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# Update

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Vol. 5 no. 1 March 1984

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**Thoughts on the FUTURE &  
the ENVIRONMENT**

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# Environment Update

Over the years Environment Canada has become increasingly aware of its responsibility towards its diverse publics. The aim of *Environment Update* is to inform interested people about the programs and activities of our department. We recognize the value of working cooperatively with Canadian citizens and our colleagues outside of government. We are in fact, creating links. These links will allow us to meet our objective along with those who share our concern for a better environment.

Each publication features a specific issue and includes articles on other topics from across Canada reflecting the full spectrum of services of

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## Editor's Note

For this issue of UPDATE we have asked for articles from people outside as well as inside Environment Canada and have identified each of the contributors.

We hope you will find the various point of view informative and stimulating.

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## Minister's Statement



# The Legacy We Pass On



Many young people will finish school this spring. Then they hope, they will find jobs to challenge their fresh young talents.

At the same time they know that employment is high among young people. And they're uneasy about the future. They fear that opportunity is passing them by and they look to us, the older generation, for the solution.

Of course, we do have an answer, although we often ignore it or only pay lip service to it. We have a formula which provides opportunity for the future. You and I know that opportunity for tomorrow lies in properly managing our environment today. We have coined a phrase which describes this. It is: "Sustainable Development" and it can embrace all facets of the environment.

Our willingness and our ability to apply that formula is the measure of our desire to pass on to young people a future of value — indeed a future life of quality.

Until recently there was a widely held view that sound environmental and industrial development were in conflict. It was an "either/or" situation.

But this is changing. Canadians no longer accept that tired old rationale. Many of us have begun to debunk the "conflict" notion and in its place we accept a new order. We believe that pollution is a threat to our prosperity.

We already have the technology to control most forms of pollution — for example the emissions that cause acid rain. What is really needed is a sense of urgency in applying our existing knowledge and expertise. In another 25 years it may be too late.

In many countries the environment is being destroyed much faster than we can repair it. In 20 years, if this continues, a third of the world's arable land will be unusable, and many more wildlife species will be extinct.

However, we cannot avert disaster just by sudden resolve and reaction. We also need to plan much further ahead than we formerly did. We have to anticipate and head off problems before they arise, instead of reacting only after serious trouble develops.

That was never a good strategy, and we realize today that we no longer can afford it.

We must also begin today to seek the participation of young people in applying what we know. Otherwise the older generation, once again, will be preaching an ethic of "do as I say" instead of "do as I do".

As a beginning, Environment Canada recently introduced Environment 2000 — a program to provide jobs for unemployed youth but in the context of some of our most serious environmental concerns. We are also looking at other approaches to youth and these will be discussed in the months to come.

If we wait to act, it will be too late.

Charles Caccia





# The Environment Is Not What It Used To Be

by Rubin Nelson, Square One Consultants

## *Reflections on Our Changing Consciousness of our Environment*

The grass is green  
The flower's riz  
Where last year's  
Careless driver is  
BURMASHAVE

Burmashave jingles, found on the fence posts along the highways, were part of the delight of my childhood. Each summer, we wondered excitedly whether the signs in the distance would prove to be an old favorite or a new gem. Thinking back now, I am conscious of four things:

First, years before Small is Beautiful, the Burmashave signs — less than 1 m long by 15 cm wide — were environmentally appropriate.

Second, in those days, we did not speak of “the environment”. We spoke of “the world” or “outdoors”. Environments were more limited and specific, as in “the environment in a classroom” or “the environment in a tepee at summer camp”. It had not dawned on us yet that we could think about all there was as “the environment”.

Third, our view of the outdoors was fairly simple. It was external. It was big. We really could not affect it all that much. However, we were responsible for keeping it clean. This impression was reinforced by the B.C. Department of Highways’ “Keep B.C. Green” and by my Scout master’s “Burn, bash and bury.”

Fourth, my consciousness of the outdoors has changed. Now I can think about “the environment” and not just specific environments. I am also aware that there is more to caring for it than just keeping it clean.

However, if my consciousness has changed in the past, will it change in the future? Am I on a slow, but substantial journey of evolving awareness of the environment? If so, what have the critical stages been? Are others on this journey, too? What is the significance of such a journey for environmental policy? These are questions I want to explore.

I believe our consciousness of the environment does change and develop and that we are on a journey of several stages towards personal and societal maturity. I am aware of the immense damage we now cause by acid rain, by stripping the forest cover and . . . and on and on. Nevertheless, we as a society are growing up. Slowly and painfully, we are learning to experience the environment, and ourselves in relationship to it, in a fundamentally new and ultimately more promising way.

### **Environmental Consciousness in Traditional Societies — We are one with it**

Our journey begins with our forefathers in pre-industrial societies. In such societies, men and women do not

experience “the environment” as something separate and apart. For them, rather, life is integrated. They are at one with the cosmos and hence the environment. The divisive sense that distinguishes human beings from the environment, which is the mark of an industrial culture, has not yet arisen.

In traditional societies, human beings live their lives within a sacred and unchanging created order, given to them by the Creator Spirit. The world is simply the way things are, have been and always will be. It is unthinkable that it could be substantially different, and a fundamental and lasting change is inconceivable. To the Plains Indians, treaties were to be kept “as long as the grass grows and the rivers flow,” which is to say . . . forever. It was unthinkable that the soil would not support grass or that the rivers would ever cease to flow.

