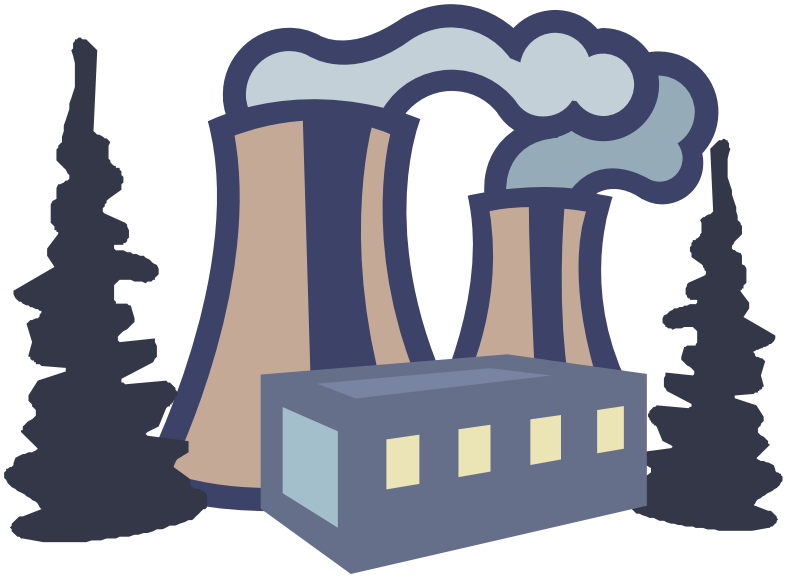
Environmental Sustainability, Growth, and the Future of Jobs:

A Debate Between Cliff Stainsby and Andrew Jackson



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Cliff Stainsby has been a researcher with the BC Government and Service Employees' Union since 1989. Prior to that, he worked with the Solidarity Coalition and was executive director of SPEC (Society Promoting Environmental Conservation) in BC. He is a resesearch associate with the CCPA BC Office.

Andrew Jackson

Andrew Jackson is Senior Economist with the Canadian Labour Congress and a Research Associate of the Canadian Centre for Policy Alternatives. He co-chaired the Employment Creation working group for the Alternative Federal Budget and is the author of the 1996 CCPA publication *The Future of Jobs*.

Introduction

In the interest of fostering constructive exchange on the progressive left, the Canadian Centre for Policy Alternatives has, on occasion, departed from its usual publication formats and published debates or dialogues on important and timely public policy matters. Our hope is that our members and others will find these publications a valuable and insightful contribution to the development of policy alternatives.

How to achieve full employment while simultaneously maintaining environmental sustainability is a critical issue for the progressive left. In particular, the issue of environmental limits to economic growth has caused tensions between labour and environmentalists, and has been hotly debated at Alternative Federal Budget schools and meetings. Ultimately, developing and promoting an alternative economic and social program that is also environmentally convincing represents one of the popular sector's greatest challenges.

Ultimately, developing and promoting an alternative economic and social program that is also environmentally convincing represents one of the popular sector's greatest challenges.

In January, 1997, the CCPA published a paper by economist Andrew Jackson entitled *The Future of Jobs*. Jackson's essay, originally published as a research paper by the Canadian Labour Congress in late 1996, and in the context of persistent high unemployment and rising interest rates, was intended as a critique of orthodox neo-liberal approaches to job-creation. It sought to challenge the prevailing OECD / Department of Finance position that the key to job creation was simply to make the labour force "more flexible." Jackson's paper highlighted many of the job-creation ideas called for in the CCPA/ Cho!ces Alternative Federal Budgets, including a call for increased economic growth through reduced interest rates and increased public spending.

The first of the papers that follows is a critique of Jackson's *Future of Jobs*, written by Cliff Stainsby. Stainsby, a long-time environmental and labour activist, has been a critic of the Alternative Federal Budget, on the grounds that the AFB's pro-growth approach is not environmentally sustainable. His paper challenges the value of using GDP as a measure of well-being, raises important points regarding the finite nature of our resources and the capacity of the earth to absorb pollutants, and proposes a set of prerequisites for achieving policy goals that are environmentally sustainable.

The second paper is a partial rebuttal by Andrew Jackson, in which he defends the goal of economic growth. Jackson contends that the quality of growth matters as much as the quantity. In other words, growth is desirable, provided public policy can ensure it is based on the more environmentally efficient use of natural resources, and concentrated on value-added production of goods and services (public as well as private).

Despite their differences, Stainsby and Jackson agree on many points. Both are researchers with the labour movement and committed to the improved well-being of working people. Both believe full employment is an achievable goal. And both authors believe a full employment program must include greater support for public services, improved redistribution of income and wealth, and the redistribution of work time.

Each year, the environmental component of the AFB becomes stronger and more convincing. This debate will not, of course, end here. We hope, however, you will find this publication a valuable contribution towards a more environmentally sustainable alternative policy program.

Seth Klein,
Director
Canadian Centre for Policy Alternatives
BC Office

Discarding a Deadly Fantasy

by Cliff Stainsby
Research Officer, BCGEU

"Do not confuse the moon with the finger that points at it"
– Zen Proverb

Introduction

Last year, the Canadian economy grew in real terms by 3.8 per cent and created 400,000 full-time jobs. The national unemployment rate crept below 9 per cent, the lowest rate since the recession of 1991. Despite this, however, more than 1.3 million Canadians were still unemployed. Real family incomes have fallen. Labour force participation rates have failed to return to their pre-recession level and more people are working in part-time jobs with few benefits and little security.

We can no longer afford to dwell in the fantasy world of continuously rising material standards of living. The clear need is for an agenda that leads to the creation of not just more jobs, but also of jobs that provide a decent standard of living, a reasonable level of security, and that promote sustainability.

Labour's response to the continuing jobs crisis has invariably been to promote policies that will accelerate economic growth. This is perhaps best reflected in *The Future of Jobs: A Labour Perspective*, authored by Andrew Jackson, senior economist with the Canadian Labour Congress.[1] The title is somewhat misleading. It is not a paper about the types of jobs the future holds; it is about the causes of and remedies for unemployment and low wages.

