in the Yukon Economic Strategy and related strategies, such as the Yukon Conservation Strategy. They are not directly quoted goal statements, nor do they go to the level of detail of the action items presented in these strategies. A “Matrix of Goals and Objectives” is provided in Appendix C that links the goal and objective statements in this indicator framework to particular sections of the YES and YCS, with endnotes to summarize the relevant linkages.

The sustainable progress framework presented is not cast in stone. It should be seen as starting point and regularly reviewed and improved. Adjustments or improvements can be made to the indicators over time to reflect the most current portrait of the state or well-being of Yukon’s economy, environment and communities. For example, some supplemental information might be deemed important enough to become a Key Sustainable Progress Indicator. The framework should be flexible enough to reflect changing values, needs and key issues facing Yukoners. As part of an ongoing review and evaluation process, it will be important to consult with Yukoners about their values, needs and aspirations to ensure the goals and sustainable progress indicators relevant and meaningful. Having said this, it is also desirable to keep the indicators set fairly stable over time in order to track progress consistently. Therefore, a balance must be struck in using this as a living framework.

The indicators that make up the framework should be seen as a portrait of sustainability, from a broad perspective. Just like a painting, the framework of indicators and what they reveal about well-being will vary according to the individual perceptions of each Yukoner. Yukoners must ultimately decide which indicators are most meaningful for assessing overall well-being.

The sustainable progress indicators framework presented in the following tables should be viewed as a starting point. They can be used for assessing and discussing trends in well-being, at both the territorial and community level. The indicators are like guideposts for the journey towards improved well-being and sustainability.

Data Sources

Data sources for each of the key SPI and supplemental information indicators were not identified as part of the construction of the indicator framework. In some cases, an asterisk (*) identifies a data source (usually Yukon Bureau of Statistics). Other indicators may require data gathering from existing sources. Some indicators may not have any reliable data set. These indicators may be identified as desirable and thus worthy of new data gathering, or dropped from the list.

There are many potential data sources, including Yukon Bureau of Statistics, Statistics Canada, the Yukon State of the Environment Report, State of Health report and Status of Women's report, to name a few. Data sourcing could be completed by Yukon Bureau of Statistics in consultation with other ministries, other agencies and Statistics Canada. Based on this review, some indicators may require revisions to align with data availability. Other indicators might be dropped due to lack of data. In gathering statistical evidence, even attempt should be made to collect a time series of at least 10 years of data, dating back to 1988 or 1990, depending on the availability of time series data.

Yukon Sustainable Progress Indicators: Matrix of Goals, Objectives and Indicators

ECONOMY

ECONOMY Goals	Objectives	Key Sustainable Progress Indicators (SPI) ³	Supplemental Information ⁴
Have a strong, prosperous, and diverse economy	Increase economic diversification within & across sectors	<ul style="list-style-type: none"> ➤ Total GDP (expenditure-based or income-based) and on a per capita basis* ➤ percentage share of top 6 sectors share of Yukon GDP, showing trends (government services; finance, insurance, and real estate; accommodation, food and beverage; mining, quarrying and oil wells; education services, and; construction)* ➤ value (or number) of building permits * ➤ value of retail and wholesale sales * ➤ net migration (in-migrates vs. out-migrates ratio) ➤ number of travelers (border crossings, visitation) and aircraft movement (indexed) entering Yukon * ➤ ratio of business incorporations to business failures * 	<ul style="list-style-type: none"> ➤ population (territory and community)* ➤ type and number of Yukon businesses ➤ wages/salaries of top 5 sectors (public admin., commercial-personal services; transportation, storage, and communications; education; and trade) * ➤ commodity price composite index (gold, silver, lead, zinc, copper in US \$) * ➤ electricity generated versus consumed (sold) in Yukon* ➤ percentage of GDP from renewable vs. non-renewable energy production. ➤ science and technology industry (expenditures/revenues) ➤ labour productivity (GDP per # employed) * ➤ materials productivity (total materials use per \$ GDP)⁵ ➤ farm production and value of production ➤ tourism industry indicators and economic activity arising from the Alaska-Yukon highway corridor ➤ air traffic in/out of Whitehorse airport (commercial, business, and personal travel). * ➤ number or value of real estate transactions * ➤ rental vacancy rate *
	Recognize and encourage non-wage work, volunteerism and First Nations and other subsistence living	<ul style="list-style-type: none"> ➤ hours (per capita) of unpaid work (subsistence, volunteerism, housework, parenting, eldercare) ➤ hours (per capita) of leisure 	<ul style="list-style-type: none"> ➤ by gender, hours spent at: <ul style="list-style-type: none"> ○ paid work ○ unpaid housework ○ unpaid parenting ○ unpaid elder-care ○ volunteerism ○ leisure time ○ subsistence living

³ The symbol * denotes probable data availability from Yukon Bureau of Statistics, Yukon State of the Environment Report, and other data sources.

⁴ These would supplement the Key Sustainable Development Indicators, providing more detailed information.\

⁵ Materials productivity measure

ECONOMY Goals	Objectives	Key Sustainable Progress Indicators (SPI)³	Supplemental Information⁴
Have more Yukon and community-based control and autonomy	Increase extent of Yukon ownership	<ul style="list-style-type: none"> ➤ share of total revenues or expenditures by Yukon-based (local) businesses 	<ul style="list-style-type: none"> ➤ number of Yukon-based local businesses ➤ number of Yukon businesses that engage in electronic-commerce ➤ dollar amount and labourers under contract services (government and private sector) from Yukon businesses vs. outside Yukon. ➤ tax revenues by source ➤ home-based businesses
	Increase self-determination and power over community and territorial decision making	<ul style="list-style-type: none"> ➤ transfers from Canada (% of total Yukon revenues)* ➤ socio-economic agreements between First Nations and Yukon Territorial Government 	<ul style="list-style-type: none"> ➤ resource royalties to Yukon Territorial Government ➤ number of permits issued or number of environmental assessments
	Reduce leakage outside Yukon	<ul style="list-style-type: none"> ➤ balance of trade (value of trade surplus or deficit; exports less imports)* 	<ul style="list-style-type: none"> ➤ percent of goods and services consumed that are produced in Yukon.* ➤ dollars spent in locally-owned businesses ➤ percent of food purchases that is produced locally
Expand employment opportunities	Increase number, skill level, & diversity of jobs	<ul style="list-style-type: none"> ➤ employment/unemployment/participation rates (government, industry and sector) * ➤ proportion of new jobs filled by Yukon residents ➤ average real wage rate (hourly or weekly) * 	<ul style="list-style-type: none"> ➤ employment, unemployment and participation rates by Yukon community. ➤ level of education of workforce ➤ wage distribution ➤ job satisfaction ratings ➤ number of people in trades & technology ➤ proportion of jobs with pension and health benefits ➤ percent of graduates from high school and post-secondary institutions who find work in Yukon.
	Increase proportion of jobs that are in communities	<ul style="list-style-type: none"> ➤ percentage of employable workers working in own community (by community) 	

ECONOMY Goals	Objectives	Key Sustainable Progress Indicators (SPI)³	Supplemental Information⁴
Improve the standard of living of Yukoners	Increase average household income in real terms	<ul style="list-style-type: none"> ➤ average real weekly earnings (relative to Canadian average) or average personal disposable income per person (relative to Canada)* ➤ Annual change in CPI (consumer price index) relative to Canada or the Food Price Index (Whitehorse).* 	<ul style="list-style-type: none"> ➤ living wage rate (average hourly wage required to meet average cost of living) ➤ income by source (self-employed, investment, business, pension, salaried employee and other). ➤ average household income by Yukon community and family type ➤ savings rate* of disposable income by gender or family type, and by quintile of earnings ➤ employment insurance claims (by community) * ➤ percentage households living one-paycheque-away from bankruptcy ➤ per capita-household debt ➤ taxation load (households, business)
Improve financial and business services	Improve access to capital for: rural people, women, Indian people, small business	<ul style="list-style-type: none"> ➤ average number of accessible financial service providers per community (including banks, credit unions, and online-electronic financial services) 	
Enhance infrastructure integrity	Improve infrastructure, such as transportation, communications, health, arts & culture, & education	<ul style="list-style-type: none"> ➤ physical stock and state of infrastructure (roads, bridges, railroads, buildings, schools, hospitals, communication systems, public utilities, pipelines, and others) ➤ investment in new infrastructure versus maintenance and replacement expenditures (private and public sector) 	<ul style="list-style-type: none"> ➤ value, maintenance costs and depreciation cost of infrastructure ➤ quality of infrastructure (roads, highways, and other built infrastructure) ➤ level of use of public infrastructure (e.g. vehicle miles traveled on roads, hospital occupancy rates, school occupancy rates)
	Increase science and technology assets and expenditures	<ul style="list-style-type: none"> ➤ research and development expenditures as % of GDP ➤ percent of Yukon households/business who own computers and have access to the Internet/email. 	