In traditional societies, then, both human life and nature are taken for granted; neither is an object to manage or to care for. Because of this, one finds no departments of the environment or consciously designed environmental policies in traditional cultures.

Some, today, idealize such societies as the model to which we should return. Appalled by the damage industrialized societies have done and are doing to the environment, and attracted by the sense of being at one with nature, they offer earlier attitudes as the appropriate path to our future. Is this the path for us? I think not.

It is true that traditional societies cannot deliberately damage their environment, because it is not an external object for them. Nevertheless, they can still do irreparable damage when the means come to hand. Consider the once forested shores of North Africa which were turned to deserts. Consider also that forests are being stripped, water polluted and the land eroded in much of the third world. The impact of present land and water pollution rates in China is already substantial. Environmental destruction, then, is not limited to industrial societies. So let us move on.

### **Early Industrial Consciousness —Keep It Clean**

An industrial consciousness of the world segments and divides that which a pre-industrial consciousness sees as whole. It regards the environment as something apart, and nature as external to human beings. Nature thus becomes an object to be used, exploited and manipulated — there for humans to do with as they will.

In early industrial societies there is only a limited sense that the environment needs to be cared for; that if one is not careful, the landscape can be covered in garbage. So garbage piles up . . . everywhere. Early industrial societies learn to care for the environment as they gain experience



with the creation and disposal of garbage. They learn that the environment should be kept clean. But early industrial consciousness does not create departments of the environment. Rather, it leads to sanitation departments and bylaws against littering.

It is not yet conceivable in an early industrial society that the riches of the environment need to be managed, much less protected and conserved. Ore is to be found and mined, trees are to be cut and lumbered. Tomorrow will take care of itself because the supply is virtually inexhaustible.

Until very recently this early industrial consciousness was the norm in Canada. This is the way I experienced the North American prairies in my childhood. But history moves on.

### **Mature Industrial Consciousness — Manage and Protect It**

In the second stage of industrial development, the third stage overall, it dawns on us that continuous exploitation of the environment is not possible. Fishing stocks can be fished out; soil can be depleted; forests, if not replenished, disappear. The mature industrial stage, then, inherits from early industrial society the sense that the environment is external and can be manipulated. Now, however, the desire to manage and protect the environment comes to predominate.

A mature industrial consciousness seeks to manipulate the environment in such a way that it can always provide continuous use. One not only talks of farming in the old conventional sense, but of farming the forests and harvesting oceans. We learn that there are limits to our exploitation. The environment and its resources need to be protected from undue exploitation — an unthinkable concept in a pre-industrial or early industrial society.

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“At least for the next two generations, we will have to deal explicitly with the nature of human beings and the nature of the environment as the basis of any future environmental policy and practice.”

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It is at this stage that departments of the environment are created. It is no accident that such departments were not created in Canada until the 1970s. Only then did we clearly recognize that if we do not manage our resources, we will lose them. Accordingly, environmental protection and environmental management have become prime concerns. This can be seen in every environment department in Canada. Theirs is not just the housekeeping job of “keeping it clean.” Rather, theirs is the responsibility to protect, manage and regulate, to ensure there will be a usable environment for future generations.

For some, this is the end of the story. All would be well, they suppose, if we could only determine the carrying capacity and replenishment rate of the various aspects of the environment, and respect them. We would fish at a rate that would allow stocks to be continuously replenished. We would plant trees at a rate that would allow us to keep the forests forever with us. We would learn to emit pollutants into the atmosphere below critical threshold levels.

This is the ideal mature industrial-age understanding. We can use the environment for our own benefit as long as we manage it properly. This theme is heard again and again from ministers and officials of Canadian environmental ministries, and from officials of the various resource extraction industries. They feel they are finally getting it right, and there is nothing more to be said. But isn't there?

### **The Romantic Reaction — Live in Harmony with It**

We are pushed beyond this mature industrial-age understanding when we realize that we live not merely on the earth, but as part of it. This realization is revolutionary. It suggests that the environment is not nearly so external or unrelated to us as industrial-age images assume. We are still digesting the implications of this fact — as individuals, as organizations and as governments. Nonetheless, our understanding of the environment is again undergoing a fundamental change. We are coming to experience the environment in substantially different ways.

To live as part of the earth, and not merely on it, is in some ways a return to earlier attitudes which do not recognize boundaries between human beings and the external world. We are learning that, whether we like it or not, we are part of the ecosystem; that the relationships by which our earth is sustained are far more interpenetrating and intimate than industrial-age images suggest; that these images of separate and self-contained parts must give way to pictures of ecological webs of mutual dependence.

To an industrial-age imagination, the world is full of separate, clearly distinguished and essentially self-contained entities, be they individuals, sovereign states, pieces of private property or private corporations. But the reality of our world is otherwise. For example, it matters to Canada what Brazil and other nations do to their rain forests, because they produce oxygen we need to breathe. It matters to Canada what Americans put up their chimneys; if it's sulfur dioxide, it comes down as acid rain and destroys our lakes.