The Future of Jobs contends that we have a jobs crisis because there are too few jobs, and too many of the jobs that do exist are part-time, low paid, and provide no benefits or security. According to Jackson, the root causes of this crisis are:

> a deregulated and intensely competitive global capitalist economy, increasing international trade and investment flows eroding the power of labour relative to capital, macro-economic restraint, labour displacing technological change, technological and organizational change which polarizes the labour force, slow economic growth, [and] labour deregulation policies.[2]

Jackson offers one principal solution to the jobs crisis - faster economic growth:

"If, as in the 'Golden Age' [late 1940s to late 1970s], investment can be kept at high levels and the **production possibilities of the economy are continuously expanding, high growth** [emphasis added] will not be incompatible with relatively low and stable rates of inflation,"[3] and "The clear need is for an agenda which leads to the creation of not just more jobs, but also of jobs which provide a high and rising standard of living, and a reasonable level of security."[4]

He identifies several factors that are important in stimulating faster economic growth, including low interest rates, full employment policies, investment in research and development, regulating financial capital, regulating trade, increased unionization, increased cooperation between labour and business, the reduction and redistribution of working time, and an expanded and improved public sector.

Jackson even claims that there is virtually no limit to growth:

> Subject to financing - which is contingent upon overall economic growth and upon the willingness of people to pay taxes to finance a high level of collective as opposed to

> individual consumption - there is no limit to potential growth of employment in education, health care, elder care, publicly financed recreation, publicly funded artistic endeavours, and so on....Such a renewed expansion of the public sector is entirely feasible in **a higher growth world**.[5] [emphasis added]

In other words, as long as the economy is expanding, growth in these service and often public sectors is unlimited. This sounds suspiciously like saying that subject to supplies of food there is no limit to how much we can eat.

Which provides a good jumping off point for my critique, because it is this complete avoidance of the issue of scale that makes Jackson's paper not only unhelpful but dangerous as a guide to policy.

We can no longer afford to dwell in the fantasy world of continuously rising material standards of living. The clear need is for an agenda that leads to the creation of not just more jobs, but also of jobs that provide a decent standard of living, a reasonable level of security, and that promote sustainability.

Although he deals with market allocation of resources and social distribution of goods and services, Jackson fails to recognize the issue of scale. "Scale refers to the physical size of the economy relative to the ecosystem."[6] In order to be sustainable an economy must use material resources in quantities and ways that do not destroy the ecosystems upon which life depends. Because Jackson not only ignores scale but explicitly encourages unqualified growth, his agenda is not sustainable, cannot provide future jobs, cannot provide security, and is therefore not in the interests of working people.

With a proper set of regulations, environmental taxes, and depletion quotas, it may be that in some economic sectors growth that does not undermine our environmental life-support systems is possible for some time yet. No objection is raised here to pursuing such opportunities. What is objected to is Jackson's focus on growth as the core of economic policy, whilst ignoring biophysical limits entirely.

Jackson's faith in economic growth as the remedy for the jobs crisis is rooted in a problematic reading of the "Golden Age" of the Canadian economy. He concludes that with economic growth and increased productivity we can return to steady growth of living standards.

Incomes and Well-being

On the whole, while *The Future of Jobs* states that "a commitment to full employment involves moving in the direction of a different kind of economy and society,"[7] Jackson offers up more of the old orthodoxy — faster economic growth. It is, however, long past the time when the CLC should acknowledge that the planet is not getting larger and should become conversant with the scientific literature on thermodynamics, ecology and limits. It is time to pay heed to the closing of the east coast cod fishery, the depletion of the west coast salmon fishery, the wars in the woods, global per capita declines in food production, the worldwide shortage of irrigation water, the rapid extinction of species and loss of biodiversity, the problem of ozone depletion, and the threat of climate change. The implications of the above are immense for all working people.

Jackson's faith in economic growth as the remedy for the jobs crisis is rooted in a problematic reading of the "Golden Age" of the Canadian economy. Jackson states that "Until the mid to late 1970s, there was close to full employment, strong economic growth, a steady growth of productivity, and a steady growth of living standards for working people in terms of both wages and access to social programs and public services. Since that time, economic growth and productivity growth have both been much lower."[8] He concludes that with economic growth and increased productivity we can return to steady growth of living standards.

This conclusion raises several problems. First, the belief that between the late 1940's and late 1970's we had strong economic growth is based on measures of income or expenditures. In this context they amount to the same thing - gross domestic product

(GDP). And the clear implication is that because GDP increased so did our welfare. But was income rising? Was welfare increasing?

By conventional measures incomes were rising over this period. More goods and services were being purchased. Unfortunately, the calculation of GDP was, and remains, flawed.

A great deal of productive work is not included in GDP. For example, non market activity such as housework, child care, and barter are not included. These would tend to increase income above that measured.[9]

Moreover, during this period, we were liquidating our natural capital resources, polluting our environment and destroying habitat, and counting each dollar earned while doing these things as income. In economics the term Hicksian income is used. By this definition a person's (or a society's) income over some period is the amount they (it) can spend during the period and not be worse off at the end than at the beginning. Thus, it is folly to consider the drawdown of forest, fish, soil, or energy stocks, for example, as income because they leave society (and, in the long run, future generations) poorer at the end of the period than at the beginning. No business would count such drawdowns of capital stocks as income. Some would be counted as depreciation and some as liquidation of inventory. When stocks of renewable resources are drawn down subsequent yields are reduced and future income is reduced. It is only by increasing the stocks of renewable resources such as fish and trees and by keeping harvests lower than annual yields that society can increase its renewable resource income. In the 'Golden Age' resource stock reductions were inappropriately counted as income - as positives.

With a proper set of regulations, environmental taxes, and depletion quotas, it may be that in some economic sectors growth that does not undermine our environmental life-support systems is possible for some time yet. No objection is raised here to pursuing such opportunities. What is objected to is Jackson's focus on growth as the core of economic policy, whilst ignoring biophysical limits entirely.

The measure of economic growth in this period was flawed in another crucial way. When the environment was polluted as a result of economic activities, the dollars earned while polluting were counted as income and so were the dollars earned preventing and cleaning up pollution (defensive expenditures). For example, the 1989 Exxon Valdez oil spill in Alaska greatly increased the income of Alaska because many dollars were earned drilling, piping and shipping the oil, and billions of dollars were earned cleaning it up after it spilled. All these dollars are conventionally counted as income, and were so counted during the 'Golden Age'. Many billions of dollars were earned in this era through the pollution of the environment and the destruction of habitat. In each case, even though subtractions from income were appropriate, only additions were made.

The net result is that nobody knows if income, properly counted, actually increased in this period. All that is known is that people and societies earned and spent more money on increasing amounts of goods and services, some on beneficial goods and services, some on defensive expenditures.

But did our well-being increase? Evidently not!