ENVIRONMENT

ENVIRONMENT Goals	Objectives	Key Sustainable Progress Indicators (SPI) ⁶	Supplemental Information ⁷
Recover and maintain biodiversity	No net loss of species types	➤ number of native species (relative to 1970 or other benchmark)	
	Improve state of species at risk	➤ number and populations of species at risk (endangered, threatened)	<ul style="list-style-type: none"> ➤ number of species approaching target population ➤ population viability, densities and habitat trends of key local indicator species
Enhance and maintain ecosystems integrity	Complete and maintain an ecologically viable system of protected areas	<ul style="list-style-type: none"> ➤ percent of Yukon land base under formal agreement for protected areas (wilderness, parks, wetlands) and wildlife habitat. ➤ number of ecoregions represented within protected areas system ➤ unlogged and unroaded watersheds 	<ul style="list-style-type: none"> ➤ health and viability (populations) of “indicator” species (wolves, bear, caribou, and other species) ➤ area of wilderness protection by eco-region ➤ area of parks and wilderness ➤ area of area of wetlands remaining to original wetland area in benchmark year. ➤ conversion of riparian land to other uses ➤ area of land impacted by natural disturbance (fire, insects, disease) versus historical benchmarks
	Maintain suitability of greater landscape for wildlife population health and their movement	➤ ecosystem/habitat fragmentation index (connective ness) based on area fragmented by human development (roads, pipelines, development, linear disturbance) relative to benchmark year.	➤ percent of disturbed land reclaimed
Have ample resources for future generations	Maintain a long-term rate of non-renewable resource extraction	➤ annual production versus economic reserves of minerals, oil, gas and coal resources	<ul style="list-style-type: none"> ➤ mining sector ‘policy potential’, ‘mineral potential’ and ‘investment attractiveness’ indices (Fraser Institute) * ➤ total sales of motor gasoline *

⁶ Note: the symbol * denotes probable data availability from Yukon Bureau of Statistics.

⁷ These would supplement the Key Sustainable Development Indicators, providing more detailed information.\

ENVIRONMENT Goals	Objectives	Key Sustainable Progress Indicators (SPI) ⁶	Supplemental Information ⁷
	Conduct sustainable (replenishing) harvest of renewable resources	<ul style="list-style-type: none"> ➤ forest (timber and non-timber) resource sustainability: primary forest production* (plus natural disturbance losses) versus annual timber growth (annual allowable cut or net primary productivity) ➤ traditional-subsistence harvesting (berries, mushrooms, and others) ➤ agricultural land disposition and productivity ➤ fish and wildlife harvest (fur production*, hunting) vs. sustainable management target ➤ carbon sequestration account (total carbon stock and annual sequestration rates) 	<ul style="list-style-type: none"> ➤ percent of harvested forest successfully restocked. ➤ arable agricultural land quality and productivity (soil erosion) ➤ growth rates of trout population ➤ other sustainable forest management indicators from the Canadian Council of Forest Ministers (CCFM)
	Use of an equitable and sustainable share of global and local resources	<ul style="list-style-type: none"> ➤ Ecological Footprint per capita (relative to Canadian average) 	
Improve diversity of energy sources and energy efficiency	Reduce proportional use of fossil fuels	<ul style="list-style-type: none"> ➤ efficiency of fossil fuel and other non-renewable resource use (barrel of oil consumed per capita and per dollar of GDP) 	<ul style="list-style-type: none"> ➤ total and per capita energy consumption by source
	Increase proportion of small scale, local, green energy, and energy conservation	<ul style="list-style-type: none"> ➤ proportion of energy (barrel oil equivalent) from small-scale renewable energy sources (small hydro, solar, wind, geothermal and biomass) 	
Recover and maintain a healthy environment	Improve air, water and land quality	<ul style="list-style-type: none"> ➤ air quality index (including smoke index) ➤ greenhouse gas emissions and air pollutant emissions (CO₂, SO₂, NO_x, methane, ozone, carbon monoxide, VOC, lead, total suspended particles, and CFCs). ➤ water quality -- groundwater conditions, condition of major rivers (organochlorines, fecal coliform bacteria, metals, hydrocarbons, suspended solids) ➤ water depletion (use) and withdrawal rate vs. recharge rate per capita 	<ul style="list-style-type: none"> ➤ cases of giardia ➤ invertebrate health
	Reduce waste and pollution	<ul style="list-style-type: none"> ➤ waste (solid, hazardous, and special) production and pollution release inventories (from NPRI for Yukon), on a gross and per capita basis 	<ul style="list-style-type: none"> ➤ recyclable materials processed ➤ organic materials composted ➤ annual tonnes of garbage burned
	Reduce contaminated soils	<ul style="list-style-type: none"> ➤ area of toxic-contaminated surface and subsurface sites 	<ul style="list-style-type: none"> ➤ toxic waste and petroleum spills ➤ contaminated site remediation
	Local foods safe to eat (fish, wildlife, produce)	<ul style="list-style-type: none"> ➤ toxic substance concentrations in wildlife and fish populations. 	

ENVIRONMENT Goals	Objectives	Key Sustainable Progress Indicators (SPI)⁶	Supplemental Information⁷
Increase territorial control over resources	Increase the extent of devolution	<ul style="list-style-type: none"> ➤ resource management autonomy by Yukon: percent of natural resource stocks (e.g. forests, minerals) under territorial jurisdiction 	<ul style="list-style-type: none"> ➤ royalty revenues to YTG (also shown in Economy indicators) ➤ First Nations socio-economic co-management agreements signed (also in Economy section)

COMMUNITY

COMMUNITY Goals	Objectives	Key Sustainable Progress Indicators (SPI) ⁸	Supplemental Information ⁹
Enhance the health of Yukoners	Reduce illness and disease/promote good health	<ul style="list-style-type: none"> ➤ disease rates (e.g. heart, cancer, respiratory, diabetes, injuries) ➤ self-rated health status ➤ quality of life (happiness) perceptions (surveys) 	<ul style="list-style-type: none"> ➤ key SPIs by gender, age and ethnicity ➤ (person days lost from work due to injury, disease and illness, incurred on and off the job) ➤ WCB insurance claims spending ➤ variety of types of health care practitioners ➤ ratio of doctors to population
	Reduce premature death	<ul style="list-style-type: none"> ➤ life expectancy ➤ suicide rates (attempted and completed) ➤ infant mortality rate 	<ul style="list-style-type: none"> ➤ key SPI indicators by gender, age and ethnicity ➤ premature death (before 65 years) measured in “potential years of life lost” ➤ number healthy babies of total born
	Increase access to and use of recreational resources	<ul style="list-style-type: none"> ➤ participation rates in recreational activities (outdoor and indoor) 	
Strengthen and support First Nations quality of life, heritage, culture and other cultural diversity.	Strengthen use of Aboriginal languages	<ul style="list-style-type: none"> ➤ number of people speaking their traditional language 	
	Improve autonomy over culture and resource stewardship	<ul style="list-style-type: none"> ➤ land claim agreements settled (as percent of original outstanding) ➤ proportion of criminal cases that are dealt with through traditional circle sentencing and restorative justice. 	
	Support the teaching and maintenance of cultural values and traditional skills	<ul style="list-style-type: none"> ➤ number of First Nation’s culture camps, fish camps, cultural retreats, and treatment centers 	<ul style="list-style-type: none"> ➤ attendance at cultural events ➤ number and significance of elder and youth councils ➤ oral histories and stories recorded ➤ level of research into oral histories
	Increase exposure to traditional knowledge	<ul style="list-style-type: none"> ➤ number of schools teaching or hours of total hours of school curriculum devoted to traditional language and knowledge. 	<ul style="list-style-type: none"> ➤ number of First Nations parents participating in parenting programs
	Improve inter-cultural understanding	<ul style="list-style-type: none"> ➤ number of cultural, spiritual and recreation sites 	<ul style="list-style-type: none"> ➤ use of aboriginal names in businesses and in mapping and site identification

