

# Beyond Green Jobs: Assessing Sustainability-Enhancing Career Options

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## Abstract

The world is on a path toward unsustainability which affects all living beings. As career development practitioners, we have a responsibility to be capable of helping clients consider and integrate a holistic concept of sustainability into their career decision-making when they call upon us for such assistance. The environment may be the highest priority concern but it is also time to go beyond just “green careers” to think about sustainability in the broad sense. This article analyzes the current state of green careers, proposes a model for clients to assess sustainability-enhancing career options, examines related growth opportunities, and calls on career development practitioners to be part of the sustainability solution in bringing these considerations to the forefront.

*“The world we have created is structurally and chronically, but not incurably, unsustainable.”*  
Laszlo (2009)

The concept of sustainability is on the minds of many people these days, and so it should be given the predicament of unsustainability the world is in. As career development practitioners, we are more likely than ever before to encounter clients who include sustainability in

their set of work values so it is important we are equipped to offer them a means to evaluate the degree to which any given career option contributes to, or detracts from, a future that is sustainable. The recent focus on growth areas in “green” career options is a positive development but only one part of a larger solution. We should also help clients to realize there are many possible ways they can have a direct or indirect effect on sustainability through their work.

To that end, this article will present a model for assessing the sustainability potential of any career option, how it applies to the existing slate of “green” careers, and how to broaden the notion of sustainability-enhancing career options to include but also go beyond those primarily focused on the environment. But first we need to understand what “sustainability”—perhaps the buzzword of this decade—means.

The best context to understand sustainability is to appreciate the main ways in which the world has become unsustainable. When something is said to be unsustainable, it means it cannot continue without change. There is no single reason or root cause but rather a set of inter-related circumstances and events that have brought the world to its present unsustainable state. Laszlo (2009), Flannery (2006, 2009),

and numerous other reports including a major IUCN paper (Adams, 2006) highlight many facts along our current path toward unsustainability, but a summary of the most salient points follows. The three types of unsustainability described below are reflected in the pillars of sustainability which form part of the career sustainability assessment model.

## Unsustainability in The Environment

Our environment is currently unsustainable in so much as, according to Flannery (2009), we are already exceeding the earth’s capacity to support our species by 25%. Water, essential to all life, is polluted and misused, even as our reserves of fresh water are decreasing. The total amount of productive land, cropland, is being lost each year even while at the same time there is increasing exploitation of natural areas such as forests and wetlands. Air, like water, is increasingly polluted; its oxygen content decreasing, while other gases such as CO<sub>2</sub> are increasing. In just 200 years of industrialization, the proportion of CO<sub>2</sub> in the atmosphere has risen by 30% (Flannery, 2009). In addition, up to 30% of all animal species are under threat of extinction during this century (Flannery, 2006).



Consider that all life is inter-related and this fact alone gives reason to pause. In terms of global warming and climate change, there remains ongoing debate as to why these environmental changes are occurring but according to the IPCC (2007), there is a 90% degree of certainty that there is human cause to climate change. Whatever the cause, that it is actually happening is almost indisputable.

### Unsustainability in The Economy

As we saw in 2008, and continue to see today, the world has an inherently unstable financial system. Some countries may be more secure than others but in a world which is highly connected in every way, our global reality is that no economy exists in isolation. All finance is linked, whether it be that of individuals, corporations, banks or governments. So as debt of all types increases, bailouts and reorganizations continue in various forms but it seems like putting shims under a house that is not built on a firm foundation—the next big storm may wash it away. Consumption of all types continues to grow, as does the massive world population which requires them. This leads to overexploitation of resources. All resources cost money to acquire, process, distribute and sell but the uncertainty of those resources coupled with the rising demand creates a volatility which is yet another input into an unpredictable global economy.

### Unsustainability in Society

The rich-poor gap continues to grow. In Canada, 1% of the population earn 10.6% of Canadians' total income (Grant, 2013). Eighty percent of the world's domestic product belongs to one billion people; the remaining 20% is shared by almost 6 billion (Laszlo, 2009). Particularly in the western world, there is a breakdown of social structures. Job security, and family security, are largely things of the past. In an unnatural twist on evolution, the twentieth century brought "survival of the fittest" and "greed is good" and individualism took rise over social responsibility in many parts of the world. Among both groups and individuals, we see various and increasing manifestations of aggression, competition and desperation in both rich and poor countries (Laszlo, 2009).