For instance, consider that persons spending a lot of money fighting cancer or going through expensive divorces contribute greatly to GDP. Do increasing cancer and divorce rates indicate increasing welfare? If GDP is the measure, the answer is yes! And GDP is the measure used.[10]

Recognizing the limitations of GDP as a measure of economic well-being, some economists have attempted to measure welfare by adding up the benefits (consumption of goods and services) and subtracting the costs (resource depletion, pollution, habitat loss, health care costs, loss of farmland, etc). Economists William Nordhaus and James Tobin developed a Measure of Economic Welfare (MEW) and calculated it for the period 1929 to 1965. They

concluded that welfare increased with GDP increases, albeit somewhat more slowly. However, Herman Daly and John Cobb Jr. examined the MEW and showed that in the period from 1947 to 1965 per capita GDP grew six times as fast as per capita MEW, 2.2 per cent per year as opposed to 0.4per cent per year. The link between GDP and welfare during this period was very tenuous. Indeed, in some of Nordhaus's and Tobin's scenarios for this period welfare actually decreased.[11] More recently, Daly and Cobb developed an Index of Sustainable Economic Welfare (ISEW) which shows that welfare has actually fallen since the early 1970s.

In summary, it seems that for the 'Golden Age' we really do not know what was happening to income, and overall welfare likely increased very little. Since then, although GDP has increased, the movement of income is again unknown and welfare has actually declined. Although both the MEW and ISEW were calculated for the United States, our standards of living and lifestyles are similar, as is our method of calculating GDP.

The "Golden Age," as Jackson notes, was also characterized by gains in productivity, or the efficiency with which the economy transforms inputs into outputs. However, standard economic measures of productivity largely fail to take into account how efficiently resources and energy are used.

Productivity

The "Golden Age," as Jackson notes, was also characterized by gains in productivity, or the efficiency with which the economy transforms inputs into outputs. However, standard economic measures of productivity largely fail to take into account how efficiently resources and energy are used. For instance, it has been argued by mainstream economists that environmental regulations account for some or much of the stagnation of productivity over the past two decades. However, economists at the World Resources Institute (WRI) have recently challenged this notion:

> The current methodology [of calculating productivity] leads almost inevitably to the conclusion that environmental protection reduces productivity growth. Though this perception is reinforced by extensive empirical work, it is basically an artifact of the methodology now being used and is not necessarily correct. Environmental regulations have induced firms to reduce emissions by altering production processes, mainly by installing pollution-abatement equipment (e.g., exhaust gas scrubbers and wastewater treatment plants). Purchasing inputs whose main function is to curb pollution has raised input costs with no corresponding increase in marketed outputs. Thus, since the productivity measure gives industries no "credit" for reducing emissions, however damaging, measured productivity has been depressed.[12]

The first law of thermodynamics states that energy/matter can neither be created nor destroyed. Thus, inputs to industrial processes must equal outputs - the form is what changes. For example, high quality energy (electricity or oil) plus material resources (wood, copper) are inputs; low quality energy (waste heat), waste minerals, waste wood, polluting chemicals, habitat loss and manufactured products are outputs. Conventional productivity measures compare only the total inputs with the manufactured product output. However, proper comparisons would compare total inputs and outputs, and on the output side would subtract the negative (harmful) outputs from the manufactured product (positive) output. After all, it should be the net benefit that interests us.

The WRI found that if they assessed the full picture, environmental regulations actually enhanced productivity in the three sectors they studied - electric power, pulp and paper, and farming. In the electricity sector for instance, between 1970 and 1991 conventional measures suggest that productivity decreased -0.35 per cent per year, while a more appropriate assessment (measuring good and bad outputs) shows that because of environmental regulations productivity actually increased between 0.68 and 0.38 per cent per year. In other words workers were being more productive (increasing net benefits) by reducing the

amount of unwanted outputs, and thus reducing the social cost of production.

Similarly, the *Environmental Damage Valuation and Cost Benefit News* (October 1996, vol. III, #10) reported on an economic analysis of the impact of the US Clean Air Act. It considered impacts on mortality, heart attacks, strokes, hospital admissions, respiratory illness, work loss days, restricted activity days, asthma attacks, IQ changes, hypertension, decreased worker productivity, visibility (absence of air pollution), household soiling, and agriculture. According to the report:

> The researchers found that 90 per cent of the credible estimates for the total monetized benefits of the Clean Air Act during the period of 1970 to 1990 were within the range of 2.7 to 14.6 trillion US dollars, with a central estimate of $6.8 trillion. Compliance costs were estimated at $436 billion, annualized costs rose from $11.5 billion to $25.1 billion between 1973 and 1990. Net benefits of the Clean Air Act were thus $6.4 trillion. Most of the net benefits resulted from reductions of lead and particulate matter.[13]

We must shift destinations, develop indicators which more accurately reflect our environmental, social, and economic well-being, and implement policy tools which will constrain our activities within the bounds of ecological limits and social justice. At a bare minimum our destination ought to be a sustainable, just, equitable, democratic society which provides a decent quality of life for all.

The point is that using more thorough measures of income and productivity - measures that do not ignore the fact that the world is fundamentally biological, ecological, chemical, physical, and social, - provides a better picture of economic performance, of the economy's contribution to social well-being, and of the links between the economy and the environment.

Clearly, if the economy is to sustain increased human welfare it must not destroy the environment. Yet, unfortunately, that is precisely where Jackson's prescription will lead. He makes no mention of growth being contingent upon better measures of income or productivity, and he makes no mention of ecological limits to growth. Finally, he has not shown that since 1947, even in the 'Golden Age', growth has made us better off.

For the short run, if Jackson's scenario were to work out as planned, people moving from unemployment to employment would obviously benefit. However, in the long run all will suffer, and even in the short run the societal costs may well exceed the societal benefits.

In fact, the costs of growth may already be greater than the rewards. This is supported by the MEW and ISEW. Also, Ralph Estes, a professor of business administration, has identified over $2.6 trillion per year of externalized costs in the United States. That figure does not even include the costs of ozone depletion, global warming, habitat loss, ecosystem destruction or the drawdown of resource stocks.[14] Similarly, economist Lutz Wicke concluded, in a 1985 study, that the externalized costs of environmental degradation in Germany amounted to between 5 per cent and 10 per cent of German GDP. [15]

Including these numbers (and each of them is almost certainly an underestimate) paints a rather different picture of the success of economic growth. If full employment is our goal, it is not going to be reached in any satisfactory way through continued economic growth patterned after that of the 'Golden Age'.