⁸ Note: the symbol * denotes probable data availability from Yukon Bureau of Statistics

⁹ These would supplement the Key Sustainable Development Indicators, providing more detailed information.\

COMMUNITY Goals	Objectives	Key Sustainable Progress Indicators (SPI)⁸	Supplemental Information⁹
Enhance empowerment & involvement & autonomy within democratic process	Increase rate of participation in societal governance activities.	<ul style="list-style-type: none"> ➤ voter participation rates (% of eligible voters who voted) 	<ul style="list-style-type: none"> ➤ number of non-profit societies ➤ charitable contributions ➤ number of community or regional Land Use Plans ➤ First Nations resource management boards fully operating ➤ average length of time required to settle land claims
Support, restore and maintain healthy families and communities	Promote community-based healing and lessen abuse, violence, crime and associated effects	<ul style="list-style-type: none"> ➤ crime rates and levels of violence ➤ births to teenage mothers under age 18 	<ul style="list-style-type: none"> ➤ crime rates and levels of violence by: gender, age and ethnicity (of both perpetrator and victim), and types of crime/violence ➤ % of population by age living below poverty line ➤ number of abortions by age of mother ➤ incarceration rates
	Address the special needs of fetal alcohol syndrome (FAS)/fetal alcohol effects (FAE) (inclusiveness)	<ul style="list-style-type: none"> ➤ number of people with FAS (fetal alcohol syndrome) ➤ substance abuse (drugs, alcohol) by age, gender and ethnicity 	
	Promote family well-being	<ul style="list-style-type: none"> ➤ divorce/family breakdown rates 	<ul style="list-style-type: none"> ➤ number of children impacted by divorce/family breakdown
Equitable sharing of wealth and opportunity (social and geographic)	Increase employment and other opportunities for those less advantaged	<ul style="list-style-type: none"> ➤ rates of employment by ethnicity gender and age ➤ percent of Yukoners on social assistance 	<ul style="list-style-type: none"> ➤ occupational distribution of women and minorities ➤ Yukoners on social assistance, disability insurance, employment insurance: by age, gender and ethnicity
	Reduce gap between rich and poor	<ul style="list-style-type: none"> ➤ income distribution over quintiles (including inequality gap between the top 20 percent income group and others) 	<ul style="list-style-type: none"> ➤ average income of the bottom and top 20 percent ➤ low income incidence (% of families/households whose income is 50% or less of median family income). ➤ ratio of corporate executive salary/benefits to worker wages ➤ average personal incomes by sector and by educational attainment ➤ comparison of median and poverty levels of income wealth (total value of capital assets per household) distribution

COMMUNITY Goals	Objectives	Key Sustainable Progress Indicators (SPI) ⁸	Supplemental Information ⁹
Improve educational levels and opportunities	Increase average educational attainment	➤ educational attainment* and skill development by level of education	➤ graduation rate (as % of potential graduates) ➤ educational attainment distribution by community, gender, age, and ethnicity ➤ literacy rate ➤ access (enrolment) to pre-school and child-care programs

6.0 Optional Evaluation Frameworks

There are various approaches to using the Sustainable Progress Indicators framework for assessing and reporting on sustainable progress towards economic, environmental and community well-being for Yukon. We have assessed a number of indicator frameworks for their strengths and relevance to the Yukon territory. We believe that the most effective indicators framework is one which resonates with the values and issues of citizens respecting their quality of life and the health of their economy and environment. Any indicator framework should provide citizens with a broad enough “picture” of the overall state of Yukon with respect to economy, community and environment. There is no “correct” picture but only one which reveals essential elements of well-being. Any framework must be dynamic and flexible, changing over time with changes in values and issues facing Yukoners. Indicators should be as relevant at the local community level as they are at the broader territorial level. Yukoners will be the ultimate judges of their quality of life, with an indicators framework providing a “mirror” image of their reality whether at the level of territory, community, household or business.

Over the last 5 or more years, North America has seen an explosion of community indicator initiatives that have explored quality of life, sustainable development, economic well-being and government performance indicators. Each community seems to choose its own set of indicators, that reflect their own realities. Based on our knowledge and involvement in many of the leading indicator initiatives, we have identified a few with particular relevance for evaluating sustainable economic progress for Yukoners. Examples within three categories of indicator frameworks are discussed below and described in more detail in Appendix D.

Individual Indicators Frameworks:

- Alberta’s *Measuring Up*
- Jacksonville, Florida’s *Quality Indicators of Progress*

Composite Index Frameworks:

- Minnesota’s *Smart Signals – The Minnesota Progress Indicator*
- Pierce County’s *Quality of Life Benchmarks*
- Orlando, Florida’s *Compass Index of Sustainability*
- The Index for Social Health (ISH)

Monetary Indicator Frameworks:

- The Genuine Progress Indicator (GPI) and the Index for Sustainable Economic Welfare (ISEW) (See Appendix E for details.)
- The Index for Economic Well-Being (IEWB)

Individual indicators frameworks such as Alberta's *Measuring Up* provide the least amount of evaluation effort by simply reporting the raw data results, showing trends over time against some specified performance target. While simpler to administer they do not provide some of the benefits of composite indices.

Composite index frameworks involve converting raw data indicators to an index series. Indexing involves establishing a benchmark or starting year or showing percentage change in an index against a predefined target. Indexed indicators allow for aggregation across many otherwise different indicators and data sets. The strength of composite indices is that they provide a very broad perspective of changes in a number of various indicators. Each of the examples identified has strengths and weaknesses when viewed in terms of potential application in Yukon.

The adaptation of the combined strengths of the Compass Index for Sustainability, the Pierce County Quality of Life Benchmarks and the Index for Social Health (ISH) would provide a strong evaluation framework for Yukon, as follows. Each key sustainable progress indicator could be developed using a time series dating back to 1990, as the base or benchmark year. The raw data would reveal trends in the direction of the indicator relative to the benchmark year 1990. The raw data set would be converted to an index, for example according to the method used by Pierce County, Washington,. This involves an evaluation approach of comparing annual performance against the benchmark year. Alternatively, the ISH approach could be used whereby the best year is chosen as the benchmark year against which all other years are compared. Both methods are similar to the Consumer Price Index where all future prices are compared with a benchmark year. This allows Yukoners to assess the trends in each indicator.

Another option is to adopt the Minnesota Smart Signals approach whereby the percentage change in each indicator relative to a common benchmark year shows the direction of change over time. This approach too shows improvement or decline in performance over time.

Monetary indicator frameworks, like the Genuine Progress Indicator, are means of deriving an economic "bottom line" for either economy, environment and society, as separate themes or as a holistic system that represents well-being. The GPI offers a unique option that would complement the non-monetary sustainable progress indicators. The GPI begins with the conventional measure of economic progress, the GDP, and makes a series of positive adjustments for benefits that are currently excluded from provincial/national income accounts and negative adjustments for regrettable expenditures and the costs of unsustainable environmental and social capital use. Thus the GPI could be effective in budget and economic policy decision making, given its financial perspective.

Regardless of which indicators evaluation framework is adopted, they all provide their respective strengths. The creation of composite or aggregate indices for the three themes of economy, environment and community would provide a picture of the overall trends of these issues for Yukon. Ultimately, all 63 Sustainable Progress Indicators could be aggregated to yield a composite Yukon Sustainable Progress Index.

Some indicators might be considered to be more important than others, which would require some kind of weighting scheme when aggregating indicators. Weighting of indicators can become problematic. Our experience suggests that weighting introduces certain challenges and problems in measurement.

7.0 Recommended Evaluation Framework

Reviewing the Yukon Economic Strategy

The initial purpose of the set of indicators is to conduct periodic reviews of the Yukon Economic Strategy. In future these indicators would be used and modified, as required, to assess sustainable progress in Yukon, in keeping with future YES or other strategic plans that embody sustainable progress strategies. The current proposed indicators framework identifies goals, objectives and indicators consistent with the intent of the YES, but not directly connected to the specific wording and details. Once the indicators set is chosen, it may be used consistently over a fairly long period of time in order to gauge progress or trends in economy, environment and community. It will be important to consult periodically with Yukoners to ensure current values are included in the framework.