Industrial-age human beings — including many government officials — still talk as if there were a trade-off between economic development and industrial degradation. Their only question is how much degradation we can afford in achieving desirable growth targets. But this ignores the fact that we are part of the environment being degraded. The language of trade-offs presupposes that an industrial-age understanding of the environment is adequate — a notion we now recognize as false. The environment is not, as industrial-age consciousness suggests, a giant machine with replaceable parts. It is an incredibly intricate, interwoven ecosystem in which it is not possible, because of this relatedness, to do only one thing.

As we are being forced to learn, it is not enough to manage and protect the environment. Rather we need to live in harmony with it, for we are part of it. To do otherwise imperils the environment and therefore ourselves.

This realization is offensive to control-oriented and domineering industrial man, but in time we are bound to accept it. We will recognize it is not enough to manage and protect the physical world; we also need to respect and learn from it.

This sense of being at one with the world, of learning to respect the earth not as mother, but as sister, is common to only a minority in our society. But it typifies the next major phase of our society's growth. It can be seen in the growing insistence on the status and importance of trees, and the demands that animals not be killed with leg-hold



traps. These spring from a genuine respect for what used to be seen as separate, other and unrelated to ourselves.

In Canada, this fourth stage of environmental consciousness is commonly found in voluntary organizations like those that sprang up in the late '60s to defend the environment. Now they demand that we respect it. The consciousness of most officials of environmental agencies and resource development companies is still at the late industrial stage. If this is understood, then the tension between them which ranges from mild *dis-ease* to open hostility is not in the least surprising. From the governments' point of view, many of the voices they hear from the voluntary sector are romantic, naive and extreme. From the point of view of Friends of the Earth, both government and corporate officials are often dangerously ignorant of the reality of the ecology of which we are a part.

But even this is not the end of the story. There is at least one more phase in our journey. Some are already on it.

### **Post Industrial Consciousness — Persons as Co-creators of Life in Earth**

Living in harmony with nature is not enough. The romantic ecological understanding of the relationship between people and environment redresses the inadequacies of the industrial-age understanding, but it does not yet grasp the full meaning of what it is to be a human person in the earth community.

True, we gain nothing by denying our identity with nature, our historical and biological roots or our recent still minor role in the evolution of the earth. However, although human beings are not independent parts of a giant machine, neither are we simply cells in a giant organism. Ultimately, neither a mechanistic nor an organic metaphor captures the reality of what it is to be a human person in an ongoing human culture. We are not only learning new and startling things about the environment. We are learning new and startling things about what it is to be human. Moreover, the new knowledge is shattering the commonly accepted notions. Those who talk of our need to live in harmony with the universe are fully conscious of the new concept of the environment, but they often cling to the old ideas of what constitutes a human being. As we grasp the new images more securely, we will move towards a genuinely comprehensive post-industrial understanding of human beings and nature.

The essential point is that there is something special about being a person. Human beings are the only animals that can become self-consciously aware, and ultimately critically self-consciously aware. We are the only animals that can be troubled not merely by what we find in the world, but by the manner of our being in the world. This is because we can evaluate our consciousness and, if we make the effort, alter it. We can learn to be responsible for our attitudes and therefore the quality of our living.

If this were not true, the struggle against racism, bigotry and sexism would be futile. What we need is not merely altered behavior, but a fundamentally different

consciousness. It is not enough to treat blacks with tolerance, or women with generosity, while still regarding them as inferior. Rather, we need a radically different perception of them, and therefore of ourselves.

We are challenged to be responsible not only for what we do with our hands and our mouths, but also for the quality and form of our consciousness — and therefore the social order it produces. This allows us to shape not only our own lives and the social order, but also the natural order.

Hence, there is point to the biblical view of our place in the world. On the one hand, we are part of the natural order. Our days are numbered as the grass which grows up and withers. On the other hand we are the crown of creation, called not merely to live in harmony with a fixed and final cosmic order, but to help reshape our own lives, our societies and the earth.

I do not claim to see all of the implications for environmental policy and practice of this new understanding of the human person and the environment. However, they are clearly enormous. At least for the next two generations, we will have to deal explicitly with the nature of human beings and the nature of the environment as the basis of any future environmental policy and practice. Ultimately we may even have to abandon departments of the environment, because we will recognize that "the environment" is not just one more segment of our world like "agriculture", "trade" and "welfare".

I have not tried here to describe the end point of our journey, or to urge us to get there as fast as we can. Rather, I have tried to make the point that as a society and as individuals within it, we are on a journey. None of us in Canada, in 1984, regards the environment just as the members of a pre-industrial society did. Too much has changed for that. Few of us even experience the environment as I did in my youth. In short, the change in which we are caught is real and still ongoing. This fact, I believe, should give us hope as we journey. We must learn to recognize the signs of new consciousness, not only in ourselves, but in others. Then we must nurture it and wait patiently for it to grow.

An industrialist moving from an early to a late industrial-age understanding is still progressing, and not to be condemned. What we now know, what he may not yet know, is that his new awareness is only one station on a longer journey. Our task is to encourage and promote the journey, not to chastise one another for not travelling faster. All of us grow as quickly as we can, even if that is not always satisfying to our friends and colleagues.