Good reasons exist to think that globally we have already reached the limit of some resource inputs to the economy: for example, such resources as water in much of the world, soil in much of the world, hydrocarbon fuels, trees and fish in much of the world, and many toxic chemicals and hazardous materials. Some of the limits relate to the ability of the planet to provide resources (eg. fish, trees) and some to the ability of ecosystems to absorb our pollutants (e.g. global warming, ozone depletion, toxic leachates into waterways). The Union of Concerned Scientists, including over half of the living Nobel prize winners, stated the mater bluntly: "The earth is finite. Its ability to absorb wastes and destructive

effluent is finite. Its ability to provide food and energy is finite. Its ability to provide for growing numbers of people is finite. And, we are fast approaching many of the earth's limits." [16]

The upshot is that until someone can show that limits do not exist, that our consumption of resources does not exceed the ability of the ecosystems to provide them sustainably, full employment in Canada should come from redistribution of wealth, income, and work, and reallocated investment, in an economy that is scaled appropriately to the ecosystem. While resource allocation may best be primarily determined by the marketplace, I suggest that distribution and scale are social decisions to be imposed upon the marketplace.

Recommendations

So, where do we go from here? To begin, let me acknowledge the obvious - the future is unknown and unknowable. The best we can do is take a hard look at where we are and where we have come from, identify some desirable achievable destination, and plot how to get there.

Many of Jackson's prescriptions for the future are fine. I agree with him about the redistribution of income and wealth, the need to control trade, the need to reregulate the world of finance, the need to reduce corporate power, and the need for unions and the public sector. However, the problem with Jackson's paper is that his assessment of where we have come from is nostalgic and based on flawed measures, and his destination is unachievable. We must shift destinations, develop indicators which more accurately reflect our environmental, social, and economic well-being, and implement policy tools which will constrain our activities within the bounds of ecological limits and social justice.

At a bare minimum our destination ought to be a sustainable, just, equitable, democratic society which provides a decent quality of life for all. Some prerequisites for reaching such a destination include:

1. Recognizing that healthy societies are entirely dependent upon healthy environments;
2. Recognizing that economies ought to be social tools for achieving healthy societies;
3. Recognizing that economies are entirely dependent upon healthy environments;
4. Recognizing that the environment has limited ability both to provide material resources/energy and to absorb wastes and pollution;
5. Recognizing the need to define social goals that conform to environmental limits;
6. Recognizing the need to scale our economic activities to the regenerative and absorptive capacities of the environment;
7. Accepting the notion that the determination of appropriate scale is properly within the realm of social policy;
8. Recognizing that social policy on scale should be based upon our values and best judgments as citizens and upon the best science of the day;
9. Distinguishing between growth and development – growth is quantitative, development is qualitative;
10. Recognizing (nationally and globally) that reasonable equity of income and wealth is essential for democracy, justice, and likely for sustainability, as well.
11. Recognizing the primarily complementary relationship between natural and human made capital; recognizing that the standard neo-classical assumption that human made resources can be substituted for natural resources is very frequently not true.

Convincing society of the prerequisites may seem an enormous task. However, considerable debate, thought, and literature has been devoted to each of the issues identified. We must focus not only on the individual but on the collective as well, not only on people as consumers but primarily on people as citizens, not on economics as a goal but on economics as a social tool. But first, we must abandon the arrogant and mistaken belief that humans are not constrained by environmental limits.

Satisfying prerequisites 1 and 2 requires that we develop indicators of environmental health and sustainability, and indicators of social well-being.

These would include, on the environmental side, such things as indicators of air, water, and soil quality and availability, as well as biodiversity and ecosystem health. On the social side, indicators of such things as happiness or satisfaction, equity, health, education, and community sustainability would be required.

Prerequisites 2, 5, 7, 8, 9, and 10, require that people step away from their roles as consumers and behave as citizens who have collective interests in the environment, in their societies and communities. We all have a role in making and enforcing the rules that govern us. Citizens will have to assert themselves if they expect society to operate in their collective interests, to fulfill their obligations to each other, and to benefit from their rights. At the moment, unfortunately, the government, much to the delight of the right wing, operates as if only consumers exist and that the needs of people are expressed solely through the market place.

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Prerequisite 10 suggests that establishing maximum and minimum incomes is appropriate. The huge incomes of managers of large corporations, and sports and entertainment stars, reveal the odious and inequitable results of leaving income distribution to the market. These inequities threaten democracy. In the words of Lester Thurow,

> The system that has held democracy and capitalism together for the last century has started to unravel. As earnings distributions widen due to globalization and a skill-intensive technological shift, and as government seems unable or unwilling to do anything about it, that majority of workers who face lower real earnings has to become disaffected sooner or later with democracy.[17]

People ought to ask why dominance in the market (high incomes) confers preferential education, health care, shelter, clothing, food, etc. And people ought to ask how they benefit from being law abiding citizens, why it is in their interests to contribute to society when the benefits are so inequitably distributed. If large numbers find themselves unable to answer these questions satisfactorily, both democracy and capitalism could be in for a rough ride.

Prerequisite 10 also suggests that full employment policies ought to be a high priority. We will not achieve full employment if we continue to focus on energy and capital intensive production and if, in the name of international competitiveness, we continue to downsize the labour force.

Prerequisite 9 focuses on the need to shift from emphasizing "more" to emphasizing "better" in order to achieve sustainability. The term sustainable development has become a buzz word for all sides of the growth debate. To some it means sustainable growth; to others it means economies and societies which are ecologically sustainable. It is useful to follow the lead of Herman Daly and distinguish between growth and development.[18] He defines growth as quantitative and development as qualitative. Examples of development include improvements in the quality of services such as education, improvements in the efficiency with which resources are turned into products, and improvements in the amount of satisfaction derived from products (for example refrigerators that last longer and thus provide more service). Very real limits to growth exist. Sustainable development makes sense, while sustainable growth is an oxymoron.

Christopher Flavin expresses it this way, "Although many think of development in simple economic terms, it can be better thought of as an increase in the options available to people - for meeting their basic needs for food, shelter, and education, for example. As biological and cultural diversity are diminished, those options are reduced."[19]

Most of the prerequisites listed above relate to the need to recognize environmental limits and to scale economic activities to conform to those limits.

To maintain an appropriate scale, resource/energy throughput limits - the flow beginning with raw material inputs, followed by their conversion into commodities, and finally into waste outputs - must be established.[20] These limits are biophysical, ecological and social. I suggest that we combine the best science of the day with our values and best collective judgments as citizens to determine what levels of ecological exploitation by humans is sustainable and desirable (prerequisite 8). These determinations should establish the socially permissible levels of resource/energy consumption and of pollution. Regulations plus a range of economic instruments can be employed to constrain consumption within these limits. In this manner we can establish a sustainable and desirable supply of resources to the marketplace where prices and allocation can be determined.