### Defining Sustainability

Flannery (2009) suggests that we may be moving beyond the tipping point, sooner rather than later, when the emphasis will irrevocably cease from being about stopping or reversing and become about merely mitigating and extending life on earth: "There is now a better than even risk that, despite our best efforts, in the coming two or three decades Earth's climate system will pass the point of no return. This is most emphatically not a counsel of despair; it is simply a statement of my assessment of probability."

If this state in which the world finds itself today, is unus-

tainability, then what does sustainability look like? We need some grasp of this if we are to assist clients who value sustainability with integrating it as a consideration in their career decision-making. Dictionaries define sustainability as variations of the capacity to endure, to continue, and to perpetuate. As it applies to the human element, Flannery (2009) sees sustainability as a derivation of the eighth commandment—do not steal. Sustainability, he says, comes down to not taking from future generations what we need for ourselves today. But perhaps the best known and most widely quoted definition of sustainability as it applies to our progress on this planet comes from the United Nations General Assembly (1987): "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

While no single definition of sustainability is universally accepted, there are clearly multiple elements to it and many would identify 3 critical supporting pillars: environmental (all living and not living things which occur naturally on earth), social (societies, cultures, communities, people, and the relationships among them), and economic (the production, distribution, and use of income, wealth, commodities and resources). These pillars can be envisioned as overlapping circles

As depicted by Adams (2006), when there is balance among the three pillars, as in the very middle of the overlapping circles, sustainability is that point where the needs of all three are

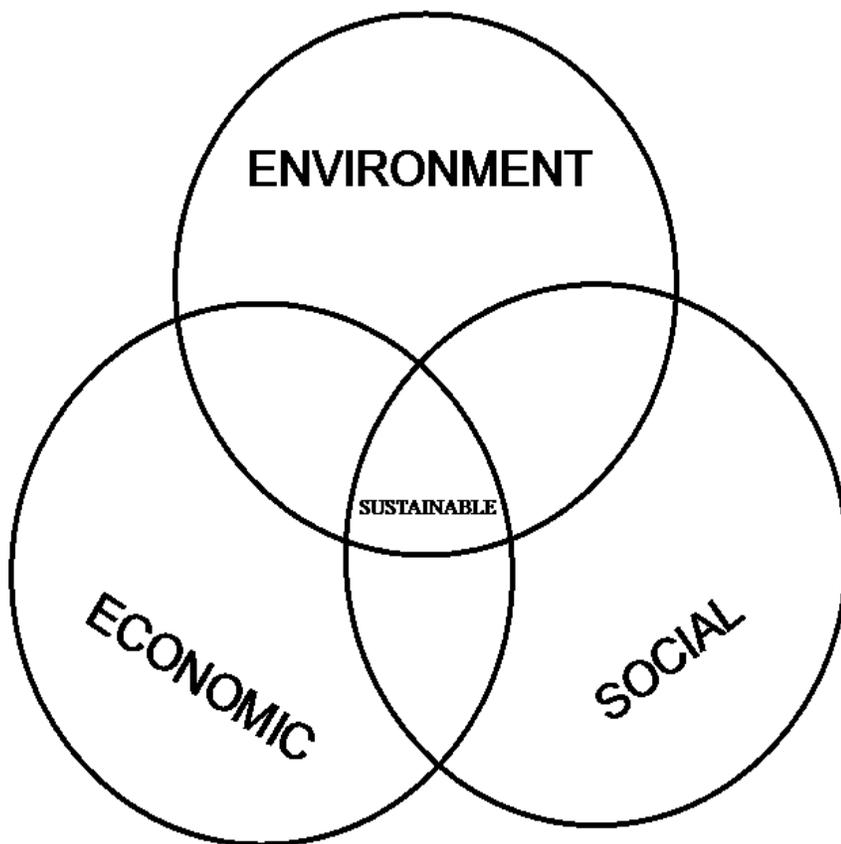


Figure 1. Sustainability as a balance of three pillars. Adapted from Adams (2006)