Is there enough time? My answer is yes. The pattern and the timing of human growth in history can be trusted. This journey we are on is a journey towards accepting our place as conscious, co-creators of the future of the earth. This is a long way from the simplicity of a prairie boy reading Burmashave signs. It is a measure of the distance we are forced to travel, and of what we are coming to know about ourselves as human beings and the earth. The manner of our travelling will determine our future.



# The Future of Public Consultation

by Jacques Gérin, Deputy Minister, Environment Canada

What is the future of public consultation? Amazingly perhaps, the answer lies in two other very fundamental questions. What does the future hold for Canadian society? What changes will the future bring with respect to the role of citizens, the role of government, and the relationship between them?

Our society is undergoing fundamental changes. What lies ahead is likely a new phase of human evolution. We are probably in the throes of a dying 19th century industrial era and in the uncertain early stages of a "post-industrial" era. We do not know the future, nor what it promises. We do know it will not be a simple extension of the past. People everywhere are re-examining traditional values, attitudes, principles and relationships.

This re-examination makes social consensus, already difficult in the pluralistic Canadian context, even more elusive. It also suggests that the immediate future is bound to be uncertain, perhaps even turbulent, as we struggle to forge a new social consensus. So while we must recognize that fragmentation and indeed polarization of views reflect current realities, we can hope — and work — for a new consensus, one that will reflect better than in the past, the realities of our planet: environmental, economic and social.

Such a search calls for a different relationship between citizens and their governments. The traditional relationship has indeed been changing rapidly. In the past, Canadians looked to governments to provide leadership and to formulate policies and programs in the public interest. There was a good deal of tacit consensus around what constituted the public interest. But when that consensus eroded, so too did confidence in the authority of governments. Today, there are many "publics", each demanding their right to be heard and their claims to be met. They want a say in decisions that affect them. They want *in* to governmental processes, not just through the ballot box but at those points in time when new policies are being formulated and new programs explored. More than that, they are calling for less government and at the same time for a higher quality of governance — meaning not only responsive government, but the exercise of responsibility by individuals, groups and communities.

We have taken a leadership role among federal departments in responding to demands for more openness in government. Our formal public consultation programs were launched in an effort to bring the views of interested and concerned members of the public to bear on departmental policies and programs. We have done so in the belief that this openness will result in better and more effective environmental policies. We will continue working to improve that consultative process. But that's only one aspect of moving to an environmentally responsible society. We must also take our own words seriously — that responsibility for the natural environment is a shared responsibility, one that devolves not only on governments but on all members of society in our public and personal lives.

This points to different forms and processes for "public consultation" — indeed it may even point to different terminology. It requires a different focus: not what

governments are doing and should be doing, but rather what citizens are doing and what they can do to exercise their environmental responsibility. In this focus, governments must necessarily take a back seat to community leadership and initiative. This does not mean withdrawal or abdication.

Community skills need to be developed and encouraged, the importance of individual and community responsibility continuously explained and driven home, and the appropriate supports for responsible public discussion and action put in place. This is a role for governments — to foster, spark, promote and encourage environmental leadership at every opportunity. And to be responsive.

Spreading the environmental message and fostering the adoption and the practice of environmental values is an essential part of our mission to serve the Canadian public, and it has never been more timely. The many fundamental questions now being raised about the kind of future we want and can realistically aspire to provide the opportunity to move forward. One of the important driving forces underlying this re-visioning of the future is the relationship between society and the natural environment, including the interdependencies among different human societies and between mankind and the environmental commons. Many Canadians today have come to appreciate that we humans are part of the natural environment, not apart from it, and that we must abandon the notion of dominion over nature and learn to act as stewards and partners with nature.

That evolution in consciousness is shaping the new social consensus; it must be translated into practical everyday decisions.

This puts a different cast on what we now call "public consultation". We need to call on our imaginations and creativity to carry this message into the various forums appropriate to the different "publics" who must become actively involved. Take the business community for example. What can we do to help those corporate officials, already convinced that sound environmental management is sound business investment, to take that message to their peers? What can be done to help translate that message into practical corporate decision-making? One way is to start by understanding their language, speaking with them in terms they understand, and trying in that process to help them understand ours. We can thus be promoters of "good" solutions.

We can take a similar approach with leaders of the labour movement with whom our dialogue is spotty and far from adequate. They are concerned with the threat of job displacement by new technologies, and also, very publicly, with issues of environmental health. By recognizing these different concerns, we can engage in a search for solutions. By ignoring the first, we cannot succeed on the second.

And we should not ignore the millions of householders whose daily consumption patterns and lifestyle choices have significant environmental impacts. They need to find themselves in conversation with one another in living



rooms and community forums across the country. They could learn from those already trying to practice environmental responsibility each and every day. Sensitive leaders from among environmental groups could become lively community resources in this learning process. From such discussions, we in government could gain fresh insights into very practical steps that can be taken to enhance household awareness and responsibility. Together, we could explore such practical suggestions as labelling particular products with symbols indicating their environmental impacts over the course of their lifecycle.

We might invite those engaged in teaching our young people about the natural environment to tell us what kinds of information they could use to raise consciousness about environmental values and how to practise them.

To sum up, the times are ripe for moving the message that "the environment is everyone's business" into practical application. We have pioneered in putting in place consultative processes designed around the proposition that public consultation will result in better government policies and programs. As we reaffirm our commitment to that objective, we can move beyond and discover how to focus on the environmental responsibilities of all members of the Canadian community.

