

# SPEAKING PLAINLY ABOUT RESEARCH, GOVERNANCE, AND POLICY FOR SUSTAINABLE LIVING

David G. Malcolm, PhD, PEng, CMC

## ABSTRACT

There are challenges to sustainable living in northern Canada, including dependence on nonrenewable resource development, on financial support from various levels of government with or without land claim agreements, and on reliable sources of appropriate goods and services in the areas of health, environment, business, and technology that are, for the most part, far from our remote communities. These dependencies affect all aspects of human security and livelihood in the North. Remoteness creates policy and governance challenges. Other challenges include adapting to climate warming and its impacts on traditional ways of life and work. In a sense, every northerner who wishes to live in a sustainable way must become an entrepreneur, and must seek ways of mastering current dependencies.

There is considerable research knowledge available to inform governance and policy for many aspects of entrepreneurial sustainable living in the North. The challenge is to find the knowledge that is relevant to us, and to make this knowledge available to community-based researchers and directly applicable to northern communities in practical, plain language that does not depend on academic terminology or business lingo.

**Key Words:** Research, governance, policy, sustainability, entrepreneurial, dependency, renewable, nonrenewable, green collar, culture, arts, crafts, self-sustaining, lifestyles, resources, environment, business, technology, climate, self-sufficiency, energy, indigenous, subsistence, management, prosperity, education, health, wellness, employment, housing, transportation.

## INTRODUCTION: WHY IS ENTREPRENEURIAL SUSTAINABLE LIVING IMPORTANT? WHY NOW?

Sustainable living is doing the things that enable individuals, families, and communities to live in a healthy and secure way. It means living in a directly accountable way that maximizes self sufficiency and minimizes dependence on outside resources. Along the same line of thinking, “entrepreneurial sustainable living” is producing goods and services for your community to replace imports to that community, where “community” can be large or small, but must be a group of people who are interdependent for their common good and livelihood. Entrepreneurial sustainable living increases shared prosperity, and creates “green-collar jobs.” Such jobs have been defined as “dedicated to saving energy, producing renewable energy, or reducing pollution,” and “can speed progress on two deeply rooted problems at once: easing our dependence on climate-warming fossil fuels and fostering lasting, broadly shared economic prosperity” (Durning et al., 2009).

Why should we care about sustainable living in the North? After all, according to conventional wisdom the Circumpolar North is remote, thinly populated, and barren. Probably the best answer to that question is that we live here, and the old ways of western society aren’t working very well! We are locked into a paradigm that can no longer guarantee a comfortable future for our children and grandchildren. We are using up our non-renewable energy resources, we are spoiling our environment, and we are contributing to climate warming through our wasteful energy use, all at alarming rates. We are held captive by every swing in economic fortune of the stock markets and the bulls and the bears keep chasing us. In spite of all this, my friends here in Yellowknife tell me that the North is an ideal place to live sustainably, because we are surrounded by renewable resources, and we have the example of generations of indigenous peoples to show us the way. In fact, our remote communities have an advantage. Their lack of many products and services normally associated with the traditional urban standard of living encourages sustainability.

Sustainable living doesn’t mean a crude life, or a life of personal sacrifice and discomfort. On the contrary, sustainable living should be based on our values, and allow us to live a gracious life, filled with art, music, song, dance, story-telling, and creativity in all aspects of life.

There are some northerners who believe that sustainable living here in the Northwest Territories is indeed achievable. For example, a First Nations

colleague of mine is planning his own new home out on the land, designed to have minimum dependence on southern resources and consumer society. He is also planning to become an entrepreneur, building a business to provide practical “how to” education on various aspects of sustainable living. Entrepreneurial businesses to encourage sustainable living can be built around virtually all aspects of our lives, including healing, music, crafts, and art as well as appropriate technologies, energy efficient building, cogeneration facilities, small-scale manufacturing, and food production using community greenhouse facilities.

However, learning to live sustainably in the North means that we must adapt to our changing environment, especially to climate warming, and this could prove difficult. Climate warming creates climate refugees or environmental refugees around the world. According to Wikipedia (January 2010),

a climate refugee is a person who is forced to relocate, either to a new country or to a new location within their home country, due to global warming related environmental disasters. Such disasters may be evidence of human-influenced ecological change and disruption of Earth’s climate system, primarily through the emissions of greenhouse gases, although other natural factors may also play a role.