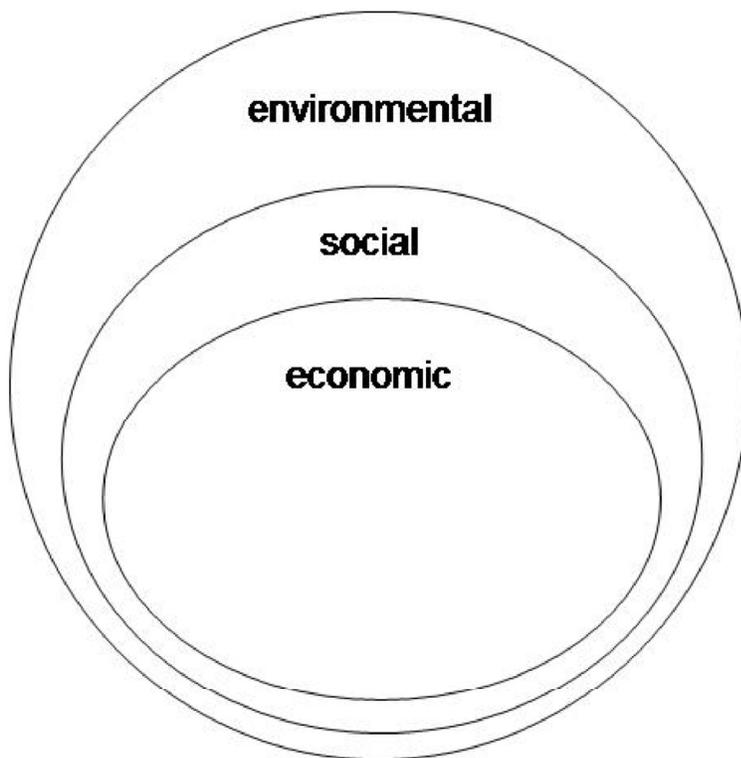


Figure 2. Hierarchy of sustainability constraints. Adapted from Scott Cato (2009)

more-or-less equally reconciled.

In addition, some thinkers on sustainability such as Scott Cato (2009) envision a hierarchy among the pillars wherein social factors constrain economic factors, and environmental factors constrain social factors. The idea being that the economy only exists because of people and can only persist within the social context. Similarly, people can only be existent within the context of the natural world. Environmental sustainability, therefore, is seen as the master pillar since it overshadows the other two. It is not that the demands of one pillar are more “important” than another but it does imply that environmental demands will inevitably affect, or even direct, some social and economic demands.

### The Current State of “Green” Careers

The hierarchical arrangement of sustainability pillars does give perspective on just how broadly environmental matters affect and encompass everything else, including careers. What have come to be commonly referred to as “green” careers are those types of work that are in some way involved with responding to environmental needs, and/or the industries involved in them. In an interesting, and paradoxical, analogy Llewellyn et al (2008) suggested the notion that “green” is the new plastic. There was a time when plastic was the next big, great thing and it began to come into common use in everything and everywhere. It was ubiquitous. Everyone talked about it and almost everyone



wanted to make use of it in almost any possible application, though not all actually understood what it was nor its implications. “Green”, as a concept, has become just that but the problem is that green does not necessarily equate with being sustainable. This is most certainly the case for no small number of the many consumer products touted as green. For example, the “green choice” weed trimmer touted as eco-friendly since it is fueled by propane rather than gasoline—true, it is somewhat less polluting but conveniently ignoring that fact that propane is a petroleum derivative and of course the many cylinders that would find their way into the waste stream. Retail analysts talk about “green-washing” in consumer products and it is likewise true for some of the careers labeled green. It is easy to label something as green, but perhaps more difficult to quantify it as such.

According to the United Nations Environment Program et al (2008), green jobs reduce the environmental impact of enterprises and economic sectors, ultimately to levels that are sustainable. In a broader characterization, McLelland (2008) says the green collar sector refers to the portion of the overall economy that is focused on making a positive impact on the planet.

Llewellyn et al (2008) found over 60 different definitions of sustainability in their research on defining green careers only to conclude there is no standard definition that could be generally applied. They say that what constitutes a green career depends a great deal on who is

using the term. As one example, the nuclear industry may see itself as a provider of green employment, while others may have an entirely different perspective. Nevertheless, whatever “green” is, one thing it is not is a bubble, not something that is going to disappear. It has clearly reached the mainstream of business and public consciousness in general. As such, it is an influential growth area. The Globe Foundation (2010) talks about the green economy as a fast-growing economic development model that focuses on the creation of green jobs, the promotion of real, sustainable economic growth, and the prevention and amelioration of environmental concerns.