A process of bi-annual review (with citizen and stakeholder engagement) and continuous improvement of the indicators and the goals (related to key strategies) for Yukon should be adopted. The indicators would provide the basis of a bi-annual report card to Yukoners on the “sustainable state of Yukon” or “Yukon Well-Being”, initially taking the form of a review of the Yukon Economic Strategy. Trends or movement in key sustainable progress indicators would be shown in terms of data and graphics. Ideally, such a report would be tied to the strategic business planning and policy decision making processes of government, both for the territory and at the community level.

The supplemental information (additional indicators) would be used to provide context to the sustainability story being told by the 63 key sustainable progress indicators. This supplemental information should be useful to stakeholders who have more specific concerns about a given issue or goal contained in the framework. In addition, other more detailed indicators and information that are relevant to stakeholders, but not otherwise included in this framework, should be viewed as supporting or fitting into the overall Yukon indicators framework. These indicators are useful for management at the individual sector, community, or organizational level and should be viewed as completing the overall “picture” of sustainable progress for Yukon.

The way in which the review of the YES would take place would be to use the matrix in Appendix C (or a more detailed version developed by the YCEE if desired) to link the indicators, goals and objectives to specific sections of the YES.

The Sustainable Progress Indicators would provide Yukoners and decision makers with a broad holistic snapshot of the overall progress being made towards multiple objectives for the economy, environment and society.

We recommend this approach for the first stage of the Yukon Sustainable Progress Indicators development with subsequent iterations (discussed below) considering such issues as setting targets for each of the indicators.

Evaluation Framework

Choosing from the best of the optional evaluation frameworks presented earlier, we recommend the following evaluation framework for gauging sustainable progress for Yukon.

A. Sustainable Progress Indicators

At the first phase of the framework development and implementation, it may be useful simply to show indicators in their raw data form; showing trends over the past 5 to 10 years for each individual indicator.

At the second phase, composite indices for each of the themes of economy, environment and community would be developed, and perhaps one overall index encompassing all three themes. This involves converting the raw indicator data into indices, and grouping these into an overall index that combines many factors into one number. On its own, this number is not meaningful; what is meaningful is tracking trends. Trends may be gauged over time without necessarily establishing a performance target. The information provided by the raw data in the form of individual indicators is retained; the composite index figures complement these indicators and help with presentation of results.

A third phase might be a process of specifying performance targets for each individual indicator against which annual progress can be gauged.

B. Genuine Progress Indicator (sustainable income)

Finally, a fourth phase could involve the construction of a Genuine Progress Indicator (GPI); a more comprehensive set of full benefit-cost accounts for assessing the monetary aspects of the sustainable progress indicators. The GPI would provide a basis for measuring sustainable income¹⁰ for Yukon. A useful starting point is the original U.S. GPI/ISEW accounting framework and the earlier estimates of an ISEW for British Columbia

The Yukon GPI would start with the Gross Domestic Product (GDP) figures then identify unaccounted benefits (e.g. value of unpaid work, home production, subsistence work, and leisure time) and costs that are deemed regrettable or depreciation costs of human, social, environmental and produced capital. Once identified decisions would have to be made on whether to treat these benefits or costs as additions or deductions from the GDP figure to estimate a net sustainable income bottom line. Several tests might be applied, including applying generally accepted accounting principles for the depreciation of assets. Other considerations for the treatment of costs (expenditures) might include netting out only those line items deemed regrettable or unsustainable expenditures.

The following Sustainable Income Statement is offered as a model. This is based, in part on the U.S. GPI framework, adding components that would be relevant to Yukon.

¹⁰ Sustainable income (also known as Hicksian income) is defined by the U.S. National Research Council (*Nature's Numbers*, 1999) as "the maximum amount a nation can consume (natural, social, human and manufactured capital) while ensuring that future generations will have living standards at least as high as those of the current generation."

YUKON Sustainable Income Statement (GPI)

GDP - Gross Domestic Product (expenditure-based¹¹, at market prices):

- Personal Consumer Expenditures
- Government Expenditures
 - Intermediate Expenditures/Investment in Human , Social and Environmental Well-Being and Capital
- Government Investment in Fixed Capital
- Business Investment in Fixed Capital
- Business Investment in Inventories
- Exports less Imports of Goods and Services

Additions:

Unaccounted Benefits

- Value of Unpaid Work
 - Volunteerism
 - Parenting and Eldercare
 - Subsistence Living
- Value of Services from Public Infrastructure
- Value of Services from Consumer, Household, and Business Durables
- Value of Ecosystem Services
 - Forests
 - Peatlands
 - Wetlands
 - Carbon Sequestration

Deductions:

Expenditures (regrettable)

- Cost of Crime (expenditures)
- Cost of Substance Abuse (Drugs, Alcohol)
- Cost of Gambling
- Cost of Family Violence and Breakdown
- Cost of Auto Accidents (expenditures)
- Public and Private Environmental Clean-up Costs
- Cost of Toxic Waste Management
- Cost of Household Waste Management
- Personal (household) and Business Pollution Control Costs

Depreciation/degradation costs

- 'Cost' of Income Inequality (GINI Coefficient)
- Depreciation Cost of Public Infrastructure
- Depreciation Cost of Consumer, Household, and Business Durables
- Value of Loss of Leisure Time
- Depreciation Cost of Nonrenewable Resource Use
- Cost of Long-term Environmental Damage From Fossil Fuel Use
- Cost of Unsustainable Forest Resource Use
- Cost of Loss of Farmland
- Cost of Loss of Wetlands
- Cost of Loss of Wildlife and Fisheries
- Cost of Ecosystem Service Losses
- Cost of Air Pollution
- Cost of Water Pollution
- Cost of Ozone Depletion
- Change in Net Financial Position (external debt)

= **Net Sustainable income (GPI)**

¹¹ May also consider a Sustainable Income Account on an income-based GDP basis to highlight the breakdown of sources of income contributing to Yukon GDP.

Each of the respective benefit and expenditure/cost items could also be stratified according to “triple bottom lines” (economic, social, and environmental).

C. Total Capital Balance Sheet (Stock Account)

Another consideration may be the development of “triple bottom line” balance sheet that would account for the stock or state of Yukon’s natural (environmental), human, social (human, community) and produced (manufactured) capital. These accounts would reveal assets, expressed in terms of both physical stocks (physical quantities or qualitative state), less depreciation/degradation, as well as their market value. Liabilities might also be identified, though determination may be problematic, particularly if expressed in physical/qualitative terms. The following is a conceptual framework for a total capital balance sheet:

YUKON Total Capital Balance Sheet

Assets

(net of depreciation)

Natural capital

- Renewable resources
 - Forests
 - Agriculture
 - Wildlife and Fisheries
 - Water
 - Air
- Nonrenewable Resources
 - Oil and Gas
 - Minerals
- Ecosystem Functions
 - Carbon Sequestration

Human Capital

- Health
- Education

Social Capital

- Social Institutions
- Political Processes

Produced Capital

- Real Estate
 - Consumer Durables
 - Plant and Equipment
 - Infrastructure (Public and Private)
-

Liabilities

Environmental

- Ecological Footprint
- Industrial Footprint
- Toxic waste stocks

Human-Social

- Income Inequality

Produced Capital

Financial

- Debt
-

Net Worth

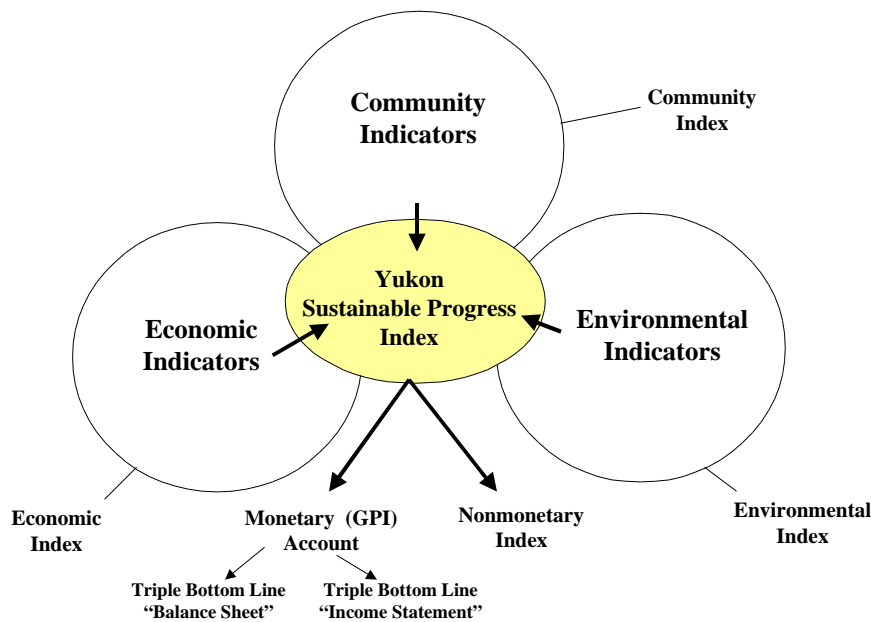
Both the Sustainable Income Statement (GPI) and the Total Capital Balance Sheet would be a unique approach to accounting for sustainability, taking both a monetary and physical-qualitative stock-flow accounting stance. While the GPI accounts are under development in the U.S., Nova Scotia, Australia, and as the ISEW (Index for Sustainable Economic Welfare) in Europe and B.C., no jurisdiction to date

has developed comprehensive capital balance sheets.