The United Nations recently agreed on the term *Environmentally Induced Migrants*. A paper by Renaud et al. (2007) posed a conceptual framework to understand different categories of people on the move in response to environmental disruptions including climate change.

Whole societies are making plans to relocate.<sup>1</sup> As the North warms, and agriculture pushes northward, societies are pushing northward into remote regions. The Northwest Territories (NWT) may follow in the footsteps of Alaska, where the population increased from 55,000 in 1920 to over 660,000 in 2005, especially since the NWT climate is becoming more temperate every year because of climate warming.

Remember the canary in the coal mine? When the canary dropped dead, the level of methane or carbon monoxide in the underground mine was becoming toxic and dangerous. That’s like the melting of the permafrost in the Arctic. We can tell from climate change impacts in Canada’s Arctic regions, for example, that climate change is becoming toxic and dan-

1. The community of Shishmaref in Alaska is facing a decision to relocate because of environmental warming, flooding, and erosion (retrieved on January 10, 2010 from <http://www.shishmarefrelocation.com/>). For the past year, the President of the Maldives, an island nation in the Indian Ocean, has been planning to move the entire country because of sea level rise from climate change (retrieved on January 10, 2010 from <http://www.guardian.co.uk/environment/2008/nov/11/climatechange-endangered-habitats-maldives>).

gerous to our planet. Pingos are melting, river banks are slumping, caribou and other wildlife habitats are changing, and caribou herds are declining in population due to changes in access to their feeding and breeding grounds, especially when freezing rain prevents access to lichen and other feed sources on the tundra.

The turmoil caused by climate warming in the North is accompanied by other disturbances related to the interrelationships between western and indigenous cultures in the wage economy, as well as the global financial meltdown. The financial turmoil in the global economy in 2008 and 2009 taught us again that, wherever we may live, society's heavy dependence on excessive credit is not sustainable, and economic or market disasters in one country can be felt globally now more than ever. We must learn to live with more emphasis on the Triple Bottom Line, optimizing social, environmental, and financial returns, without an overarching dependence on borrowed financial capital. We must learn that managing our resources — social, natural, and financial — in a balanced way is the key. Recently, Henry Mintzberg published his scathing opinion about the failure of management in America's business environment (Mintzberg, 2009). Mintzberg's comments point to the importance of governance in emphasizing sustainable living, especially in an entrepreneurial context.

Financial literacy and responsible financial practices are two necessary conditions for sustainable development of communities and for sustainable living. However, there are other aspects of sustainability that we must consider. Sustainable living should allow us to live in comfort and in lifestyles that keep us healthy, wealthy, and wise, as the old saying goes. Healthy lifestyles will reduce our need of expensive medical care at all ages. If we have all we need, we are wealthy beyond measure. This new wisdom of sustainable living will increase as we practise it and teach it to our children.

The whole idea of sustainable living depends on more efficient use of all our resources. There have been many initiatives to help us move to greater efficiency in resource use, such as the Factor Ten Club, which made the following declaration in 1994: "Within one generation, nations can achieve a ten-fold increase in the efficiency with which they use energy, natural resources and other materials" (Hawken et al., 1999, p. 11).

The need for entrepreneurial sustainable living can be summed up in the words of Richard Branson (2008, p 321):

No one is asking you to save the planet. *Just dream up and work on a couple of good ideas.* No one expects you to find a global solution to everything. *Just make*

*a difference where you can.* Local solutions have a value in themselves, and some can be scaled up, so it doesn't matter how modest your budget, you can and will make a difference.

Some might think of sustainable living as opting out of present day society to choose a subsistence lifestyle. I choose to say that sustainable living is rather opting in to a new paradigm, where social capital and environmental capital have greater impact on daily life than financial capital. The subsistence lifestyle of some of the First Nations in North America is not a historical anomaly. It is based on a holistic culture of sustainable living that has lasted for many hundreds of years.