Different groups have varied definitions for terms like green jobs, green economy, green collar and green sector, some broad and some specific. Katz (2012) details several different methods for defining green jobs but, when distilled into specifics, it comes down to industries related to the environment. In terms of sustainability, on the one hand, this is in line with Scott Cato’s (2009) assertion that the environment is the pillar of sustainability which encompasses the others. But, on the other hand, the environment as a factor in sustainability does not exist in isolation from the other two pillars. Recall, from chart 1, that sustainability is the area within which the three pillars overlap. Cassio & Nash (2009), who have produced one of the more comprehensive attempts to catalogue green careers and group them into occupational clusters, say that it involves working in jobs that are, “focused

on sustainability and/or environmental protection or preservation. These jobs can be defined either by the nature and purpose of the job or by the nature and purpose of the employer.” This is another important distinction because it is not necessary to have an occupation which directly affects the environment to have an effect on environmental sustainability. For example, someone could work as an energy auditor, or they could be a graphic designer, book-keeper or office manager for the company providing those energy auditing services. All would be green careers in some respect because, directly or indirectly, they are helping ameliorate environmental circumstances. However, work which positively affects the environment in some way is not the only path to making a difference in the world. There are many careers beyond the green collar sector that can directly and indirectly affect sustainability so, just as with consumer products, we need to challenge a presumption that only those labeled green are useful to the world.

### **Beyond Green Careers**

There are an increasing number of books and reports listing green careers and the need to bring awareness to what has come to be called the “green collar” sector but, according to Hazell (2009), “even the most advanced green-jobs strategies are not enough to achieve a truly sustainable economy. Most do not encompass the radical transformation of our carbon-based economy to one that will avoid catastrophic climate change.



They tend to assume that the future will be much like the past, with gradual linear shifts.” The problem, of course, is that the way the world is changing no longer appears to be gradual, nor are the changes happening in the linear manner they may have before.

Regardless of which definition one uses, a “green” career may be one that benefits the environment, but that does not automatically mean it has a net benefit to sustainability. The broad group of careers which do contribute to sustainability include, as a subset, many green careers, but also many others. If it is the case that sustainability is the big challenge of the new millennium we have entered, it is time to go beyond thinking about “green” careers to instead more broadly consider the concept of sustainable careers.

Doing a search on “sustainable careers” typically leads to articles on career options that are variously described as self-sustaining, self-perpetuating, “safe” bets, and of long-term benefit to the individual working in them. For the purposes of this article, a sustainable career is considered to be one which augments and cultivates sustainability as conceptualized in the three pillars model. In other words, a career option which makes a net contribution to environmental, social and/or economic sustainability and therefore is of benefit to humanity’s ability to continue, or perpetuate, itself. To use a more descriptive title, for this article such types of work will be termed “Sustainability-Enhancing Career Options” (SECOs).

### Who is Interested in SECOs?

One does not need to understand all the science behind why it is happening to grasp the enormity of what is happening in the world’s march toward irreversible unsustainability. Any person who accepts the basic observational facts evident in the social, economic, and environmental reality in the world around us, and accepts that all living things are interrelated in one way or another, will have to acknowledge there is a major problem that should demand our attention as inhabitants of this planet. In exploring the ethics of lifelong guidance as it applies to sustainable development, Saukkonen & Parkkinen (2011) speak of a global increase in ecological awareness. As practitioners, we are engaged in the business of helping people explore career options and, given the state of the world summarized above, when we encounter clients who express a desire to do something about it, we should be able to help them consider the impact their choices may have on sustainability. It is not our role to dictate one career option as better than another, nor one more important or significant, any more than it is to push a client toward a career with more money or better outlook. But, much like when it comes to providing resources that point to income or occupational outlook, in this age we should be equipped to provide the tools and information to help clients make informed choices with regards to sustainability.

Indeed, our clients themselves may be wanting those kind

of resources and guidance from career development practitioners. Llewellyn et al (2008) discuss the move toward green employment as a shift in values and in putting those values into action. As is the case with consumer products, for some people and businesses the push toward green and sustainable may only be an opportunistic notion. But for many others, the continued shift in focus toward sustainability reflects a desire to do something meaningful and rewarding. Sustainability can be looked upon not only as a work value in and of itself, but also as something which can be incorporated within other work values such as aesthetics, personal development, altruism, achievement, and so on.

While of relevance to everyone, sustainability in careers may be of particular interest to younger generations. It has become part of their vocabulary and psyche as they progress through school. Many of us are gradually integrating it into our worldview but it is the younger generations who are destined to be most directly touched by unsustainability because it is they from whom we may be “stealing” future resources to feed and fuel the requirements of the present day. Power Scott (2010) agrees it is the youth and young adults of today who are most interested in green careers because the degree to which we can live sustainably most directly and immediately affects them. Speaking directly to that audience she writes, “It wasn’t like when your parents and grandparents were teenagers. There was an environmental movement but it was on the



fringes, not in people's faces... recycling was a new idea and composting... was one of those odd things hippies did in their backyards."