A comprehensive accounting architecture that would embody both qualitative Sustainable Progress Indicators, as well as the information required to derive the Sustainable Income Statement (GPI) and Total Capital Balance Sheet are portrayed in Figure 1. A set of physical/qualitative non-monetary accounts combined with the monetary accounts would result for each of the three themes: economy, community and environment. Composite indices, for the non-monetary SPI indicators for each of the themes could be derived for each of the theme accounts or as a composite Yukon Sustainable Progress Index that combines all three themes.

Figure 1

Yukon Sustainable Progress Indicators Account



8.0 Implementation Plan

The following are suggested next steps in constructing, implementing, reviewing and updating the indicators framework:

- 1.0 May to October, 2000 – consult and agree on indicators and data sources
- 2.0 November to April, 2001 – gather data, calculate indicators and prepare initial review of YES. Select a benchmark year as a basis for indexing data sets. Set base year to an index of 100, or calculate percentage changes from the benchmark to current year. Include more historical years as desired and possible.
- 3.0 May to October, 2001 -- begin to develop a set of monetary accounts (Sustainable Income Account (GPI) and Total Capital Balance Sheets) that could be used in generating a GPI for the Yukon.
- 4.0 November 2001 to November 2002 gather information for presentation in another review of the

YES in spring 2003, which shows the benchmark year and the subsequent two years of data and trends.

- 5.0 Proceed with another sustainable progress exercise which re-establishes goals, objectives and targets for the selected indicators. Include an assessment of progress against targets in subsequent bi-annual reporting.
- 6.0 Use the GPI and Total Capital Balance Sheets to provide a more complete set of monetary information than the GDP, once the architecture is developed and agreed-upon, and data gathering procedures are in place.

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Appendix B. List of Interviewees

Key Contacts interviewed for the purpose of reviewing draft sustainable progress indicators. Key contacts were drawn from a more extensive list of potential interviewees reflecting a broad cross-section of Yukon interests.

Sector	Name	Title	Organization
Communities	Larry Bagnell	Executive Director	Ass. of Yukon Communities
First Nations	Louis Profiet-LeBlanc	Native Heritage Advisor	YTG – Tourism – Heritage Branch
Health	Health and Social Services Council	Dave Buchan (Chair) (Met with full Council)	YTG – Advisory Body
Commerce	Rick Nielson	President	Yukon Chamber of Commerce
	Sandy Babcock	Executive Director	Yukon Chamber of Commerce
	Claire Festel	Executive Director	Tourism Industry Association
	Rosanne Konrad	Executive Director	Wilderness Tourism Industry Association
	Dave Tenny	Member of Executive	Chamber of Mines
	Troy Taylor	Member	Klondike Placer Miners Association
	Curtis Prosko	President	Yukon Contractors Association
Environment	Christine Cleghorn	Executive Director	Yukon Conservation Society
	Juri Peepre	Executive Director	Canadian Parks and Wilderness Society
	Bob Van Dijken	Executive Member	Yukon Conservation Society
Labour	Malcolm Taggart	Member	Yukon Federation of Labour
Women	Elda Ward	Director	Women's Secretariat
Government	Violet Van Hees	Policy Analyst – Policy and Program Development	YTG – Health and Social Services
	Scott Milton	Manager – Economic Policy	YTG – Economic Development
	Toby Sanger	Manager – Economic Research and Analysis	YTG – Economic Development
	Don Hutton	Director – Policy and Planning	YTG – Renewable Resources
	Karen Hougen-Bell	Policy Analyst	YTG – Renewable Resources
	Karen Clyde	Policy Analyst	YTG – Renewable Resources
	Jerome McIntyre	Policy Analyst	YTG – Renewable Resources
	Bengt Petterson	Manager – Environmental Regulations and Standards	YTG – Renewable Resources
YCEE – Working Group	Andy Williams	Board Member (YCEE Rep.)	Yukon Conservation Society
	Kathy Watson	Mayor of Whitehorse (YCEE Rep.)	Association of Yukon Communities
	John Carroll	Member of Executive (YCEE Rep.)	Yukon Chamber of Commerce

Appendix C. Matrix of Goals and Objectives

Goals	Objectives	YES ⁱ	YES ⁱⁱ	YES ⁱⁱⁱ	YES ^{iv}	YES ^v	YES
ECONOMY							
Have a strong, prosperous, and diverse economy	Increase economic diversification within & across sectors	X				X	
	Recognize and encourage non-wage work, volunteerism and First Nations and other subsistence living	X		X	X	X	
Have more Yukon and community-based control and autonomy	Increase extent of Yukon ownership		X				
	Increase self-determination and power over community and territorial decision making			X			
	Reduce leakage outside Yukon		X			X	
Expand employment opportunities	Increase number, skill level, & diversity of jobs	X			X	X	
	Increase proportion of jobs that are in communities	X				X	
Improve the standard of living of Yukoners	Increase average household income in real terms			X		X	
Improve financial and business services	Improve access to capital for: rural people, women, Indian people, small business					X	
Enhance infrastructure integrity	Improve infrastructure, such as transportation, communications, health, arts & culture, & education	X	X	X			X
	Increase science and technology assets and expenditures	X	X	X			X

Goals	Objectives	YESⁱ	YESⁱⁱ	YESⁱⁱⁱ	YES^{iv}	YES^v	YES
ENVIRONMENT							
Recover and maintain biodiversity	No net loss of species types				X		
	Improve state of species at risk				X		
Enhance and maintain ecosystems integrity	Complete and maintain an ecologically viable system of protected areas			X		X	
	Maintain suitability of greater landscape for wildlife population health and their movement			X			
Have ample resources for future generations	Maintain a long-term rate of non-renewable resource extraction	X	X			X	
	Conduct sustainable (replenishing) harvest of renewable resources	X	X			X	
Improve diversity of energy sources and energy efficiency	Use of an equitable and sustainable share of global and local resources		X				X
	Reduce proportional use of fossil fuels		X				X
	Increase proportion of small scale, local, green energy, and energy conservation						X
Recover and maintain a healthy environment	Improve air, water and land quality			X			
	Reduce waste and pollution					X	
	Reduce contaminated soils			X			
	Local foods safe to eat (fish, wildlife, produce)						
Increase territorial control over resources	Increase extent of devolution		X			X	

Goals	Objectives	YESⁱ	YESⁱⁱ	YESⁱⁱⁱ	YES^{iv}	YES^v	YES
SOCIETY							
Enhance the health of Yukoners	Reduce illness and disease/promote good health	X		X			
	Reduce premature death			X			X
	Increase access to and use of recreational resources						X
Strengthen and support First Nations quality of life, heritage, culture and other cultural diversity.	Strengthen use of Aboriginal languages	X					
	Improve autonomy over culture and resource stewardship					X	X
	Support the teaching and maintenance of cultural values and traditional skills		X				X
	Increase exposure to traditional knowledge		X				X
	Improve inter-cultural understanding			X	X		
Enhance empowerment & involvement & autonomy within democratic process	Increase rate of participation in societal governance activities.		X				
Support, restore and maintain healthy families and communities	Promote community-based healing and lessen abuse, violence, crime and associated effects	X		X			
	Address the special needs of fetal alcohol syndrome (FAS)/fetal alcohol effects (FAE) (inclusiveness)					X	
	Promote family well-being			X			
Equitable sharing of wealth and opportunity (social and geographic)	Increase employment and other opportunities for those less advantaged					X	X
	Reduce gap between rich and poor				X	X	X
Improve educational levels and opportunities	Increase average educational attainment					X	X