Of course, the range of scientific opinion and values is considerable and debates will be heated, but through debate social and economic policy can be based primarily on the public interest and our knowledge of the environment.

We should also shift our tax base away from taxing "goods" (things we want, like work, income, products, services, savings, investment, productivity) to taxing "bads" (things we don't want such as pollution, resource waste, and habitat destruction). I recommend a revenue neutral shift to environmental taxes and depletion quotas. For every new dollar of tax revenues from environmental taxes, a dollar of revenues from existing taxes should be removed. The taxes to be removed should be selected carefully to enhance equity, to increase employment, and to improve the environment. For example, reducing or eliminating the GST would help low income people. Funding Employment Insurance or the Canada Pension Plan through environmental taxes would lower the cost of employees and enhance employment. Reducing taxes on energy efficiency and renewable energy sources would not only reduce our impact on the environment, it would also increase employment as these sectors are far more labour intensive than the coal, oil, gas, and nuclear sectors.

We should also shift our tax base away from taxing "goods" (things we want, like work, income, products, services, savings, investment, productivity) to taxing "bads" (things we don't want such as pollution, resource waste, and habitat destruction). I recommend a revenue neutral shift to environmental taxes and depletion quotas.

Unlike other taxes environmental taxes not only tax the "bads," but they are economically efficient. Because they reflect the costs of environmental damage that are currently externalized, environmental taxes will improve the price signal, and if market theory has any validity at all will lead to better resource allocation because consumers will make better choices. Thus, imposing efficient environmental taxes while removing existing distortionary taxes should improve the functioning of the market. Robert Repetto and his researchers at the World Resources Institute in the United States suggest:

> [T]he total possible gain from shifting to environmental charges (resource taxes, depletion taxes, environmental financial charges) could easily be $0.45 to $0.80 per dollar of tax shifted from "goods" to "bads" with no loss of revenues. The gains would come in the form of improved environmental quality, reduced needs for infrastructure, higher rates of savings and investment, increased employment, and faster productivity growth.[21]

In a similar vein, the European Environmental Agency, an agency of the European Union, analyzed the performance of 16 existing environmental taxes in 1996 and concluded that "if environmental taxes are well designed, they could deliver improvements in four key areas of public policy: the environment, innovation and competitiveness, employment, and the tax system."[22] By increasing the cost of resources relative to the cost of labour and by reducing or eliminating other taxes that make labour expensive (such as payroll taxes), environmental taxes may boost employment.

The autumn 1996 edition of the Wuppertal Bulletin on Ecological Tax Reform reports that,

> The Management Board of the German trade unions proposes that in 1997 'a revenue neutral energy tax on all fossil fuels and electricity, except electricity from renewable resources' should be introduced. In its paper on the use of economic instruments in achieving social and ecological changes it states 'an innovation offensive aimed at securing Germany's long-term future as an industrial location' must be at the heart of an integrated strategy on the economy and the environment, whose aims should be to fight unemployment and the degradation of the environmental and social bases of living standards.[23]

With respect to prerequisite 11, we must recognize that human labour and human made capital are complements to, not substitutes for, natural capital. For example, we are short of fish and trees not fish processing plants and mills or fish plant and mill workers. We must not forget that all human made capital originates from natural resources. We cannot employ people if we destroy the natural capital upon which their employment depends. Consequently, we should massively invest in natural capital - forests and fish, for example - to restore and increase stocks which will restore and increase future income, and to, wherever possible, compensate for the depletion of non-renewable resources.

The real future of jobs lies in reconciling our behaviour to ecological reality, in our willingness to forge new visions that are sustainable and just. Fundamentally, the future of jobs requires us to abandon the ideology of Progress and to adopt an ideology of Sustainability and Fairness. To its credit, the Canadian Labour Congress promotes fairness; now it must get serious about sustainability.

Summary

We may have to accept, particularly if population increases, that our average material standard of living may not be able to increase. We will have to adjust our wants to what is sustainable. To the extent that JS Mill is right - "Men do not desire to be rich, but to be richer than other men"[24] - the introduction of minimum and maximum income levels may reduce the demand for material goods somewhat by reducing the excessive consumption of the rich. In the words of Herman Daly, "To the extent that welfare depends on relative position, growth is unable to increase welfare in the aggregate."[25]

In other words, we must abandon the ideology of Progress - "the promise of steady improvement with no foreseeable ending at all."[26] On the origins of the ideology, Christopher Lasch states,

> Its original appeal and its continuing plausibility derived from the more specific assumption that insatiable appetites, formerly condemned as a source of social instability and personal unhappiness, could drive the economic machine - just as man's insatiable curiosity drove the scientific project - and thus ensure a never ending expansion of productive forces.[27]

The time has come to acknowledge that the never ending expansion of productive forces is not sustainable and that insatiable appetites will lead to social and environmental collapse. If John Stuart Mill is correct, the insatiable appetites can be curbed, in part, by narrowing the income differentials in society.

Even while manifesting themselves as daily human and environmental tragedies, the job and environmental crises offer an opportunity for working people, social justice groups and environmental groups to propose credible, workable alternatives. Those trapped in the ideology of Progress have nothing to offer but more growth, the very offering whose failures created the social conditions we abhor. As long as we remain chained to Progress, we will have to accept that employment, social justice, and ecological health play second fiddle to growth. By abandoning the growth mantra, by recognizing biophysical reality and the social failings of Progress, we free ourselves to create alternatives based on ecological health, social justice, and equity. Thus we provide ourselves with something to fight for, and a base from which to assail the neo-conservatives.

The real future of jobs lies in reconciling our behaviour to ecological reality, in our willingness to forge new visions that are sustainable and just. Fundamentally, the future of jobs requires us to abandon the ideology of Progress and to adopt an ideology of Sustainability and Fairness. To its credit, the Canadian Labour Congress promotes fairness; now it must get serious about sustainability. Its recent initiatives on pollution prevention and its development of the concept of "sustainable production" are major advances, not just for labour but for society as a whole, and place labour full square on the path to sustainability. I suggest that the ideas in this paper and the implications of "sustainable production" converge very nicely, and form the basis for a Canadian Labour Congress jobs agenda that is equitable and socially and environmentally sane.

In Defence of (Sustainable) Growth

by Andrew Jackson
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The debate, opened up by Cliff Stainsby through his comments on my "Future of Jobs" paper, is an important one for the left, and his criticisms are welcome in that they form a basis for a constructive discussion in which I hope others will participate. Some of this debate has already taken place under the auspices of the emphatically pro growth CCPA/CHO!CES Alternative Federal Budget project, though the "greening" of the AFB, notably in 1998, has left some differences with environmental activists unresolved.