### A Model for Assessing SECOs

If it is the case that we have an important role to play in assisting clients who express a desire to consider the impact of career choices on sustainability, the next question is how. A first step might be to explain to clients that, despite the many books and reports listing so-called green careers, it is not so simple as saying a particular option is or is not sustainable. As McLelland (2008) observes, it isn't about green or not but rather about shades of green when it comes to careers. Further, Cassio & Rush (2009) point out that a green career need not be entirely or specifically focused on sustainability and/or environmental protection but simply should have a net positive impact on it. A second step would be to explain that, while some careers may be more obviously sustainability-enhancing (or detracting!) than others, there is no absolute answer and ultimately the assessment of sustainability boils down to making informed choices. This article proposes the use of a two-dimensional model to provide clients with a framework for assessing the degree to which any given career option contributes to sustainability.

Sustainability, as discussed above, is a singular concept supported by three essential elements: environmental, social, and economic. Similarly, a "ca-

reer" is a singular concept but with many facets. Donald Super is widely recognized for broadening the scope of career beyond solely what one does to earn income and, more recently, expanded by Herr et al (2004) to consider it as being all that one does, in their various life roles, throughout their lifespan. Based on this theory, there are a variety of roles which comprise our career but, factored down to their most basic, they would be: worker, learner, leisurite, citizen, family member. The intent of this model is for use in assessing sustainability of what is done within the income-earning work role but it could just as easily be applied to the others.

Beyond looking at the tasks one performs, whether in their work role or any other, career is also about where and how they are carried out. Just as sustainability has three pillars, the concept of career has three primary considerations:

- Occupation – the specific duties and responsibilities, and the skills and knowledge required to do them, as can be found, for example, categorized within the National Occupational Classification (NOC).
- Industry – the industrial sector within which one performs their occupation; the North American Industrial Classification System (NAICS) lists broad industries and their sub sectors.
- Employer – the specific setting or place of work

within a given industry or, of course, one may also be self-employed.

- Combing the three pillars of sustainability with the three factors associated with the work realm produces a two-dimensional grid that can be used to evaluate the degree to which any given career is sustainability-enhancing, or not.

The grid is comprehensive because it accounts for the three pillars of sustainability and the three primary dimensions of career, but then comes the question of what type of ratings will fill the 9 spaces. If the purpose of the model is to assess the degree to which a career affects sustainability then one possible rating system may consider the potential positive impact on each pillar of sustainability:

- 4 - substantial and near certain
- 3 - significant
- 2 - moderate
- 1 - mild
- 0 - unknown, neutral or unlikely

This is just one example since there are many possibilities for rating schemes. Some examples of use are provided below. Those who enjoy complexity may wish to separate the intensity of impact on sustainability with how likely that impact is, creating a three-dimensional model. Another potential rating scheme could involve the use of negative numbers when there is more potential to diminish rather



		Components of Career		
		Occupation	Industry	Employer/Setting
Pillars of Sustainability	Environmental			
	Social			
	Economic			

Figure 3. Grid to assess sustainability enhancing potential

than augment one of the sustainability pillars. Whatever rating system a client might decide to use, the priority should be on (1) consideration of the impact on sustainability, and (2) the rating system being applied in a consistent manner.

In many cases, a certain component of career may have both positive and negative impacts on a particular pillar of sustainability. It may not be uncommon to find career options that are both part of the problem and part of the solution. When there are both positive and negative impacts, the client should attempt to make an assessment of the net impact on sustainability.

An example provided by the Globe Foundation (2010): “When an occupation produces

an output or lowers the price of a product that offers positive environmental externalities, this may be considered in whole or in part a green job. Two examples would be the net environmental impacts when an engineer remediates an old mining site, or when a solar panel manufacturer increases the supply of photovoltaic (PV) panels, thereby reducing their cost to consumers in the market, which in turn contributes to lessening greenhouse gas (GHG) emissions.”

There are inherent challenges in the creation of such a model. First and foremost, is that it is ultimately subjective based on how informed the career decision-maker is with regard to sustainability factors and to the career itself. To some extent, this can be solved through discussion

with the practitioner and through effective career research instruction. Another issue is that the nine ratings are unlikely to be of equal weighting. For instance, an occupation’s net impact on environmental sustainability may be of somewhat different importance (either in actuality, or from the client’s perspective) than the impact of the work setting on social sustainability. So it is not a simple mathematical exercise of adding up numbers to compare careers.