The process of change of which we are part will eventually lead to a new consensus based on the realities of the 21st century. This opens new opportunities. We can seek out new forums in which all Canadians can ask themselves: what can we do for the environment of which we are part and which we have borrowed from our children? Where are the impediments that prevent us from practising

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Environment Canada's Headquarters Public Consultation Meeting, will be held May 8-10 at the Canadian Government Conference Centre in Ottawa.

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environmental values and what can be done to remove them? While we in government can promote such discussions, we cannot impose the answers. Instead we need to listen to those thoughtful citizens prepared to take a leadership role in spreading a lively and active sense of responsibility for the health and well-being of the Canadian community and the environment on which we all depend. Then when we act, we shall truly be serving Canadians.

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# Sustainable Development

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**The following is an Executive Summary of Environment Canada's recent submission to the Royal Commission on Economic Union and Development Prospect. The title of this submission is "Sustainable Development" and a copy can be obtained by writing to ENQUIRIES CENTRE, Environment Canada, Ottawa, Ontario, K1A 0H3.**

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The environment and the economy are inseparable twin components of the continuing prosperity and well-being of our society.

Continuing harmony between society and the environment requires

recognition that the environment is:

- a life-sustaining and productive source of resources;
- the ultimate receptor of all products and wastes generated by human activities;
- a force in its own right, with natural processes that impact upon society and human activities; and
- a heritage to be passed on to future generations.

Interdependencies between the environment and the economy are more pervasive than is generally realized. In a global context emerging problems such as the greenhouse effect, acid rain and the destruction of tropical forests could have major effects on Canada's resource base which is so important for our sustainable economic future. Canada

must play an active role internationally to ensure our environmental security.

Canada and other industrial countries currently face dilemmas related to economic growth, control of the harmful effects of technology, distribution of income and unemployment. Our future is currently uncertain: future predictions range from a doomsday scenario, involving a move to a "post industrial society". To a large extent our future is in our own hands. It will depend on our values and on the way in which our economic systems reflect the constraints and characteristics of the natural world around us.

It is the view of Environment Canada that Canadians place a high value on the natural attributes of their country, and will choose a future involving a sustainable pattern of development



that is in tune with their environment. If we are to choose that path, our economic system must ensure the maintenance of our resource heritage and our processes for economic decision-making must be broadly based.

Environment Canada urges the Commission, in subsequent stages of its work, to address such questions as:

- what initiatives can be undertaken to ensure that our economic decision-making takes into account full social costs and benefits? Should marginal cost pricing of natural resources be pursued? What roles should the market place and administrative fiat play in addressing the externality issue?
- to what degree are Canadians willing to rely primarily on technological solutions and discoveries to resolve issues of scarcity?
- to what degree are Canadians confident in rising economic growth

in the industrialized world as a means of sharing affluence not only with the economically disadvantaged in Canada but the Third World?

- what is the image of the future that Canadians fear most and wish to avoid and what is their preferred future?
- what might be done, by citizens, by industry and by governments, to foster responsibility in the conservation of resources to permit sustainable economic activity based on a healthy and sustainable natural environment?
- to what degree would Canadians be willing to shift consumption patterns, material expectations and in other ways alter lifestyles in order to attain a better quality of life?
- how might the dilemmas of income distribution and the definition of work be resolved?
- how widespread is the sense that new societal values are emerging and what are these new values?

As for the environmental impact of our energy-producing activities in Canada, the study concludes that "there is no question that reliance on soft energy sources would greatly reduce short- and long-term environmental threats".

"Getting there from here," according to Friends of the Earth researchers in all 10 provinces, should not be difficult — although foresight, sound planning and, above all, great political courage will be required to effect the change to soft fuels.

The first major policy need is that, "since price is the driving mechanism for bringing about a soft path," energy will have to be priced at its replacement or marginal cost throughout the changeover period.

The researchers acknowledge that establishing such a policy would be politically difficult. Marginal prices mean higher prices for the conventional fuels which will still be needed, during the next few decades.

The researchers identify a need for governments "to play a stronger educational role" in informing users and managers about new technologies and methods, and in training specialists for the new energy world to come.

The researchers warn that, in order to "meet the potential identified by this study, there must be a willingness not only to support conservation and renewable supply sources, but also a decision not to continue preferential support of massive conventional supply projects. Many bureaucrats, politicians, and people in today's energy supply industries will balk at a serious reordering of existing priorities, to a point where the political momentum of past commitments must be considered an important barrier to an efficiency-oriented, renewable-based energy future".

And there you have it: in principle, "getting there" could be "half the fun"; in practice, gale warnings are out.

A popular book based on the study has been published by Hurtig: *Life After Oil* by Both, Brooks and Robinson at the cost of \$12.95 (paperback). The research report is available free of charge from the Department of the Environment. If interest in receiving a copy write to:

Enquiry Centre  
Environment Canada  
Ottawa, Ontario  
K1A 0H3

# Future Shock in the Energy Field

by Friends of the Earth

By the year 2025, Canada could produce the energy it will need at lower cost than today, and our reliance on biomass could account for a whopping 50 percent of it. The changeover could actually lead to more jobs and a cleaner environment.

