



# The Natural Step to Sustainable Communities

Kelly Baxter and Saralyn Hodgkin

How do we create healthy, vibrant, sustainable communities, giving everyone the opportunity for a fulfilling life, without continuing to damage the natural systems upon which we all depend? That is the challenge of sustainable development, and specifically the challenge of sustainable community development. The scenic mountain town of Canmore, Alberta, is addressing this sustainability challenge with the help of The Natural Step Framework.

## Local Background

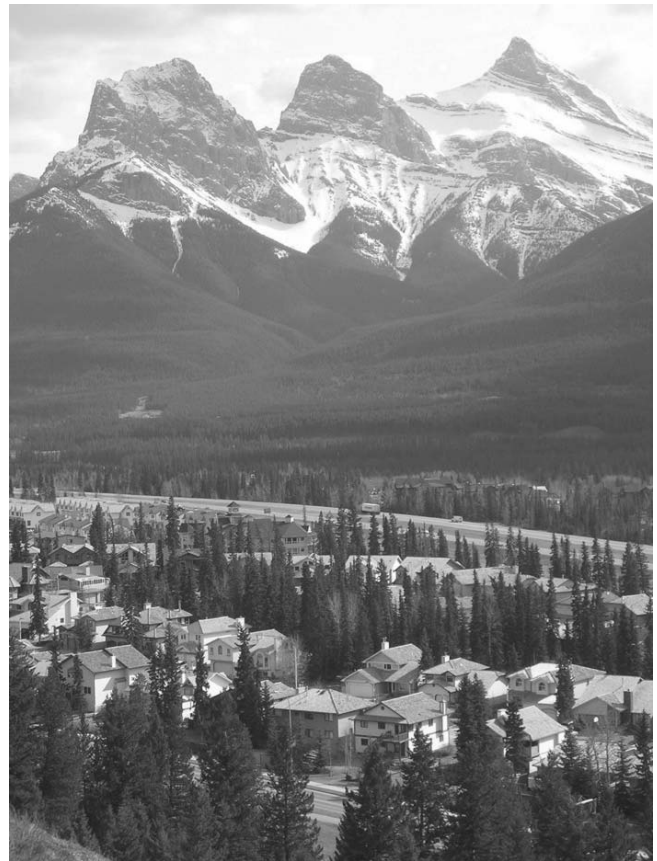
The town is nestled in the majestic Canadian Rockies, in the Bow Valley between Calgary and Banff, Alberta. Founded in 1883, Canmore has been both a mining town and a railway town. Now, it is known world wide as an outdoor recreational and adventure centre. Canmore's natural beauty and stunning surroundings have made it an attractive home to outdoor enthusiasts and mountain lovers. Consequently, the town has experienced rapid population growth over the past decade, which has put pressure on the surrounding ecosystem.

The town, in partnership with other organizations within the community, has recently launched *The Natural Step to a Sustainable Canmore*, a comprehensive education and planning process to help Canmore move strategically towards sustainability. Canmore will become the second Canadian community to implement The Natural Step's award-winning community-wide engagement program after Whistler, British Columbia.

"This project will put Canmore on the map as a municipality that is actively seeking ways to balance humanity's increasing demands for natural resources with decreasing availability," says Canmore Mayor Ron Casey.

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Canmore, Alberta is addressing the sustainability challenge with the help of The Natural Step Framework. (Photo: E. Melanie Watt)

## Challenge of Sustainability

Sustainability is one of the greatest challenges of our times. The issues facing today's municipalities are all extremely complex, often overlapping, often competing, and without obvious solutions. In addition, there are also many levels of government involved – federal, provincial and municipal – each with its own set of priorities. There are many stakeholders involved in each community – public, private, non-profit, universities, research institutes, and taxpayers –

to which all levels of government are accountable. There are also many different issues to be dealt with simultaneously: meeting climate change targets, meeting current and future public infrastructure needs, clean air, clean water, affordable energy, culture and recreational needs, while still responding to immediate and urgent everyday priorities.

For effective, sustainable solutions, we cannot take an isolated, issue-based approach. To be able to tackle complicated problems, an overarching perspective that utilizes a systems approach is required. Systems thinking creates understanding of the connections in the system. If we change one part of the system, another part is affected. Municipalities thus, must be thought of as complex systems. Municipalities can benefit from a framework through which they can come to grips with the whole system – one that focuses upstream on the root causes of our damaging impacts, and allows us to “design” the problems out of society, rather than continuing to react to unforeseen consequences. The Natural Step Framework can help municipalities address complex sustainability challenges in a strategic way.