We face a two-fold challenge. First, to support Aboriginal peoples as their vital and sustainable living cultures are revived. Second, to develop a comprehensive northern culture of sustainable living. I believe that this culture will inevitably contain many elements of older subsistence lifestyles. We need to bring together best practices of past and present cultures east and west, north and south, to create success in sustainable living. For example, we must look at experiences in other northern countries, such as Iceland where descendants of one family have lived on one sheep farm for a thousand years (Ives, 2007). I believe that entrepreneurial sustainable living is a viable option in the Circumpolar North.

## THE DEPENDENCY CHALLENGE IN THE NORTH

The remote locations of our northern communities make us very dependent on imported goods and services from the south, by personal conveyance as well as by commercial truck and air transport. Practices of entrepreneurial sustainable living will help us to minimize these dependencies.

Nowhere is the dependency challenge more acute than among Canada's indigenous people, and the indigenous people living in northern regions are no exception. Calvin Helin (2008) has written that people come out of poverty through self-reliance. Throughout his book, Helin stresses the importance of indigenous peoples accepting the challenge of reducing dependency themselves through education, expanded entrepreneurial business, and interdependent working together. He stresses that money and government programs alone cannot do this for them. Helin states "tribal leadership must create an environment that encourages and nurtures individual tribal entrepreneurs" and "the only road forward involves economic integration and the development of indigenous enterprises and entrepreneurs" (2008, pp. 202, 261).

Sustainable living means freedom of individual choice for the betterment of family and community. Sustainable living has strong policy and regulation implications in all areas of dependency, including energy, buildings and housing, construction standards, food and agriculture standards, and community health, including waste management.

What aspects of our lives must be examined for northern sustainable living? There are many, but ten things come to mind. They are as follows, along with examples of the dependencies and governance challenges involved:

- *The energy we use:* Most communities in the NWT currently depend on imported diesel for electrical power generation, and all transportation fuels and most heating fuels are imported. The ownership and operation of electricity generating equipment by territorial utilities in remote northern communities works against promoting sustainability through maximizing solar, wind, and biomass forms of energy for communities and individual homeowners.
- *Climate change impacts, our adaptation to them, and their effects on our lives:* Our North is very vulnerable to climate warming, affecting the construction and maintenance of buildings and infrastructure in the presence of melting permafrost, and causing flooding and safety concerns (National Round Table on the Environment and the Economy [NRTEE], 2009). The NRTEE report highlights the importance of adapting to climate change, not just limiting the magnitude of future change through global mitigation of greenhouse gas emissions, and discusses three distinct areas of policy and governance: Codes and Standards, Insurance, and Disaster Management. The report emphasizes opportunities to integrate climate change adaptation with the compatible policy goals of *Canada's Northern Strategy* ([www.northernstrategy.gc.ca](http://www.northernstrategy.gc.ca)). Climate warming also affects wildlife habitat and migration,<sup>2</sup> including the possible extinction of many animals.<sup>3</sup> The North currently depends on actions yet to be taken by the industrialized and developing nations to mitigate climate warming and climate variability. Unfortunately, the recent December 2009 United Nations Climate Change Conference in

---

2. See Wenzel (2009) for a discussion of the impacts of climate change on the hunting and harvesting component of the traditional food system of the Inuit. Hunting and harvesting remain a significant aspect of sustainable living for the Inuit.

3. Recent assessments of climate change impacts in the North, including The Declaration of The Young Leaders' Summit on Northern Climate Change in Inuvik, NWT leading up to the Conference of the Parties (COP 15) to the United Nations Climate Change Conference in Copenhagen in December 2009, have been documented (retrieved on January 10, 2010 at <http://www.climateleaders.ca/>).

Copenhagen did not come up with a binding Accord, ending in various elements of general agreement only.<sup>4</sup> Given the failure to set targets for greenhouse gas emission reduction at Copenhagen, the need to act locally where every individual must be involved, in line with the principles of sustainable living, has been emphasized by Hunt (2009b).