The most central underlying question, as posed by Stainsby, is whether the left should embrace or reject a pro economic growth agenda. I strongly agree with him that growth in living standards is not the same as growth in GDP, and that welfare cannot be reduced simply to consumption. Further, I strongly agree that growth must be made environmentally sustainable. However, I do not believe that the left or the labour movement should abandon economic growth as a key goal or must do so on environmental grounds. Below, I argue that economic growth can be made much less resource intensive and less environmentally damaging, that high levels of GDP are not necessarily associated with unsustainably high levels of resource use or pollution, and that the costs of achieving environmental sustainability are likely much smaller than Stainsby implies.

Not to be misunderstood, my position is that the goal of growth should be qualified and modified with respect to the principles of environmental sustainability, i.e. that primacy should be given to sustainability in the event of a clash with the environmental consequences of growth. For example, if the reduction in carbon dioxide and other emissions needed to avert global warming does result in a reduction or even cessation of growth for a considerable period of time, then that consequence must be accepted as the price of maintenance of a habitable ecosystem. We would be fools not to act on a precautionary basis in order to avert potential catastrophe. However, I do not believe that the balance of evidence indicates that "sustainable growth" is an oxymoron, and some grounds for this argument are set out below.

I do not believe that the balance of evidence indicates that "sustainable growth" is an oxymoron. "Sustainable growth" is the best possible context for making progress with respect to both our environmental and broader social goals, such as full employment and a high and rising standard of living for workers.

The issue of the sustainability of growth is ultimately an empirical question which can be resolved on the basis of the evidence. But it is also a political question. "Sustainable growth" is the best possible context for making progress with respect to both our environmental and broader social goals, such as full employment and a high and rising standard of living for workers.

I find it difficult to see how a political constituency can be built for sustainability if it is accepted that this implies, at best, no further increase in living standards. This is particularly the case given that massive disparities in the global economy mean that equity within the context of a no-growth global agenda could be achieved only through a huge reduction in living standards on the part of workers in the North, and through very limited progress for workers in the South. In short, I see no good reason

for environmentalists to be excessively pessimistic on the potential for sustainable growth.

Stainsby, quite correctly, charges me with "complete avoidance of the issue of scale" and he opens up a range of issues which are extremely important, and which were not addressed in my paper. Environmental issues could and should have been noted in my argument given the strong focus on the need for growth. While pleading partially guilty as charged, it should be noted that the key purpose of the paper was to critique the orthodox right-wing prescription for job creation — a liberalized global economy, macro-economic restraint, and labour market deregulation. The right-wing agenda has produced a jobs crisis in significant part because of economic stagnation, and it is important, to my mind, to make the case for expansionary macro-economic policies as part of the solution. The broad argument of the paper was quite consistent with the advocacy of pro economic growth policies in CLC policy documents and in the CCPA/ CHO!CES Alternative Federal Budget

The right-wing agenda has produced a jobs crisis in significant part because of economic stagnation, and it is important, to my mind, to make the case for expansionary macro-economic policies as part of the solution.

Stainsby argues that growth of GDP should not be equated with increases in welfare. Certainly in welfare terms, the key variable is the growth of GDP per capita, and it should be clearly understood that a pro economic growth argument is not an argument for population growth. GDP per capita is a measure of the total production and consumption of goods and services, as valued by the market. As such, it measures changing levels of private consumption of goods and services, as well as the level of public and social services (as measured by labour inputs). Before qualifying and modifying this as a measure of welfare, as is appropriate, it is important to note that access to goods and services, both privately and collectively provided, is a crucial component of welfare in a market society. There are a lot of things excluded from the measure which must indeed be taken into account in a broader assessment of welfare, as spelt out below, but few workers are indifferent to the trend of real wages over time or to the availability of quality public services.

While my paper did neglect environmental issues, it touched upon a range of issues which could and should, as Stainsby suggests, be included in a broader measure of welfare. Thus explicit attention was paid in the paper to the growth of insecurity and to the increase in inequality among workers over the past two decades and more, and some attention was paid to differences in the labour market experiences of women and men. The paper also argued that access to a high level of public and social services is a crucially important part of a high standard of living. In short, social well-being was not just equated with levels of personal consumption, but also incorporated important distributional issues. The paper also laid a great deal of emphasis on reduction and redistribution of working time, noting that a reduction in hours should be seen as an important part of a rising standard of living.

The following extract shows that the paper did not reduce social goals to growth alone.

"Ultimately, a commitment to full employment involves moving in the direction of a different kind of economy and society.

"As argued above, the public services and not-for-profit sectors have been crucially important sources of good jobs, particularly for women, and have been a major element underpinning the relatively unpolarized labour markets and societies of some European countries. Subject to financing — which is contingent upon overall economic growth and upon the willingness of people to pay taxes to finance a high level of collective as opposed to individual consumption — there is no limit to potential growth of employment in education, health care, elder care, publicly financed recreation, publicly funded artistic endeavours, and so on.

"The reduction and redistribution of working time must also be part of a comprehensive jobs' strategy. If the gains from high and rising productivity are appropriated, in part, in the form of rising levels of

consumption and, in part, in the form of shorter regular working hours, then more workers can be employed at any given level of output with no reduction, and indeed further increases, in levels of consumption and material well-being.... Over the medium to long term, if there is strong productivity growth, the amount of work time necessary to sustain a high level of both private and public consumption could drastically fall, allowing for the creation of a radically different way of working and living."

I would agree in principle that we need broad measures of economic and social welfare such as the Genuine Progress Indicator (or GPI) to supplement or even replace GDP, and the CLC is currently participating in a project coordinated by the Centre for the Study of Living Standards to develop alternative indicators. Such a measure should explicitly include measures of income insecurity, income inequality, and access to leisure time, as well as quality of work life and community health indicators. Gender dimensions also need to be incorporated. Clearly, a measure of whether we are becoming "better-off" as a society should include these dimensions, along with adjustments for environmental and other costs which are included in GDP such as the costs of crime prevention.

Stainsby argues, correctly, that GDP as a measure of income should be qualified to take into account future states of nature and environmental costs which arise from growth. However, a number of complications arise. A major problem with the Genuine Progress Indicator and similar constructs is that the more an index of welfare is broadened, the more subjective weights have to be attached to each of the components. For example, the GPI incorporates the depletion in wetlands and the crime rate — which is justifiable — but the weighting criteria give wetlands eight times more importance than the crime rate.