### The Natural Step Framework

The Natural Step is an international non-profit research, education and advisory organization that uses a science-based systems framework to help organizations, individuals and communities take meaningful steps towards sustainability. The framework was created in Sweden in 1989 by a Swedish oncologist named Dr. Karl-Henrik Robèrt who was frustrated at the fractured debate on environmental problems, and the lack of progress in finding solutions. He engaged his scientific colleagues in a consensus process, and the output of that process was agreement on the fundamental scientific principles that govern the biosphere and our ecosystems. That agreement became the basis of The Natural Step Framework. It has since been elaborated, peer-reviewed and tested in hundreds of businesses, communities and non-profit organizations around the world. The Natural Step now has offices on every continent, including an office in Canada, and has garnered several awards for its approach to sustainability, including Mikhail Gorbachev’s Millennium Award and the Blue Planet Prize.

The Natural Step Framework is a methodology for planning that provides an elegant, rigorous, science-based understanding of sustainability, together with a tested planning approach to translate that understanding into practice. It defines sustainability at the principle level, enabling organizations to create optimal strategies for dealing with the present-day situation, and to move strategically towards sustainability.

When The Natural Step Framework is used as a guide throughout all departments of a municipality, it can result in integrated, across-the-board change. This is very different than the single-issue approach that is more commonly used in cities and towns that have undertaken sustainability initiatives. This means that sustainable practices can spread through the complex web of operations and planning approaches of a city or town, in an aligned and complementary way, rather than working at cross purposes. This helps to

## System Conditions for a Sustainable Society

In the sustainable society, nature is not subject to systematically increasing

- 1 concentrations of substances extracted from the Earth’s crust
- 2 concentrations of substances produced by society
- 3 degradation by physical means

and people are not subject to conditions

- 4 that undermine their capacity to meet their needs

address conflict among competing priorities upstream (at the design/inputs stage), rather than downstream (at the emissions/outputs stage).

*The Natural Step to a Sustainable Canmore* is being co-ordinated by the Biosphere Institute of the Bow Valley, and was made possible through the support of a number of local, provincial, and national organizations. Nine local businesses and organizations have signed onto the program as “early adopters” and are currently undergoing a six-month training program where they are developing a common understanding of sustainability, learning a common language with which to talk about it, and designing plans to move their organizations and the community as a whole towards sustainability in an integrated way.

In addition to the Town of Canmore, other organizations participating as early adopters include both large and small businesses, and a variety of other community stakeholders including the public library, and the local seniors association.

### Training Program

The training program involves taking participants through the main components of The Natural Step Framework. The first workshop focuses on awareness of the current state of the biosphere; an introduction to systems thinking, the basic science underpinning the framework; Natural Step’s system conditions; and the concept of backcasting. (Backcasting is a methodology for planning that involves starting from a description of a successful outcome, then linking today with that successful outcome in a strategic way: what shall we do today to get there? The TNS Framework uses its scientifically rigorous “system conditions” as the basis for the definition of success from which to backcast.)

## ABCD Planning Process

The System Conditions describe the basic requirements that must be met in a sustainable society. How can these System Conditions be applied to an organization's everyday operations? Each individual organization must draw its own conclusions from the sustainability objectives with respect to problems, solutions and goals. The Natural Step has developed and tested an approach to help organizations incorporate sustainability into their core strategies. The four-step "A-B-C-D" process provides a systematic way of guiding this process:

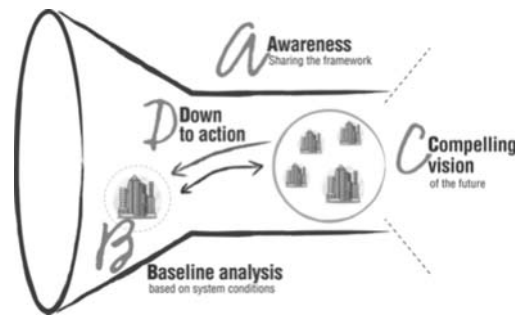
**(A)wareness:** Understanding sustainability and the TNS Framework as a shared mental model.

**(B)aseline:** An assessment of "today" is conducted by listing all current flows and practices that are contributions to violations of the four System Conditions, as well as considering all the assets that are in place to deal with the problems.

**(C)ompelling Vision - Opportunities for Innovation:** Possible solutions and innovations for the future are generated and listed by applying the constraints of the System Conditions to trigger creativity and scrutinize the suggested solutions.

**(D)own to Action:** Priorities from the C-list are made, and smart early moves and concrete programs for change are launched. Innovative actions are prioritized by screening them through the following three questions:

- Does it move us in the right direction with regards to the four System Conditions?
- Is it a flexible platform, i.e. a stepping stone toward future improvements?
- Does it provide an adequate return on investment to seed future investments?