While not flawless, the grid has two significant strengths. First, it requires a holistic view of what encompasses both sustainability (consideration of all three pillars rather than just environmental only) and career (occupation, industry, employer) rather than going only by published lists of green careers which might tend to focus only on a single element of career or sustainability. Second, in spite of its potential for inherent subjectivity, use of the grid to make assessments of career impact will, by default, not only raise awareness of sustainability issues but also increase the client’s understanding of what their potential career entails as they research and process the information required to make sustainability ratings. As practitioners, we are always encouraging our clients to seek out career information. We try to impress upon them the importance of such data in making effective career decisions. Incorporating an analysis of sustainability has a potential side benefit of increasing the depth of clients’ career research overall.



### Case Examples

These hypothetical cases suggest just a few possible applications of the grid.

#### Case Example One: An Apparently “Green” Option

A client is considering a career as a solar panel installer for a renewable energy equipment distributor, though with no particular employer in mind yet. In terms of both the occupation and the industry, the client would likely be inclined to rate both highly on the environmental pillar since putting this equipment into use will offset energy sources with long term costs and/or consequences. The client may conclude there is mild to moderate benefit on the economic pillar since solar panel equipment is useful, will last over time, and function somewhat like a solid asset with good “return on investment”. When it comes to the social pillar, the client may find it more difficult to rate, though he may consider whether there are social benefits to installing panels or social costs related to how the panels are sourced. When the client does get to the point of seeking an employer, he may also consider sustainability issues particular to various work settings. Some examples might include driving territory/range (environmental pillar), whether the employer purchases Canadian-made solar panels (economic pillar), or whether the employer contributes to any community causes like sponsoring sports teams (social pillar).

#### Case Example Two: Traditionally “Green” yet Potentially Sustainable.

A client is considering a career as a Child and Youth Worker, within public-sector social services, ideally with an employer in an urban setting. The occupation and industry may not have any obvious positive impact on the environmental pillar of sustainability but they likely do not detract from it. They do both, however, have a direct impact on social sustainability and at least indirect impact on economic sustainability particularly if part of their work supports youths becoming/staying employed. Within this same occupation and industry, it is possible that different employers may vary considerably in sustainability-enhancing potential. Employers in urban work settings, for example, may be better for the environmental pillar than one which requires much driving. Moreover, the philosophies of different social service agencies may result in more, or less, impacts on the social and economic pillars depending how they translate to services offered

#### Case Example Three: Nothing To Do With Sustainability, Or Does It?

Nothing to do with sustainability, or is it? A client is considering entry-level work within a bank, perhaps as a personal banker. The client’s goal is to work for a large bank, though she does not have a particular employer in mind. On the surface, the occupation may seem to

have little if any impact on sustainability but depending on the scope of services the client foresees providing it could indeed directly impact economic sustainability and indirectly impact social sustainability in terms of matters like budgeting, responsible use of credit, and families or other social units achieving goals which contribute to their development. The client would need to consider to what degree the industry, in this case retail banking, impacts each pillar of sustainability; there are like several pluses and minuses in that assessment. Another consideration would be that, within large retail banks there is typically opportunity to develop one’s career internally. Banks tend to promote from within and move staff around positions, departments, and geographic areas, which could alter the impact potential at various points in the client’s career. When it came down to the employer, banks are often involved in various community efforts and causes which could impact any or all three of the sustainability pillars (as just one example, TD Bank’s Friends of the Environment Foundation).

These three case examples are only simplified applications. The possibilities are endless, as is the degree of detail which might be considered. In all cases, the depth of analysis is up to the client; as long as it is generally consistent and they reflect on all three factors in some way, they will have taken a useful step toward considering sustainability in their career exploration. Using the grid will also help clients appreciate that they can make a



difference to sustainability—that they can be part of the solution—even without doing so-called “green collar sector” work. Using the grid will help clients move beyond just thinking about what they do in their career—their occupation—to also include where and how they do it. It is possible to perceive many occupations as having no obvious impact on sustainability (e.g., administrative/clerical work) but depending on what industry or work setting in which they choose to do their work (e.g., a social service agency, a green energy producer, assisted seniors living, a conservation organization, public housing or healthcare, just to name a few) they can indeed have a positive impact. For some people, their work values will dictate they need a direct and obvious impact on sustainability. But for many others it may be adequate, and provide a feeling of integrity, knowing that they can still be “part of the solution”.