A broader indicator might also include, as Stainsby suggests, measures of the value of household production, which is not counted in GDP since it is not sold on the market. It is, indeed, important to measure such production or at least time spent in domestic labour, not least because it gives recognition to the unpaid work of women. It can, however, be questioned if inclusion of household production in GDP would indicate declining welfare over time as Stainsby suggests. In fact, household production has tended to decline relative to the market economy with the entry of women into the paid labour force. While the "double burden" of market work and work in the home has increased, the entry of women into paid work has also been associated with increased market and public sector production of child care and a range of other services and goods now counted in GDP which were once produced at home. Most women would not see it as "progress" if household production were to increase because of cuts to child care and elder care or because women returned from work in the labour market to work in the home. In short, the increase in GDP, which has resulted from the movement of women from the home to the labour market, has, arguably, been welfare enhancing.

Stainsby argues, correctly, that GDP as a measure of income should be qualified to take into account future states of nature and environmental costs which arise from growth. However, a number of complications arise. A major problem with the Genuine Progress Indicator and similar constructs is that the more an index of welfare is broadened, the more subjective weights have to be attached to each of the components. For example, the GPI incorporates the depletion in wetlands and the crime rate — which is justifiable — but the weighting criteria give wetlands eight times more importance than the crime rate. The important point is that a GPI becomes quite subjective very quickly. The merit of GDP, by contrast, is that it does at least measure what is valued by the market, as it is valued by the market.

While GDP is a measure of market production and consumption, rather than of welfare, alternative measures of well-being did tend to closely track it over time. However, a growing gap has emerged the closer the series approaches the present. GDP and broader measures, such as the GPI, were close

approximations until the end of the Golden Age, when they diverged in significant part because of increasing social inequality, increased insecurity, and increases in working time. Interestingly, it is far from clear or evident that the explicit inclusion of environmental criteria in GDP would affect judgements of broader welfare trends over time.

We could, and should, measure and monitor a wide range of environmental indicators and judge social progress accordingly. Stainsby argues that these would indicate a decline in our real level of well-being, but this conclusion is debatable. Environment Canada publishes regularly a wide range of environmental indicators, many of which show significant improvement over time. (These can be found on the Environment Canada web site: www.ec.gc.ca.) For example, since 1979, most indicators of urban air quality have shown major improvements (with the important exception of ground level ozone); acid rain causing depositions have sharply fallen; the level of treatment of municipal wastewater has increased significantly (though it is still low by international comparison), and there has been a major decline in some widely recognized contaminants such as persistent pesticide residues. Progress in all of these areas is testimony to successful campaigns by environmentalists in a period of economic growth, though there are disturbing signs that progress made in the 1970's and 1980's is being reversed as governments bow to corporate pressures to deregulate. Environmental progress depends on the outcome of political battles, and there is no automatic progress. There is, however, some truth in the idea that more affluent societies are prepared to pay the costs of reducing pollution.

The Atlantic cod fishery and the exhaustion of old growth forests are arguments for resource conservation and management in the interests of long-term, economic well-being, not an argument that growth is limited by resource scarcity.

Other indicators have, of course, moved in the wrong direction. Perhaps most disturbing, greenhouse gas emissions show an alarming increase. The point is by no means to argue that everything is getting better, but rather to note that the past 20 years has seen an important measured improvement in many aspects of the natural environment. To the extent that GDP was supplemented by these measures, it is far from clear that a downward adjustment would be appropriate.

A second major environmental revision to GDP would involve accounting for the depletion of stocks of renewable and non renewable resources. To the extent that income is gained simply from depletion of the stock of non renewable resources, it is not real income but rather a reduction in wealth available to future generations. Again, indicators are available. Statistics Canada has done a lot of work in this area. (See *Econnections: Linking the Environment and the Economy*. 1997.) In principle, one can measure changes in resource stocks with reference to physical quantities (e.g. available barrels of oil) or values (available barrels of oil times the price per barrel). With respect to physical measures, some resource stocks have risen (e.g. natural gas, coal) as a result of new discoveries exceeding the rate of exploitation, while stocks of others, such as conventional crude oil, have fallen. Value measures have tended to fall over time because the prices of a wide range of resources, notably oil and minerals, have fallen. The real value of resources in Canada per person fell by one-third between 1971 and 1995, indicating a decline in wealth which could be deducted from national income, but this was driven more by a trend of falling prices than by resource depletion.

Falling resource prices are an indication of excess supply rather than of excess demand pushing on a finite and falling supply. While it is true that, in some ultimate sense, non renewable resources can be exhausted, in a practical sense this can be postponed, notwithstanding economic growth, because of new discoveries, because rising prices make previously non economic resources commercially accessible, because cheaper and more efficient resource extraction methods become available, because of recycling, and because of the existence and use of substitutes, among other factors. The case of oil is an important case in point. Notwithstanding

economic growth, world oil prices have been steadily falling in real terms since the OPEC price shocks of the early and mid 1970's to the point where they are now lower in real terms than at any time in the past 30 years or so.

Stainsby's argument that finite resource stocks pose an ultimate barrier to growth may be true. A good argument can certainly be made that the next doubling of the world's population and growth in the developing world will finally bear out the argument of Malthus that there are absolute limits to growth set by resource scarcity. (See Bill McKibben. *"A Special Moment in History." The Atlantic*. May 1998.) The key limits on the carrying capacity of the planet include food production, access to water, and the threat of global warming. It would be extremely foolish to ignore expert warnings, which compel us at a global level, to stabilize population growth and to reduce the resource extensiveness of economic growth, as well as the environmental externalities of production. But the point remains that these limits are highly uncertain, and that growth to this point has not been associated with exhaustion of the global stock of non renewable resources, but rather with a general tendency for resource prices to fall. Further, advocacy of growth does not mean that one favours continuing population growth, and historical experience suggests that growth in income per person tends to reduce population growth.

Stainsby is, of course, totally correct to note that both renewable and non renewable resources have been pillaged and destroyed in the search for quick income at the expense of long term wealth available to future generations, but the extinction of the Atlantic cod fishery and the exhaustion of old growth forests are arguments for resource conservation and management in the interests of long-term, economic well-being, not an argument that growth is limited by resource scarcity. Any sensible long-term growth strategy would place great emphasis upon the maintenance and enhancement of renewable resources and the appropriate stewardship of non renewable resources, not their quick destruction.