The second workshop teaches participants how to facilitate change within their organizations, and how to conduct a current reality analysis of their organization's current operations. This means identifying the business processes and stages within the organizations, mapping flows of inputs and outputs within business processes, and identifying issues and opportunities for improving sustainability performance.

The third workshop helps participants to develop a compelling sustainability vision of what their organizations might look like in a sustainable society, and to generate opportunities for innovation and improvement. The fourth workshop helps them prioritize possible opportunities for innovation. When the early adopters have finished developing action plans for their own organizations, they will combine forces to create a program for sharing their learning with the rest of the community.

Though participants are only mid-way through the training program, participating organizations are already seeing the benefit of using The Natural Step Framework. Bart Robinson, the Biosphere Institute's Program Associate for *The Natural Step to a Sustainable Canmore*, reports that "The training program has not only driven home the need for sustainability, but it has provided a readily accessible, economically-feasible, step-by-step approach to working towards it. We're seeing the remarkable work being done by other communities and organizations in fostering sustainability, and have become very ambitious about the possibilities for Canmore."

Lee de Soto, one of two members of the Canmore Seniors' Association taking the training, is already talking to members of his board about some of those possibilities. "We're rethinking our energy and material flows from top to

bottom," he says, "and are developing a program that will incorporate a dozen actions ranging from programmable thermostats and green cleaning agents for our centre to an aggressive recycling program for all the public and private functions that are held at the centre. Also, with board approval, we'll develop a sustainability education program for our membership. And that's just for starters."

### The Natural Step and Communities

The program in Canmore was inspired by a similar program in Whistler, BC. The Natural Step Founder, Dr. Karl-Henrik Robèrt, visited Whistler in March 2000 for a snowboarding vacation with his family. During his visit, he addressed a number of Whistler audiences regarding The Natural Step and impressed business and political leaders with his clear and compelling explanation of sustainability.

The result of Dr. Robèrt's visit was *Whistler: It's Our Nature* – a community-wide program initiated by a partnership of local organizations to promote and support more sustainable practices among businesses, schools and households. Participating organizations have been incorporating sustainability in their operations using The Natural Step Framework.

The municipality is also incorporating framework in many of its operations, from not using chemical pesticides, to downsizing vehicles, to installing low-flow toilets in all municipal facilities. The municipality has just released an ambitious 16-year sustainable development plan, *Whistler 2020*, which looks at 18 service areas and prioritizes future actions based on The Natural Step Framework.

## Municipal Initiatives Across Canada

Canmore and Whistler are both examples of a community-wide engagement – a strategic process to support a whole community to move towards a shared sustainability vision. But, what about those municipal departments or community initiatives that do not have the resources or the mandate for a community-wide initiative? The Natural Step Framework can also be used to help individual organizations tackle specific sustainability problems in a strategic way. For example, The Natural Step Framework has been used to:

- ▶ conduct sustainability education workshops and presentations for municipal staff and elected officials in a variety of municipalities across Canada from Port Alberni, BC, to Wolfville, NS;
- ▶ conduct a sustainability analysis of current operations in the Regional Municipality of Halifax;
- ▶ create green procurement guidelines for Whistler and Halifax;
- ▶ conduct a series of workshops for senior management on leadership and sustainability in municipalities; and
- ▶ create a sustainability plan and increase organizational capacity to use The Natural Step Framework in planning for Strathcona County, AB.

## Swedish Eco-Municipalities

North American communities looking for inspiration can also look across the ocean to Sweden, where there are many eco-role models. Over 60 municipalities in Sweden have adopted The Natural Step Framework and have brought about comprehensive, across-the-board changes towards sustainability. For example, Umea, a city of 100,000 in the northeast of Sweden, has built a powerplant fueled entirely by the community's own solid waste. Falkenburg, a municipality of 40,000 on the southwest coast of Sweden, now generates about 30 percent of its energy from renewable (wind and solar) sources. Eskilstuna, a city of 90,000 in the central part of Sweden, has built a non-toxic school of entirely natural materials, and has reported a marked improvement in the health of its occupants. Eskilstuna also produces its own power with a state-of-the-art combined heat and power plant run entirely on biomass fuel.<sup>1</sup>

Municipalities are showing important leadership in demonstrating that environmental and social sustainability can be sustainable economically as well. "The perfect scale for the creation of socially and ecologically sustainable role models is at the municipality level," says The Natural Step founder Dr. Karl-Henrik Robèrt. "Municipalities hold the key to a sustainable world in their hands." *MW*

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