- i Option to Stay in the Yukon: earn our living, support ourselves, raise our families in our chosen communities within Yukon (p. 3)
- ii Control of the Future: more regional and local decision-making, increased community authority, higher Yukon ownership (p. 3)
- iii Acceptable Quality of Life: wages, business opportunities, public services, subsistence living in unspoiled environment (p. 3)
- iv Equality: equal economic chance for all Yukoners, including those who do not currently have equal opportunity (p. 3)
- v Economy: encourage entrepreneurship, local jobs, Indian economies, economic advancement for women; increase economic return resources, recognize skills (p. 61)
- Environment: develop renewable resources at sustainable rate, non – RR at a stable rate, guard natural environment (p. 61)
- Society: increase opportunities to participate & be valued (including women, Indian people, youth, elderly, mentally and physically)
- vi Economy: affordable housing, community infrastructure, local training, appropriate science and technology as tools (p. 62)
- Environment: substitute local for imported energy (p. 62)
- Society: plan for recreation planning, combine traditional approach with modern technology, support cultural industries (p. 62/63)
- vii sustainable use of renewable resources, stable non-RR sector, range of resource uses, protect environment & heritage (p. 10)
- viii Benefits from developing & conserving natural resources, community involvement in decisions, understand aboriginal approach conservation (p. 11)

Appendix D. Summary of Frameworks in Use

Individual Indicator Frameworks

Alberta's Measuring Up

Alberta has been a leader in government performance measurement and business planning since 1993. *Measuring Up* is the Alberta government's performance measurement system designed to track the results of government activities related to the three core businesses or areas of responsibility of government – people, prosperity and preservation. The total system has three tiers – 25 core government measures (*Measuring Up*) related to 17 government goals as per the Government's three-year Business Plans. Of the 25 performance measures indicators relate 7 are for 'people', 11 are for 'prosperity' and 7 are for 'preservation.' In addition, there are over 220 key ministry performance measures and internal management measures published separately in ministry business plans and annual reports.

All performance measures in *Measuring Up* and ministry annual reports are shown in their raw data value form without any attempt to aggregate indicators or create indices. Each performance measure has a target to gauge whether annual progress is on track. In addition to the key government performance measures, supplemental information (indicators) are included to support each of the 25 core government measures and track other key trends. Performance is assessed by reporting the annual changes in performance relative to the target using symbols that indicate 'improved performance', 'no significant change from previous year' or 'declining performance.' *Measuring Up* is government's official performance report card and forms part of the Government of Alberta's Annual Report and is signed off by the Auditor General.

Quality of Life in Jacksonville: Indicators for Progress

The efforts of City of Jacksonville, the Jacksonville Chamber of Commerce and the Jacksonville Community Council Inc. (JCCI) in the case of the Quality of Life (QOL) project, funded by the Chamber of Commerce, represents an effort to monitor Duval County's progress on an annual basis. During the summer of 1985, over 100 volunteers met in subcommittees under the leadership of a steering committee appointed by the JCCI president in consultation with the Chamber of Commerce. The volunteers developed a quality of life model with nine elements. They also selected specific indicators for each element, guided by criteria assigned by the steering committee.

Seventy-two indicators are organized around five focus areas used by the United Way to identify its major areas for funds allocation:

- creating a brighter future for our children and youth
- building stronger families and neighborhoods
- creating independence for elderly and disabled
- responding to personal crisis and disaster
- promoting wellness and protecting our health

In 1991, new task forces involving over 140 volunteers reviewed the indicators. As a result, several were eliminated due to data problems, others were revised for clarity and several new indicators were added. The task forces established a target for each indicator for the year 2000. The task forces also identified a "most important" indicator for each element. From these, a top-priority indicator became the focus for community attention and action during the 1990s. Finally, the task forces ranked the elements.

Beginning in 1986, data for all indicators are reported annually. Annual updates display data for 14 years except for the new indicators added in 1991.

JCCI publishes two QOL documents annually: an executive summary and a reference document. The documents are widely used by public and private decision makers in Jacksonville to inform strategic planning and to guide policy making. Through media exposure and JCCI presentations, the documents have become a major source of public knowledge and awareness about aspects of community life.

Composite Index Frameworks

Minnesota's *Smart Signals* - The Minnesota Progress Indicator

Minnesota has been recognized as a leader in North America for their common sense approach to business planning and performance measurement. The state business plan *Minnesota Milestones* illustrates the strengths of the Minnesota approach to performance measurement. Recently, Minnesota Planning's Environmental Quality Board, with support of the Governor, issued the report *Smart Signals – Economics for Lasting Progress*, which represents one of the best examples of indicators that attempt to measure the progress towards the balanced goals of a healthy economy, society and environment. The "Minnesota Progress Indicator" (MPI) is a new indicator to gauge progress toward sustainable development goals and to provide "a more accurate and holistic measure of the state's economic well-being." Influenced by the Genuine Progress Indicator (developed by Redefining Progress), the MPI is an aggregation of 42 non-monetary economic, environmental and community measures of well-being. The strength of the MPI is that it can be viewed as a composite index, an aggregation of measures by economy, environment and community, or individual measures within the framework can be viewed separately to reveal trends, progress, or decline. Data for the measures cover the years 1990 to 1997 showing the percentage change of each measure in relation to 1990 levels (the benchmark year). No weighting of indicators is applied. These indicators, in whole or in part, help Minnesotans "envision sustainable development and to work toward it." The MPI is "not intended to be the definitive indicator for Minnesota's economic well-being" but a stepping-stone to help citizens and policymakers view the state's progress from a more realistic and comprehensive perspective.

Pierce County's *Quality of Life Benchmarks*

The Department of Community Services of Pierce County, Washington have developed a Quality of Life Benchmarks report which is intended to provide a comprehensive snap-shot of the well-being of the community. The Benchmark Project combines over 200 discrete pieces of data into 80 indicators divided into nine goal categories:

- Affordable housing
- Clean environment
- Cost Effective Infrastructure
- Cultural and Recreational Opportunities
- Educational Excellence
- Effective Regional Transportation
- Health and Safety for Persons and Property
- Healthy Economy
- Proper Distribution of Land

The Benchmark Project tracks changes in each of the eighty indicators, by goal category, or by the aggregated total of all 80 indicators relative to 1990 which is used as the benchmark year. Raw data is converted first to a raw data value indicator (e.g. total wage and salary jobs per employed resident) which generally involves the ratio of one data set (e.g. GDP) over another (e.g. population). The raw data value indicator is then converted to a normalized indicator value through a calculation of the ratio of any raw value indicator data point in year 'x' relative to the benchmark year 1990 raw value indicator data. For all indicators, the year 1990 is set at a 100 basis points against which future declines or improvements can be gauged. The benchmark year does not represent a target but rather a comparative value against which subsequent change can be compared.

All indicators are measured such that higher values (greater than 100) indicate an improvement in measured quality of life indicators, while lower values (less than 100) indicate a decline in quality of life indicators. The strength of such indexing is that it allows for aggregation of many indicators by any number of goals, themes or as a composite whole. It allows for assessing change over time relative to some starting point without setting a performance target. The indicators per each goal are then averaged, without weighting, to yield a composite index. The composite indices for each of the nine goals can also be aggregated to derive a composite Quality of Life Index for the county.

Orlando, Florida's *Compass Index of Sustainability*

Alan Atkinson (a sustainability indicators consultant with Atkinson & Associates) is currently assisting Orlando, Florida in developing a "Compass Index of Sustainability" which provides a framework for aggregating and displaying an array of sustainability indicators. It uses the indicators developed by a community, company, state, nation or other entity and clusters them to take as their metaphor the points of the compass: N or Nature, E for Economy, S for Society and W for Well-Being. These are the clustering points for measures of economic, environmental, social and individual human well-being. A series of indicators are used whereby the raw data is converted to an index value. The indexing method usually relates to comparing the actual data to a sustainability target or goal. Indexing allows for assessing trends (progress or regress) towards sustainability objectives as well as for the aggregation of indicators along the four compass points and as a composite sustainability index using all four compass point indicators. The strength of Compass Index is that it provides the benefits of transparency of the data set as well as the strength of simple visual presentation of the direction of progress towards sustainability outcomes. Again, no weighting of individual indicators is applied.