The key questions posed by Stainsby which have to be answered are whether economic growth can be made both less resource intensive and less damaging to the natural environment in terms of destructive "externalities" such as pollution and global warming.

With respect to resource intensity, it can be noted that the resource intensity of growth has been falling significantly over time. In other words, we tend to use less energy, less copper, and less steel per unit of GDP over time. To take one important example, *Canada's Energy Outlook* produced by Natural Resources Canada, forecasts, in line with past experience, that end use demand for energy will increase only about one-third as fast as GDP between 1995 and 2020 (27% vs. 70%). End use demand in the residential sector is forecast to decline because of increased efficiency, despite continuing population growth. Declining resource and energy intensity is associated with the shift of the economy from goods producing industries to services, and with gains in efficiency in the use of resources. With respect to the various destructive environmental externalities of production, these can, in principle, be limited and controlled through a wide range of technical means. The key question becomes whether the "technical fixes" which are needed to dramatically increase energy and resource efficiency and to reduce externalities are adequate to permit per capita growth to continue.

Long-term economic growth is driven above all by what economists term "total factor productivity" — the efficiency with which labour and capital are combined to produce goods and services. We do not grow over time primarily by working longer hours or by investing more and more of our output. Rather growth comes primarily from the growth of knowledge, as embodied in technology and in skills. As Stainsby argues, the traditional economic concept of productivity has to be supplemented by a different measure of efficiency — how efficient we are in terms of our use of inputs such as energy and resources, and how efficient we are in terms of reducing waste and pollutants such as carbon emissions and toxins released into the environment.

There is clear evidence that efficiency in these terms differs greatly between sectors. For example, measures exist of toxic releases from different industries (the National Pollutant Release Inventory) which

show that — with all manufacturing weighted at 100 — toxics release from refined petroleum industry is 1165 and the chemical industry is 823, while the beverage and machinery industries have an index of one. Carbon emissions also come disproportionately from some heavy industries, such as steel, and the energy intensity of production varies enormously. Perhaps the rather obvious point is that environmental efficiency will vary greatly depending upon the industrial structure, and that it will tend to increase as the economy shifts towards services and towards the so-called "knowledge-based" sectors. Releases of toxins and energy consumption are relatively low in health care, software development, and the cultural sector, to name three fast growing industries. Environmental efficiency also varies greatly with the level of technology. The Canadian steel industry may be a major polluter compared to service industries, and more polluting than it should be given available techniques, but it is vastly more efficient in its use of material inputs and minimization of waste than the Chinese or Indian steel industry.

It can also be noted that the environmental efficiency of national economies varies greatly depending upon the extent to which environmental regulations and measures have been implemented and enforced. The Netherlands, for example, has a per capita GDP about equal to Canada, but is a much more environmentally efficient economy. West European economies tend to operate at much higher levels of energy efficiency than does North America because of higher prices and more stringent regulation, but per capita income levels are not appreciably lower as a result and, arguably, the quality of life on broader measures is much higher.

The central, very general, point is that the implications of growth for the environment depend upon the environmental efficiency of the economy. Growth is not limited by environmental constraints to the extent that we can become much more environmentally efficient and still produce more goods and services per person.

The implications of growth for the environment depend upon the environmental efficiency of the economy. Growth is not limited by environmental constraints to the extent that we can become much more environmentally efficient and still produce more goods and services per person.

This general point can usefully be illustrated with reference to perhaps the most daunting environmental challenge — global warming. It is now well-established that industrial growth and development have contributed to significant changes in the global climate, and that emissions need to be reduced substantially and then stabilized in order to limit the threat of irreversible change and damage to the global ecosystem. However, business interests, particularly interests associated with high carbon emission industries, have argued that major cuts to greenhouse gas emissions would compromise growth and job creation.

A large number of detailed economic studies, in fact, indicate that significant reductions in greenhouse gas emissions could be achieved at modest or even no cost in terms of economic growth, and with positive benefits in terms of job creation. Most notably for Canada, the Rational Energy Program put forward by the Climate Action Network was assessed by Natural Resources Canada and Informetrica Ltd. The key conclusion was that a 22% reduction in carbon emissions over 15 years, as compared to a base case, could be achieved at a cost of less than one-third of one year's growth over 15 years. The economy in 15 years would still be about one-third larger, but carbon emissions would be significantly reduced. As importantly, employment growth over the period was found to be modestly more rapid than under the base case because of the growth in labour intensive activities such as retrofitting of buildings for greater energy efficiency. The Rational Energy Program relied on a wide range of measures, such as energy retrofits in the residential , commercial, and industrial sectors, changes in building code standards, and changes in regulatory requirements for vehicle fuel efficiency. Such measures would involve some immediate costs, but in

most cases would result in long-term savings and increases in employment compared to continuing high levels of energy inefficiency.

The same broad conclusion was endorsed in a statement by 2800 North American economists released last year by the David Suzuki Foundation. The Foundation press release stated that "there are many policies to reduce damaging emissions of greenhouse gases that will not hurt North American living standards and could even improve the economy," and cited Dr. Bruce, co-chair of socio-economic studies with the Intergovernmental Panel on Climate Change: "most countries could achieve a 10-30% cut over the next two to three decades at either no cost or possibly a benefit to the economy." The Conference Board of Canada reviewed five Canadian macroeconomic studies of the cost of stabilizing greenhouse gas emissions at 1990 levels by 2010, and found that the average cost of reduction would be a very modest 5% of economic growth over the period. While it can be argued that more dramatic reductions in emissions are needed than those modelled in these studies, the technical evidence seems to show that major changes can be made in terms of environmental efficiency without unduly compromising growth in living standards.

To conclude, I strongly agree with Stainsby that growth in living standards cannot be simply equated with growth in per capita GDP. Though I would still maintain that GDP is an important, if incomplete, measure of welfare, there is clearly much more to a decent standard of living and a decent society than high levels of consumption and criteria such as income distribution, working time, and insecurity need to be explicitly incorporated. I agree with Stainsby that growth must be made environmentally sustainable, and accept his criticism that this critically important issue was neglected in my paper. We should accept slower growth if this is necessary to achieve the goal of sustainability. However, I do not believe the evidence shows that progressives must reject long-run economic growth in order to achieve that goal.

Notes for *Discarding a Deadly Fantasy*

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3. Ibid, p.43.
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5. Ibid, p.45.
6. Herman Daly, *Beyond Growth*; 1996, p.160.
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9. For an extended discussion refer to *If Women Counted* by Marylin Waering
10. For a brief discussion of the weaknesses of the GDP see "A Genuine Progress Indicator for Canada" by David Cosby, 1997.
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