- *Health and wellness:* Climate warming affects health and wellness, as will be discussed further in the next section (Menne and Ebi, 2006). The North must currently import most of its doctors and nurses from southern locations for the staffing of northern medical centres.
- *Education:* Most of our curriculum and teachers are currently imported from southern locations. Some of the curricula taught are not appropriate, nor adapted for a northern student population. However, the three northern colleges, Yukon College, Aurora College, and Nunavut Arctic College, are gradually working to develop northern curricula. Also, recent initiatives to develop and deliver curricula in the North on various aspects of sustainable living, including community health, are being developed between northern educators and universities (e.g., see <http://dechinta.ca>). The importance of education and mentoring to empower indigenous populations to free themselves from dependency has been stressed (Helin, 2008).
- *Employment:* Northern businesses must currently attract professionals from the south. Too few northerners are trained to fill positions in such careers as education, engineering, architecture, law, and medicine. Northern students and trainees often choose to stay in the South for a variety of reasons.
- *Housing:* Most of the housing units in northern communities are currently manufactured in the South and built to southern codes of design and construction (NRTEE, 2009).
- *Transportation:* The North depends on road and air transportation links with the South to import most retail goods, fuel, and commodities. Community remoteness currently brings with it the need for air and road transportation to the South for family shopping and medical treatment. Transportation in the North is also affected greatly by the impacts of climate warming (NRTEE, 2009).

---

4. The COP 15 deliberations resulted in general agreement between nations, referred to as the Copenhagen Accord (retrieved January 10, 2010 at [http://unfccc.int/files/meetings/cop\\_15/application/pdf/cop15\\_cph\\_auv.pdf](http://unfccc.int/files/meetings/cop_15/application/pdf/cop15_cph_auv.pdf)).

- *Ecology and environment*: Northern ecology and environment are affected by climate warming that is primarily caused by southern influences. Adaptation to climate change at the community level is of paramount importance (NRTEE, 2009).
- *Policy and governance*: Policy and governance are often dictated by federal departments and agencies far removed from the North with neither appropriate inclusion of, nor consultation with, northerners. Helin discusses these aspects of dependency as they relate to indigenous peoples (Helin, 2008). Self-government processes in the Northwest Territories of Canada have been reviewed extensively by Irlbacher-Fox. Irlbacher-Fox speaks “of a consistent message of Aboriginal policy in Canada: Indigenous peoples must change, and government can provide the tools, programs, and funds necessary to change” (Irlbacher-Fox, 2009).
- *Appropriate technologies*: The technologies currently used in northern communications, transportation, infrastructure, construction, and renewable energy industries are usually developed in the South for less remote and more temperate climate applications (NRTEE, 2009).

## POLICY FOR SUSTAINABLE LIVING

It is important for individuals and communities to collect as much information as possible to assess the importance of each of the dependencies mentioned above. With enough information and understanding it is then possible for decision makers to craft policy to minimize the impact of each dependency on sustainable living.

Dukeshire and Thurlow have written an interesting paper on understanding links between research (which is simply the orderly collection of knowledge) and policy as they relate to rural communities (Dukeshire and Thurlow, 2002). Most northern communities are rural communities. They conclude that

... understanding and using research effectively can go a long way in helping individuals and community-based organizations to impact the policy-making process to bring about policy change that benefits the health and sustainability of rural communities.

Once we are armed with information, and have crafted policies to reduce dependency, we can recommend governance processes for working together to accomplish sustainable living in the North. Sometimes we need to address the fact that dependence is seen as desirable — for example, the

viability of many transportation and expediting businesses depends on providing northern communities with southern goods and services.

An important review of past policy failures in Northwest Territories development has been published by DiFrancesco (2000). Following an in-depth analysis of past development efforts, and dependence and governance issues, the author concludes that “the expenditure of many billions of dollars and the implementation of myriad economic development initiatives has failed to stimulate the development of a viable wage economy” in the NWT. The author argues that the ineffectiveness of past policy and governance approaches “stems at least partly from a failure to recognize explicitly the interrelationship between the economy of the region, its constitutional status and that of its Native population.” This dismal government vision and skewed history of development points to the need for a new paradigm of sustainable living in the North.