Those are some of the conclusions drawn by the Friends of the Earth group from a study of this country's future energy prospects. The study was sponsored jointly by Environment Canada and the Departments of Energy, Mines and Resources and of Supply and Services. It lasted 26 months and was carried out by researchers in all 10 provinces and both territories.

Some of the study's conclusions — both explicit and implicit — are startling: it suggests, for instance, that Canada could balance its energy

budget without any Arctic oil or natural gas, or any more nuclear power stations. The most dramatic change by far, however, is the projected reliance on solid and liquid fuels from biomass: in 1978, biomass sources accounted

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"... Canada could balance its energy budget without any Arctic oil or natural gas, or any more nuclear power stations."

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for only four percent of Canada's energy production, but by the year 2025 that share could swell to roughly 50 percent, 17 percent being solid and 33 percent fluid biomass products.



# The Key to the Future

by Louise Beaubien-Lepage, Member of the Canadian Environmental Advisory Council

Will environmental problems be very different in the future? Only time will tell. We can safely assume both that some of our current problems will have been solved and that, by the turn of the century, we will still be facing environmental problems, some of which are likely to be totally new. But we should not ask ourselves whether future problems will be different, or less numerous: more to the point is whether or not the political process as it applies to environmental problems will be different from current practice.

We must remember that protection of the environment is basically and primarily a matter of political will. Although improved technology can help solve a great many problems, until a political decision makes them a priority and ultimately allocates the resources necessary to reduce or eliminate them, solutions remain theoretical. The political aspect of environmental problems comes into even sharper focus when improved technology is unavailable to soften the need for hard choices: for instance, if existing management techniques make it impossible to develop a tourist centre in a natural area without damaging it beyond repair, a choice will have to be made — and, it will inevitably be made at the political level.

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"If tomorrow is to be different from yesterday or today, it is public participation that will make the difference."

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Political decisions are usually based on public opinion, and that is where Canadians as a whole come into their own. Citizens are at once the motor of public opinion and a very important lever that Environment Canada must wield judiciously. Indeed, if

Environment Canada can be said to have a constituency of its own, it is unquestionably the people of Canada as a whole. Yet, that constituency is far from having played its role to the full. If tomorrow is to be different from yesterday or today, it is public participation that will make the difference.

Unfortunately, we must admit that relatively few public participation efforts have succeeded so far. The reason is very simple: we have not fully developed effective relationships with public groups. It takes more than dialogues and symposiums to develop a full partnership, and that partnership cannot be improved unless the role of public groups is fully understood. The main objective of environmental citizens' associations is to transform people's attitudes toward the

environment in order to influence the decision makers. It is an enormous task, requiring total dedication, the utmost enthusiasm and the deepest conviction . . . and, often, instinctive reactions that decision makers must learn to respect.

It would be bold to pretend we could accurately describe the relationship that should exist between Environment Canada and citizens' associations in such a short space. We can nevertheless emphasize that technical services must be offered and programs specifically developed to enable nongovernment organizations to become effective partners, and to allow them to improve our environment in more concrete ways. The required services and programs must be created promptly. They are the key to the future!

## Erratum

The article on Lancaster Sound in Vol. 4, no. 3 of Environment Update overstated the case when it said that Lancaster Sound has been approved as a year-round shipping route between the Arctic and the Atlantic Ocean. In fact, the Environmental Advisory

Committee on Arctic Marine Transport has not yet recommended any route to the Coast Guard authority, and is still in the process of consulting shipping interests on a corridor within Lancaster Sound that is tentatively considered environmentally appropriate.



# New Slant on Environmental Thinking: Environment Canada Should Take the Lead

by L.J. D'Amore of L.J. D'Amore and Associates

A current study in Environment Canada urges adoption of a new approach to environmental thinking. The study has been undertaken by the Office of the Science Advisor through contract with the private firm L.J. D'Amore & Associates in cooperation with 12 Environment Canada specialists from all Services.

An interim draft report, entitled *Towards a Fifth Generation of Environmental Thinking*, was prepared in late 1983. It submits that a new generation of environmental thinking must incorporate a dimension of social justice that will enable the peoples of the world to live in harmony both with each other and with the global environment. This new approach must also translate philosophy into action and find means of closing the gap between scientists and politicians.

Having reviewed "where we are," the 16-page report points out the future directions its authors believe environment thinking must take to ensure effective environmental management. The term "fifth generation" follows the concept of the initial "three generations of environmental thinking" that were defined in a 1977 presentation to the NATO Committee on Challenges of Modern Society by the then Deputy Minister of Environment Canada, J. Blair Seaborn:

1. concern for the direct effects of pollution and the measures taken to deal with them;
2. planning and conservation strategies based on recognition that pollution constitutes a misuse and a waste of resources; and
3. awareness that man's continued existence hinges on his ability to live in harmony with his environment.

Mr. Seaborn later added a fourth generation, namely, a general sharing of responsibility for a healthy and sustainable environment.

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Environment Canada . . . "can set an example by inspiring collaboration toward a common aim rather than adopt a 'protective stance' dedicated to defining budgets, jurisdictions & egos."