The Index for Social Health

The Index for Social Health (ISH) was developed by Marc Miringoff at the Institute for Innovation in Social Policy at Fordham University in New York. It was later adopted and modified for Canada by Satya Brink and Allen Zeesman of Human Resource Development Canada in their paper "Measuring Social Well-Being: An Index of Social Health for Canada" (1997). The ISH is an attempt to construct an alternative measure of societal well-being to the GDP measure of economic prosperity. The Index is based on a set of socio-economic indicators of well-being, covering 16 social issues/indicators of health, mortality, inequality and access to services for children, youth, adults, elderly and all age groups. Raw data for each of the 16 indicators is converted to a numerical index using a Model Year as a benchmark. The yearly performance is measured in comparison to the indicators own best and worst performance over the time period. All other annual observations are scored within the 0-10 scale. The scores for the indicators are averaged across all sixteen indicators. A perfect score of 100 would indicate

that all indicators are equal to the best score over the time period. The ISH gives a profile of the social performance for the year relative to past performance and thus can show social problems improving or worsening for individual issues but also for the overall social well-being of a community.

Brink and Zeeman applied the ISH nationally and for each province over a twenty-four year period and compare the ISH to the GDP of the nation and provinces. The ISH methodology was modified and adopted for the development of the Edmonton Social Health Index (ESHI) by Mark Anielski for the Edmonton Social Planning Council in 1998. The ISH also has much in common with the U.N. Human Development Index, particularly in the complexity of its calculation.

The methodological approach to the ISH, while specific to social health, has particular merit as a means of evaluating trends or progress using any indicators framework. While its calculation is more complicated than most, it does allow for aggregation of indicators and for assessing performance relative to the best or worst performance years without defining a specific performance target.

Monetary and Monetary/Non-monetary Composite Indicators

Other methods for aggregating indicators include monetary valuation approaches including Redefining Progress's Genuine Progress Indicator (GPI), the Index for Sustainable Economic Welfare (ISEW), and the World Bank's total wealth national accounting (see appendix for more details on the GPI). These measurement techniques attempt to impute values on social and environmental capital depreciation to be used in adjusting existing national income accounts (GDP). Most of these exercises involve imputed the benefits to the economy (e.g. unpaid work and volunteerism) that are excluded from the GDP and identifying and correcting the GDP for environmental (e.g. environmental clean up costs) and social costs (e.g. incarceration of criminals) that are otherwise treated as positive contributions to the GDP when they may represent regrettable expenditures. The GPI allows for the imputation of a "triple bottom line" for the net economic benefit (cost) of social, economic-financial and environmental capital. Osberg-Sharpe's Index for Economic Well-Being (IEWB) attempts to combine the strengths of the GPI-ISEW and the ISH and Human Development Index (HDI) while using weights to bring the economic and non-monetary indicators together. This approach introduces the problem of weighting bias though the approach is worth considering.

The Genuine Progress Indicator

The Genuine Progress Indicator (GPI), probably the best known of the alternative indicators of economic well-being, was developed by the San-Francisco-based think tank Redefining Progress. Preliminary estimates of a GPI for Canada have been made by Messinger of Statistics Canada. Furthermore, the *GPI Atlantic* initiative headed by Dr. Ron Coleman, is underway to develop common GPI valuation methods for Nova Scotia and Canada. The Index for Sustainable Economic Welfare (ISEW) (the predecessor to the GPI) has also been estimated for British Columbia by Kent Gustavson and Stephen Lonergan in 1994 out of the University of Victoria. This model may be particularly relevant to Yukon given that it is only provincial GPI-ISEW model that has been completed and it offers a potential road map (with data sources) for the completion of a future Yukon GPI/ISEW.

The GPI is essentially a full-cost accounting exercise at the state or national level that attempts to adjust the current measure of economic growth (the GDP) for income inequality, the benefits of unpaid work (for example, housework, parenting and volunteerism) and making deductions for

regrettable expenditures related to social and environmental issues that are viewed as not contributing to overall economic well-being. The GPI method is to assess the economic value of social and environmental assets and to calculate their depreciation or depletion as costs. The GPI will be a practical comprehensive policy-relevant tool to guide and implement a sustainable development strategy.

The work by Anielski and Rowe (1999) *The Genuine Progress Indicator: 1998 for Redefining Progress* (San Francisco) serves as a benchmark example of the GPI. Preliminary GPI estimates were made for Canada by Messinger (1997). The ISEW was first estimated for British Columbia by Stephen Lonegran and Kent R. Gustavson *Sustainability in British Columbia: the Calculation of an Index of Sustainable Economic Welfare* published through the Centre for Sustainable Regional Development, University of Victoria in October 1994.

The *GPI Atlantic* initiative is a feasibility study for the development of a GPI using 20 components to track sustainable development in Nova Scotia and nationally.. GPI Atlantic 's purpose was to create a practical policy-relevant sustainable development index and apply new accounting methods to the Atlantic region, beginning with Nova Scotia. Because the project paralleled Statistics Canada's own interest in developing expanded economic accounts, e.g. the new Canadian System of Environmental and Resource Accounts, Statistics Canada recognized the Nova Scotia initiative as a "pilot project" with potential applicability to the whole country.

The GPI and ISEW first introduced as the ISEW by Daly and Cobb (1989; 1994) is an alternative measure of economic welfare or well-being. The intent of the GPI-ISEW is to attempt to calculate a more robust measure of total welfare that would allow societies to measure and track sustainable development; that is, the sustainable development of social, economic and environmental well-being such that future generations are no worse or better off than current generations. The GPI-ISEW is intended as a more complete measure of economic, social and environmental well-being building upon the existing measure of economic well-being -- the gross domestic product or GDP -- making various monetary adjustments (additions and depreciations) for environmental and social welfare not currently considered in the GDP figures, including:

- income inequality (that imposes a "cost" on social cohesion)
- social welfare reducing costs (crime, family breakdown, commuting, underemployment)
- value of unpaid labour (housework, parenting, elder care, and volunteerism)
- value of lost leisure time
- value of investments in education and health care
- value of public and household infrastructure (streets and highways, consumer durables)
- cost of environmental degradation and pollution (air, water, ozone, climate change, long-term environmental damage)
- cost of unsustainable resource use (forests, wetlands, farmland)
- cost of depletion of nonrenewable resources (oil, gas, coal and minerals)
- net capital growth and international investment position (foreign indebtedness)

The resulting GPI-ISEW is a monetary "triple bottom line" for a community, region or nation; "triple" in the sense that it integrates the economic values of economic, social and environmental well-being into a composite monetary value.

The various components of the B.C. ISEW, the U.S. GPI, Nova Scotia's emerging GPI framework are used illustrate a potential model for a GPI framework for Yukon. An attempt is made to align these potential GPI components with the goals and objective statements of the indicator framework, in the following Appendix D.

Index of Economic Well-being (IEWB)

Lars Osberg from Dalhousie University and Andrew Sharpe of the Centre for the Study of Living Standards have developed an index of economic well-being for Canada where well-being depends on the level of average consumption flows, aggregate accumulation of productive stocks, inequality in the distribution of individual incomes and insecurity in the anticipation of future incomes. The weights attached to each of these component of economic well-being will vary, depending on the values of different observers. They argue that public debate would be improved if there is explicit consideration of the aspects of economic well-being obscured by average income trends and if the weights attached to these aspects were explicitly open for discussion.

The four components or dimensions of economic well-being in the proposed index of economic well-being are:

- effective per capita consumption flows;
- net societal accumulation of stocks of productive resources;
- poverty and inequality; and
- economic security from job loss and unemployment, illness, family breakup, poverty in old age.

APPENDIX E: Yukon GPI Model

Based on the original U.S. GPI and the ISEW (Index of Sustainable Economic Welfare) work and considering the needs of Yukon to account for sustainable income the following framework for constructing a Yukon monetary sustainable progress indicators account (GPI) is proposed. The table shows how the non-monetary Sustainable Progress Indicators and the monetary Sustainable Progress Indicators (GPI) would be aligned with the goal statements.