The sustainable living paradigm, promoted across the world, addresses the collective problems facing both humanity and ecosystems that influence policy considerations. Two more global references that come to mind in this context are Soskolne (2007), and The Earth Charter. The mission of the Earth Charter Initiative is

... to promote the transition to sustainable ways of living and a global society founded on a shared ethical framework that includes respect and care for the community of life, ecological integrity, universal human rights, respect for diversity, economic justice, democracy, and a culture of peace. (retrieved on January 10, 2010 from <http://www.earthcharterinaction.org/content/articles/363/1/Earth-Charter10-plans/Page1.html>)

Climate warming in the North influences everything. Researchers are working to understand the impacts of climate change on human and environmental health. On the human health side, for example, Menne and Ebi (2006) edited a volume of results from the study “Climate Change and Adaptation Strategies for Human Health in Europe” (cCASHh), which took place from May 2001 to July 2004, coordinated by the World Health Organization. One chapter entitled “Policy Implications of Climate Change-related Health Risks in Europe,” includes preparedness for extreme weather and indicators of adaptive capacity (2006, pp. 297–344). This has relevance to Canada’s North, since it included feedback from several other circumpolar countries, including Iceland, Denmark, Sweden, Norway, and Finland.

The Northern Exposure conference of 2007, a project hosted by the Institute for Research on Public Policy, has been summarized by Abele et

al. (2009). The conference was structured around several themes, including two directly related to sustainable living, but dealing with overarching industrial and institutional aspects: northern enterprise — sustainable development, economies and communities; and sustaining people — education and human capital.

Hunt (2009a) provides a detailed analysis of policies for environmental resilience and sustainability. Resilience refers to how effectively a system (e.g., a community) reduces the social, economic, and ecological losses caused by environmental disasters. Hunt discusses the importance of collaboration between research and practical experience in the derivation of policy, and the importance of government, industry, and community working together.

It is important to emphasize that global governance, either at the territorial or land-claims level, depends upon individual resolve and a commitment to contribute to change at the community level, commonly referred to as *the power of one*. The attitude and commitment of the individual is very important if sustainable living is ever to be achieved at the community level.

Putting sustainable living in the hands of individuals and communities, will require transitions from national and territorial governance in all areas of dependence to regional or, preferably, community self-government. Irlbacher-Fox has discussed cases of community self-government negotiations in the Northwest Territories of Canada, particularly in areas relating to health, although these are yet few in number (Irlbacher-Fox, 2009, p. 92). Such shifts in governance to the local level are likely to continue, but will require lengthy negotiation processes.

Commitment at the level of individual and community is considered in very practical detail in a study developed for Ecology North of Yellowknife by northern author and science writer Jamie Bastedo (2009) entitled *Greening the NWT Economy: Local Pathways to Territorial Prosperity*. In a recent summary document dated September 2009, published by Ecology North,<sup>5</sup> there are many practical suggestions, with an emphasis on the Triple Bottom Line of investing in social and environmental capital as well as financial capital, and on placing more importance on local resources than on global resources. Bastedo states:

---

5. A summary of the Greening the NWT Economy report is available (retrieved January 10, 2010) at [http://www.ecologynorth.ca/uploads/114489\\_Green\\_NWT\\_WEB.pdf](http://www.ecologynorth.ca/uploads/114489_Green_NWT_WEB.pdf) and the full report is also available on the Ecology North web site (retrieved January 10, 2010) at [www.ecologynorth.ca](http://www.ecologynorth.ca).

By pooling local resources among communities, for instance, power provided by one community, fish resources by another, and so on, revitalization of the northern economy could move down a path toward collective self-sufficiency.

This Ecology North study may influence policy and governance processes in the future as we seek to find our way toward consistent patterns of entrepreneurial sustainable living in the North.

It is now up to each one of us, as individual northerners, to find ways to minimize dependencies, and to find our own individual paths to achieve sustainable living. The future well-being of our children and grandchildren will depend on our individual responses to the challenges of sustainable living today. It is also up to us to form regional networks of individuals to bring about changes in policy and governance that support our efforts to live sustainably. As stated by Hunt,

forming loose collaborative networks enables regions, their experts and decision makers to learn from one another and draw upon national and international resources, including the growing number of consortiums linking major cities, local governments and the private sector. (Hunt, 2009a)

Although Hunt's advice relates generally to governance and policy to address greenhouse gas mitigation, it makes good sense in addressing all of the challenges of sustainable living in the North.