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The authors raise a number of crucial questions that beg answers, among them:

- What do we want our lives and our society to be?
- What do we want technology for?
- What is our responsibility toward the environment?
- Is continued economic growth *per se* the answer?
- If so, what sort of growth should it be?
- At whose expense?

In support of its assertion that responsibilities should be more generally shared and quoting from Maurice Strong's address to the Rattvik Conference, the report claims that "we are confronted with a massive failure of will" to come to grips with fundamental societal problems and that the real problem is that "the widespread concern of people for environmental protection and improvement has as yet not been translated to any great degree into changes in their actual conduct and behavior".

Ultimate responsibility rests with people through Parliament and, in that respect, the authors see two problems. MPs are inexperienced in dealing with scientific information and they are bound by "what is publicly acceptable and politically feasible".

Consequently, the report argues that a fifth generation of environmental

thinking must address openly four main questions, namely:

- (a) the philosophical question of what kind of society we want;
- (b) the social justice question of what our responsibility is toward our neighbors in the global village;
- (c) the behavioral question of how we should translate philosophy and beliefs into knowledge, attitude and behavior; and
- (d) the political question of how Canada's decision-makers can best be induced to develop the necessary knowledge and courage to make the decisions which do not become self-defeating or counter-productive.

In trying to define the type of society we might become, the report alluded to the concept of "high synergy" and "low synergy" societies as defined by the American anthropologist Ruth Benedict. Low-synergy societies' social structures promote mutual opposition and bring people and institutions into conflict with each other, making them rivals in the competition for limited resources. High-synergy societies, in contrast, provide for acts that are mutually reinforcing through social institutions that are designed to transcend the polarity between self-interest and altruism. Canada is an uneasy mixture of both, types of society without a clear idea of how to manage either.

The report's final section considers the fifth generation of environmental thinking as it applies to Environment Canada. It sees the Department setting an example on several levels: individual, organizational, within Canada, and throughout the global village.

The authors advance that Environment Canada's 13,000 employees could "provide a beacon of light showing the

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# Time to Change Our Old Ideas

by Tom de Fayer, Corporate Planning Group, Environment Canada

Canada has attained a remarkably high standard of living in a world increasingly constrained by resource limitations. Global pressures can be expected to grow for supplies of Canadian staples such as food, forest products, minerals and energy. Quite clearly, then, Canada cannot rely indefinitely on her rich resource endowment to maintain her customary affluence for a growing population.

We must critically review our options for "adding value" to available non-renewable resources through science, technology and know-how. Some factors in the economy are hard to measure, and the principles of the "free market" can be difficult to apply to day-to-day business transactions. We should therefore pay more attention to cooperative and convergent efforts in determining how much intervention is needed, and when.

Prudent resource husbandry demands a more deliberate development program (including a reassessment of Canada's conventional trading patterns). It is not enough just to respond to the immediate pressures of external or internal conditions or to special interests that take no adequate account of the wider and longer-term implications of any course of action.

Economic troubles may prove to be merely symptoms and reflections of deeper problems in our changing society. Consequently, we may have to seek remedies outside of conventional economics "*per se*".

In particular, we may have to redefine jobs, employment and work. Today it seems entirely possible to generate wealth by "producing more from less", and certainly with fewer jobs and less employment. There is, however, vast scope for work that provides satisfaction, respect, fulfillment and esteem.

Jobs and employment are usually regarded as the requisite mechanisms for the just and equitable distribution of wealth, giving occupation, social purpose and respect to those employed. Although we can generate wealth today, we seem unable to distribute all the wealth that we create. We are still wedded to jobs and employment as the panacea for our ills. Evidence is growing, however, that the "grey market" is providing increasing satisfaction, status and esteem. That includes activities outside the "legitimate" marketplace, including voluntary work, barter and the classical "housework".

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"If government seeks to lead public opinion, it may be accused of trying to impose its views on the country. If it simply paddles along, it invites the wrath of those who look for leadership".

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Work, jobs and employment should be treated as issues separate from income and income distribution. The structural changes that are emerging in Canada's economy, partly due to global conditions, are more than mere minor shifts from conventional resource development and exploitation to more

mechanized and automated, more highly skilled and technology-oriented activities. The overall social, economic, institutional, political and even philosophical changes demand a fundamental reorientation of current social perceptions, values and objectives.

That process is not only painfully slow: it is also politically sensitive. If government seeks to lead public opinion, it may be accused of trying to impose its views on the country. If it simply paddles along, it invites the wrath of those who look for leadership. The Macdonald Commission has the opportunity — indeed, the challenging task — of tossing the issues into the public arena where they belong. Thus it can bring the public and the vested interest groups to focus attention upon the need for a social metamorphosis rather than superficial economic palliatives.

No one expects a wonderful utopia to emerge from the process. But we can still hope that the transition to a post-industrial society may be rendered less drastic and painful than if we allowed mounting imbalances, conflicts and tensions to erupt in violent social upheavals. By contributing to a continuing dialogue, the Commission can at least help us avoid major calamities and possible breakdowns.



# Sound Use of Land Vital to Canada

by E.W. Manning, Lands Directorate, Environment Canada

"Buy land," Will Rogers once advised, "they ain't making it anymore".