### Careers to Watch for Growth Opportunities

Clients often ask practitioners what occupations or industries will be most in demand. A relatively safe answer to this question might include many of the occupations and industries that have a positive impact on sustainability. Just as the reality of demographics fuels inevitable growth in the health care sector, the realities of the world’s unsustainability are increasing exponentially and rising up in the priorities of people, politicians, and businesses even if there may be somewhat different motiva-

tions among them.

A more sustainable world will be a different world, with different needs. When it comes to careers, there will inevitably be losses and gains but that has always been true of change, and those career losses and gains are likely to accelerate in line with the priority that sustainability takes in the public psyche. It follows that some of the careers with strong growth will likely be those which most directly augment one or more pillars of sustainability, perhaps with the broadest potential in those connected with environmental sustainability since it is this factor which overshadows and constrains the other two (Scott Cato, 2009).

One obvious example is almost anything to do with forestry. Trees are a big part of the answer, says Flannery (2009), an effective means of carbon capture each year drawing down 8% of atmospheric carbon. Whether it is growing trees, protecting their habitat, managing forests (silviculture), or using them as resources (perhaps in new and more sustainable ways), these careers are likely to see opportunities in the coming decades.

Another example is renewable energy equipment, whether making it, selling it, installing it or maintaining it. Predictions are only just that, not fact, but they are based on the current facts of the world’s unsustainability and the assumption it will matter more and more such that action takes place in increasing amounts.

The low-carbon reality will affect careers in many sec-

tors (Hazell, 2009), especially those involving the transport of goods and people, which of course has numerous implications considering the number of careers not only directly involved (e.g., driver, pilot, deckhand) but also indirectly involved (maintenance, repair, manufacturing). Heintzman (2010) argues that it is not just about green jobs or green sectors but that all jobs should be greened, reoriented in some way or another to align them with a more sustainable world and the resulting changes in priorities and practices of consumers, investors, businesses and governments. The opportunities are not just limited to the environmental pillar. The root causes or symptoms of social and economic unsustainability could also lead to growth opportunities. For example, arising from financial unsustainability, the potential increased need for debt counsellors and professionals engaged in debt restructuring.

Some other examples of SECO growth opportunities can be found in the best-selling book *Megatrends 2010*, in which Aburdene (2007) foresees five sectors directly and indirectly related to a more sustainable world:

- Sustainability sector – ecologically sound construction, renewable energy technologies, socially responsible investments.
- Healthy living sector – demand for natural and organic foods, nutritional supplements, and personal care.
- Alternative healthcare



sector – wellness centres, complementary medical services and healthcare.

- Personal development sector – seminars, courses, shared experiences in the body-mind-spirit area.
- Ecological lifestyle sector – demand for ecologically-produced, recycled or recyclable products, as well as ecotourism.

McLelland (2008) sees a new “green frontier” in the world of work with a particular environmental emphasis which includes opportunities in traditional environmental sciences, natural resource management industries, emerging green industries, traditional industries greening their products and services, and traditional companies becoming sustainable.

In one of the most recent analyses, the Globe Foundation (2010) spells out some of the industries McLelland may be referring to:

- Clean & alternative energy – including renewable energy, bioenergy and fuel cells.
- Energy management & efficiency – including energy storage, transmission infrastructure, energy-efficient lighting and heating, ventilating and air conditioning (HVAC), and public transportation
- Green building – including building and community design, green construction, infrastructure and real estate.

- Environmental protection – including some elements of agriculture and silviculture, remediation, pollution control, and environmental consulting/engineering.
- Carbon finance & investment – including carbon management, offset markets and venture capital.
- Green knowledge and support – including research and development, advanced education and training, law, information and communications technology (ICT), nongovernmental organizations (NGOs) and the public sector.

Finally, keep in mind that the growth and change will not be limited to conventional employment. Pollard (2008) provides many examples of how entrepreneurs can find opportunities in the current situation to provide a range of services and goods, but at the same time find fulfillment in the knowledge that they are a meaningful part of moving the world, in some small way, toward a more sustainable path.

### Challenges Affecting SECOs

One of the challenges that will affect the growth and development of sustainability enhancing career options will be how the business world will respond. Even with the growth of self-employment in general, and the broad range of sustainable entrepreneur opportunities envisioned by Pollard (2008), it is likely that

businesses will continue to be the majority employer unless there is complete breakdown in our social and financial structures. Unlike health care, where there is demographic certainty of growth and need, it is at best a near certainty when it comes to our need to move away from the path of environmental, social and economic unsustainability. Business, by its nature, is about profit but it may still take time until they are certain there is financially viable demand before taking genuine leadership positions. Business has readily joined the green parade but not many are yet at the front of the procession directing its course.