## REFERENCES

- Abele, F., Courchene, T., Seidle, F., and St.-Hillaire, F., eds. (2009). *Northern Exposure: Peoples, Powers and Prospects in Canada's North, The Art of the State*. Volume IV. Montreal: Institute for Research on Public Policy (IRPP).
- Bastedo, J. (2009). *Greening the NWT Economy: Local Pathways to Territorial Prosperity*. (Available from Ecology North, 5013 – 51<sup>st</sup> St. Yellowknife, NT, Canada X1A 1S5).
- Branson, R. (2008). *Business Stripped Bare: Adventures of a Global Entrepreneur*. London: Virgin Books.
- DiFrancesco, R. (2000). A diamond in the rough? An examination of the issues surrounding the development of the Northwest Territories. *The Canadian Geographer*, 44(2), 114–134.
- Dukeshire, S. and Thurlow, J. (2002). Understanding the link between research and policy. 2002 Rural Communities Impacting Policy Project. Retrieved January 10, 2010 from <http://www.ruralnovascotia.ca/publications.asp>.

- Durning, A., Langston, J., Stiffler, L., and Valdez, R. (2009). Green-collar jobs: Realizing the promise. *Sightline*, October. Retrieved January 10, 2010, from <http://www.sightline.org/research/green-collar-jobs/green-jobs-primer>.
- Hawken, P., Lovins, A., and Lovins, L.H. (1999). *Natural Capitalism: Creating the Next Industrial Revolution*. New York: Little, Brown & Company.
- Helin, C. (2008). *Dances with Dependency: Out of Poverty through Self-reliance*. Woodland Hills, CA: Ravencrest Publishing.
- Hunt, J.C.R. (2009a). Integrated policies for environmental resilience and sustainability. *Proceedings of the Institute of Civil Engineers, Engineering Sustainability*, 162, September, 155–167.
- (2009b). Failure at such a grand level means we have to act locally [Comment]. *The Observer*, December 20, p. 30.
- Irlbacher-Fox, S. (2009). *Finding Dahshaa: Self-Government, Social Suffering, and Aboriginal Policy in Canada*. Vancouver: UBC Press.
- Ives, J. (2007). *Skaftafell in Iceland – A Thousand Years of Change*. Reykjavik: Ormstunga Bokautgafa Press.
- Menne, B. and Ebi, K.L., eds. (2006). *Climate Change and Adaptation Strategies for Human Health*. World Health Organization for Europe: Steinkopff Verlag Darmstadt.
- Mintzberg, H. (2009). America's monumental failure of management. *The Globe and Mail*, March 16, p. A11.
- National Round Table on the Environment and the Economy (NRTEE). (2009). *True North: Adapting Infrastructure to Climate Change in Northern Canada*. Ottawa: NRTEE.
- Renaud, F., Bogardi, J., Dun, O., and Warner, K. (2007). *Control, Adapt, or Flee: How to Face Environmental Migration?* (United Nations University Institute for Environment and Human Security [UNU-EHS]), InterSections No. 5/7. Retrieved on January 10, 2009 from <http://www.ehs.unu.edu>.
- Soskolne, C. (2007). *Sustaining Life on Earth: Environmental and Human Health through Global Governance*. Lanham, MD: Lexington Books.
- Wenzel, G. (2009). Canadian Inuit subsistence and ecological instability: If the climate changes, must the Inuit? *Polar Research*, 28, 89–99.

**Dr David Malcolm** holds a PhD in Engineering Science from the University of Warwick in the United Kingdom. He is a Certified Management Consultant, a member of the Canadian Science Writers Association, and a

member of the Saskatchewan Writers Guild. David has more than 15 years of experience working, researching, and writing across a number of science disciplines in Canada's North, especially in energy conservation, renewable energy, energy and climate change policy, community energy planning, climate change adaptation, and sustainable living in the Circumpolar North. He is a member of the Board of the NorthWords Writers Festival in Yellowknife. He is currently compiling research to be included in a book on sustainable living in the North, including the role of entrepreneurs in remote communities.

3916 Ragged Ass Road  
Yellowknife, NT, X1A 2T4  
[david.malcolm@mcri.ca](mailto:david.malcolm@mcri.ca)  
[david.malcolm@ualberta.ca](mailto:david.malcolm@ualberta.ca)