That is also a good argument for taking care of the land we do have. The misuse of land can destroy the source of much of Canada's wealth, the diverse ecosystems the land sustains, and many desirable options for Canadians in the future. Through land evaluation, monitoring and research, and implementation of the federal policy on land use, Environment Canada's Lands Directorate is taking positive steps to prevent such misuse.

Growing numbers of Canadians mean growing pressure on Canada's land resource. Although Canada is the second largest country in the world, only about 20 percent of its total area can be considered human habitat. Only 11 percent will support agricultural production, and that is the same land that contains the nation's most accessible and productive forests. It is the site of most human activities, industries, housing and transport as well as the habitat for many irreplaceable wildlife species. Increasing demands on the land resource have generally meant the advance of intensive urban-related and industrial activities at the expense of agriculture. Agriculture in turn has advanced toward the frontiers at the expense of forest and wildlife habitats. Increased exploitation of forest resources has also disrupted wildlife habitat.

From 1971 to 1981, most urban expansion took place on high-capability agricultural land, and that all but eliminated agriculture from some of the very best lands along the north shore of Lake Ontario, the lower mainland of British Columbia and parts of the St. Lawrence Valley lowlands.

Expanding demand for agricultural products has led to more intense use of agricultural land. In some areas, that has led to degradation, erosion, salinization and the loss of fibrous material from the soil. At the same time, recent abandonment of large areas of former agricultural stretches

in eastern Canada has demonstrated the problems associated with the farming of marginal lands. Even apart from climatic limitations, most of the abandoned land is too fragmented and poor in soil to constitute a real reserve.

Looking toward the year 2000, we see an increasing intensification of human use of Canada's land resource, with greater demands upon it for food, fiber, non-renewable resource production (particularly surface mining) and homes, industry and transport for increasing millions of Canadians. Outside our borders also, burgeoning populations continue to look to Canada as a source of food and fiber. It is clear that in the coming decade we will increasingly be faced with the following questions:

- What will the land be used for?
- How well is it managed in that use?
- What are the side effects on other people and other land uses?

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"Looking toward the year 2000, we see an increasing intensification of human use of Canada's land resource . . . for increasing millions of Canadians".

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Canadians will have to pay far greater attention to the maintenance and protection of prime resource lands, their sustained husbandry and the mitigation of negative side effects on other users.

The major implement in the federal tool chest is the Federal Policy on Land Use, adopted in 1980, which establishes the federal government's responsibility for the impact of its own policies and programs on use

of Canada's land resource. The policy's goal is "to ensure that federal policies and programs and the management of federal lands contribute to the wise use of Canada's land resources".

To that end, the policy provides for a wide range of coordinated surveys and physical, economic, scientific and technical research on land capability, potential and use, to be made available to the public. It provides also for identification and protection of lands of particular value to the nation because of their historical, cultural, recreational or ecological importance; the acquisition and management of federal lands so as to combine the broader social, economic and environmental objectives; and the review of all significant land-related projects with respect to their potential environmental and land-use effects. The policy further calls for federal-provincial cooperation in support of provincial land-use objectives, policies and programs operating in the national interest.

Land use guidelines ensure the review of the impact of federal policies and programs on lands with different capacities and different resource use potentials. Application of these guidelines can avert potential negative impacts on the use and management of high capability resource lands.

Charged with implementing the policy is the Interdepartmental Committee on Land, consisting of 15 departments and reporting to the Minister of the Environment. In support of the committee, the Lands Directorate undertakes research into major land use issues and the federal role in them. It documents important changes in the use of land and tries to identify federal programs that could be used to ameliorate land use problems and promote wise land use.

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## New Slant on Environmental

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way ahead" by practising lifestyles that set an example of people living in harmony with their environment. Organizationally, the report sees Environment Canada itself becoming a model embodying the principles and philosophy of harmonious institutional behavior, providing examples of "linked and mutually reinforcing goals, integrated planning, collaborative action and a future, pro-action orientation". In addition the Department, in its horizontal relationships with other federal bodies and its vertical relationships with provincial governments, can set an example by inspiring collaboration toward a common aim rather than adopt a "protective stance" dedicated to defending budgets, jurisdictions and egos.

With respect to Canadian society as a whole, it is urged that the Department should shed its passive monitoring role in favor of one where it would endeavour to shape environmental trends and public values to help Canada become "a world model of living in harmony with the

environment". Finally, on the global scale the authors believe that fifth generation environmental thinking should broaden its horizons and that Canada, in collaboration with other nations, should promote a world where:

- (a) human welfare will prevail over military welfare;
- (b) the basic needs of all rather than "the greed and materialistic wants of a few" will be important determinants of policy;
- (c) growth of human values will prevail over GNP growth;
- (d) achievement of a sustained biosphere will supersede short-term corporate profits; and
- (e) our decision-makers and planners will be attuned to the welfare and needs of future generations.

The study is continuing to explore strategies by which this fifth generation, incorporating direct recognition of the social justice aspects of environmental changes and activities, can be made part of departmental and interdepartmental policies.

## Sound Use of Land

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One way the federal policy has been implemented has been by including it in federal-provincial agreements on resource development. It has also been applied in the direct review of land use conflicts such as the one over draining wetlands for agricultural use in eastern Ontario, to ensure that environmental and cost-benefit criteria are applied judiciously.