Hemmelman (2011), speaking in particular about the green energy sector, makes the point that even though there is clearly more demand now than even in the recent past, a challenge for emerging industries is that they are based more on projected than established demand. Some industries and business leaders have longer range vision than others, and different tolerances for risk. Business will also be looking to post-secondary schools to step-up in short order to help supply them with grads who possess the skills, knowledge and values inherent in SECOs.

How these schools assimilate sustainability into programs and curriculum may be another challenge. Marcinkowshi (2010) documents how, even in a relevant field of study like Environmental Education it has been no straightforward matter to integrate sustainability. Much of the problem, says Marcinkowski,



comes down to defining sustainability and sustainable development. But on the other end of the spectrum, and as evidence that it must surely be possible, Konopnicki (2009) describes how a public school board went about adopting sustainability as a core skill and incorporating it into their curriculum and their strategic plan, and how they specifically recognized the importance of awareness of future generations. Konopnicki suggests it should be weaved into all programs of study at all levels.

Another possible challenge is whether SECOs are likely to require increased amounts of higher education. Some careers which happen to be highly skill- or knowledge-intensive will indeed require more education but Katz (2012) lists significant numbers of in-demand entry-level opportunities in renewable energy and energy conservation requiring less than a post-secondary degree. Katz also points out that these opportunities are ripe for putting youth to work, and with the side benefit that they can feel they are making a difference in the world.

### A Time For Action

A Chinese proverb reminds us of the obvious: If we don't change direction, we will end up exactly where we are headed. According to Laszlo (2009) in his book *Worldshift2012*, now is a time for activism: a time for personal activism because everything that everyone does affects the world and everything that lives in it, now more than ever as the world

becomes ever-increasingly interconnected; a time for media activism when relevance should take precedence over sensationalistic; a time for business activism because even "private" business affects the broad public, and that public should take actions to affect and direct business. People, business and governments all need to take responsibility if we hope to make the world more sustainable and retain any hope that humanity might perpetuate. According to Aburdene (2007), more and more people are expecting and demanding corporate responsibility. Aburdene foresees a move away from greed and toward spirituality, social awareness, emphasis on values, and community service for the corporations themselves and for their employees.

If more and more people are desiring corporate and political responsibility when it comes to sustainability, they may well be expecting a capacity for such sensitivity from their career development practitioners too. After all, as professionals we owe it to our clients to remain current on what is emerging in the career spectrum, and careers take place within a context that includes all three pillars of sustainability. Perhaps not realizing the prophecy his words would have, Plant (1999) predicted that green career development would move up the professional hierarchy. He explored the question, does career counselling "pay", with its potential for short- and long-term payback to society and the world? "There is global evidence of the need to make sustainable career choices: pollution, over-con-

sumption in some areas and fundamental needs in others... scarce water resources... ozone holes... the list is endless. A change of paradigm is needed," wrote Plant in making recommendations for the advancement of green career development. That was almost 15 years ago.

Saukkonen & Parkkinen (2011) discuss how individuals who conceive of themselves as part of a generational continuum have duties to both their predecessors and descendants and argue therefore that the ethics of lifelong guidance should be based on the principles of sustainable development. Saukkonen & Parkkinen further make that case that even though educational and vocational guidance is an individualistic activity, it is time for guidance practitioners to take a stand on global matters affecting humanity as a whole, and to help link that individualistic way of thinking with a larger perspective on the community, both local and worldwide. So when we are called upon by our clients, or others who may seek advice or consult our expertise when it comes to sustainability and careers, let's be ready. We can't have all the answers but we should have tools and resources, as well as a holistic notion that includes "green" careers but also goes beyond them to demonstrate how many types of work can have a positive impact on sustainability. As career development practitioners, we have a responsibility and an important part to play in the solution.

That it is the time for us to act, and to act today, is driven home in the solemn caution



posed by Flannery (2009), “it is all too possible that we will fail to achieve sustainability, and that the blind watchmaker will once again—through variation of organisms and through failure of ill-adapted organisms to reproduce—reset the balance of a severely diminished living earth.” For us as practitioners, engaged in the profession of helping people explore and develop careers, Power Scott (2010) offers a optimistic context for the growth of SECOs: “It’s a green revolution. Concern for the environment is making its way into all our lives and almost every profession. Companies need smart, talented, creative people—and lots of them—to keep up with all that change.”

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