Yukon Sustainable Progress Indicators (Non-monetary) And Sustainable Income Statement (GPI- monetary) Account

Matrix of Goals and Indicators

Goals	Key Sustainable Progress Indicators	GPI - Sustainable Income Account ¹²
ECONOMY		
Have a strong, prosperous, and diverse economy	<ul style="list-style-type: none"> ➤ Total GDP (expenditure-based or income-based) and on a per capita basis* ➤ percentage share of top 6 sectors share of Yukon GDP, showing trends (government services; finance, insurance, and real estate; accommodation, food and beverage; mining, quarrying and oil wells; education services, and; construction)* ➤ value (or number) of building permits * ➤ value of retail and wholesale sales * ➤ net migration (in-migrates vs. out-migrates ratio) ➤ number of travelers (border crossings, visitation) and aircraft movement (indexed) entering Yukon * ➤ ratio of business incorporations to business failures * 	<ul style="list-style-type: none"> ➤ Gross Domestic Product (households, business, and government) ➤ personal consumption expenditures ➤ federal transfer payment revenues
	<ul style="list-style-type: none"> ➤ hours (per capita) of unpaid work (subsistence, volunteerism, housework, parenting, eldercare) ➤ hours (per capita) of leisure 	<ul style="list-style-type: none"> ➤ value (economic benefit) of unpaid time: <ul style="list-style-type: none"> - unpaid housework - parenting - elder-care - volunteerism. ➤ value of loss of leisure time ➤ economic value of subsistence living

¹² These economic values (costs and benefits) could be used as the basis for calculating an adjusted 'sustainable development' GDP to factor in values of environmental and social capital otherwise excluded from the Yukon GDP figures. The Genuine Progress Indicator (GPI), developed in the U.S., provides a framework for this calculation.

Goals	Key Sustainable Progress Indicators	GPI - Sustainable Income Account¹²
Have more Yukon and community-based control and autonomy	➤ share of total revenues or expenditures by Yukon-based (local) businesses	➤ value of services of household durables, net of; ➤ depreciation of consumer-household durables
	➤ transfers from Canada (% of total Yukon revenues)* ➤ socio-economic agreements between First Nations and Yukon Territorial Government	➤ change in net (international and national) position – level of external debt and revenue dependence.
	➤ balance of trade (value of trade surplus or deficit; exports less imports)*	
Expand employment opportunities	➤ employment/unemployment/participation rates (government, industry and sector) * ➤ proportion of new jobs filled by Yukon residents ➤ average real wage rate (hourly or weekly) *	
	➤ percentage of employable workers working in own community (by community)	➤ cost of living outside of home community
Improve the standard of living of Yukoners	➤ average real weekly earnings (relative to Canadian average) or average personal disposable income per person (relative to Canada)* ➤ Annual change in CPI (consumer price index) relative to Canada or the Food Price Index (Whitehorse).*	
Improve financial and business services	➤ average number of accessible financial service providers per community (including banks, credit unions, and online-electronic financial services)	➤ value of services from public infrastructure (roads, streets, schools, public utilities) net of; ➤ depreciation cost of public infrastructure
Enhance infrastructure integrity	➤ physical stock and state of infrastructure (roads, bridges, railroads, buildings, schools, hospitals, communication systems, public utilities, pipelines, and others) ➤ investment in new infrastructure versus maintenance and replacement expenditures (private and public sector)	

Goals	Key Sustainable Progress Indicators	GPI - Monetary Sustainable Progress Account ¹³
ENVIRONMENT		
Recover and maintain biodiversity	➤ No net loss of species types	➤ Cost of lost species
	➤ Improve state of species at risk	
Enhance and maintain ecosystems integrity	➤ Complete and maintain an ecologically viable system of protected areas	➤ cost of loss of wetlands
	➤ Maintain suitability of greater landscape for wildlife population health and their movement	
Have ample resources for future generations	➤ Maintain a long-term rate of non-renewable resource extraction	➤ Public and private investment (reclamation and reforestation) by industry sector
	➤ Conduct sustainable (replenishing) harvest of renewable resources	<ul style="list-style-type: none"> ➤ cost of unsustainable forest (timber) use (net sustainable income) ➤ value of services of forests and peatlands as carbon sinks ➤ value of fisheries (First Nations, commercial and sport) ➤ value of wildlife harvest (FN/commercial/sport) ➤ (cost of) loss of farmland
Improve diversity of energy sources and energy efficiency	➤ Use of an equitable and sustainable share of global and local resources	<ul style="list-style-type: none"> ➤ costs (depreciation) of nonrenewable resource use (oil, gas and coal) -- economic value (net rent) of mineral resource and petroleum resource depletion/depreciation ➤ cost of long-term environmental damage from fossil fuel use ➤ value of natural resource stocks (capital account)
	➤ Reduce proportional use of fossil fuels	
Recover and maintain a healthy environment	➤ Increase proportion of small scale, local, green energy, and energy conservation	<ul style="list-style-type: none"> ➤ cost of air pollution ➤ cost of water pollution ➤ cost of ozone depletion ➤ cost of noise pollution ➤ cost (expenditures) of personal (household) pollution control ➤ public and private environmental clean-up costs
	➤ Improve air, water and land quality	
	➤ Reduce waste and pollution	➤ cost of toxic site management toxic waste liabilities (stock or balance sheet account)
Increase territorial control over resources	➤ Increase the extent of devolution	

¹³ These economic values (costs and benefits) could be used as the basis for calculating an adjusted 'sustainable development' GDP to factor in values of environmental and social capital otherwise excluded from the Yukon GDP figures. The Genuine Progress Indicator (GPI), developed in the U.S., provides a framework for this calculation.

Goals	Key Sustainable Progress Indicators	GPI - Monetary Sustainable Progress Account ¹⁴
COMMUNITY		
Enhance the health of Yukoners	<ul style="list-style-type: none"> ➤ disease rates (e.g. heart, cancer, respiratory, diabetes, injuries) ➤ self-rated health status ➤ quality of life (happiness) perceptions (surveys) 	<ul style="list-style-type: none"> ➤ private health care expenditures ➤ "benefit" from public health expenditures
	<ul style="list-style-type: none"> ➤ life expectancy ➤ suicide rates (attempted and completed) ➤ infant mortality rate 	<ul style="list-style-type: none"> ➤ cost of auto accidents
Strengthen and support First Nations quality of life, heritage, culture and other cultural diversity	<ul style="list-style-type: none"> ➤ participation rates in recreational activities (outdoor and indoor) 	
	<ul style="list-style-type: none"> ➤ number of people speaking their traditional language 	
	<ul style="list-style-type: none"> ➤ land claim agreements settled (as percent of original outstanding) ➤ proportion of criminal cases that are dealt with through traditional circle sentencing and restorative justice. 	
	<ul style="list-style-type: none"> ➤ number of First Nation's culture camps, fish camps, cultural retreats, and treatment centers 	
Enhance empowerment & involvement & autonomy in democratic process	<ul style="list-style-type: none"> ➤ number of schools teaching or hours of total hours of school curriculum devoted to traditional language and knowledge. 	
Support, restore and maintain healthy families and communities	<ul style="list-style-type: none"> ➤ number of cultural, spiritual and recreation sites 	<ul style="list-style-type: none"> ➤ cost of crime ➤ cost of gambling ➤ cost of substance abuse (drugs, alcohol) ➤ cost of commuting
	<ul style="list-style-type: none"> ➤ voter participation rates (% of eligible voters who voted) 	
	<ul style="list-style-type: none"> ➤ crime rates and levels of violence ➤ births to teenage mothers under age 18 	<ul style="list-style-type: none"> ➤ cost of family breakdown
Equitable sharing of wealth and opportunity (social and geographic)	<ul style="list-style-type: none"> ➤ number of people with FAS (fetal alcohol syndrome) ➤ substance abuse (drugs, alcohol) by age, gender and ethnicity 	
	<ul style="list-style-type: none"> ➤ divorce/family breakdown rates 	<ul style="list-style-type: none"> ➤ income inequality adjustment to Yukon GDP (GINI coefficient – gap between rich and poor)

¹⁴ These economic values (costs and benefits) could be used as the basis for calculating an adjusted 'sustainable development' GDP to factor in values of environmental and social capital otherwise excluded from the Yukon GDP figures. The Genuine Progress Indicator (GPI), developed in the U.S., provides a framework for this calculation.

Improve educational levels and opportunities	<ul style="list-style-type: none">➤ rates of employment by ethnicity gender and age➤ percent of Yukoners on social assistance	<ul style="list-style-type: none">➤ value of private expenditures on education➤ benefit from public education expenditures
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