

**SUSTAINABLE DEVELOPMENT: THE OPPORTUNITIES FOR CONSUMERS' GAS**

**Notes For An Address**

by

Jack Gibbons

The Canadian Institute for Environmental Law and Policy

to

The Consumers' Gas Company Ltd.

Mississauga, Ontario

June 13, 1989

VF:  
CANADIAN INSTITUTE FOR  
ENVIRONMENTAL LAW AND POLICY,  
Sustainable development: the  
opportunities for Consum...RN3878



It is a great pleasure for me to be here today for a number reasons. First, on a personal note, my working career has been intertwined with the Consumers' Gas Company since 1979. When I was with Energy Probe I did my best to promote your Company. In particular I wrote a report which showed that the true economic cost of electric space heating was 2.5 to 5.5 times greater than that of natural gas.[1] During my 3 years with the Ontario Energy Board (OEB) I interfaced with Consumers' Gas from a different perspective. While we did not always see eye to eye on all the issues, it was a very stimulating and interesting experience for me.

From a professional perspective, I am delighted to have the opportunity to talk to you about environmental issues and their implications for your Company because I strongly believe that environmentalists and the Consumers' Gas Company are natural allies. While environmentalists can preach about the need for a clean and healthy environment you are the people who can make it a reality.

Duncan Kent asked me to speak to you this morning in the hope that I could explain how environmental issues and concerns will affect your Company over the next 10 to 15 years. In the next one-half hour I will try to answer this question by addressing three topics: 1) sustainable development; 2) global warming or the greenhouse effect; and 3) how Consumers' Gas can promote a



sustainable pattern of energy consumption in Ontario.

What is Sustainable Development?

At the very least sustainable development is a concept that is politically popular. It has been endorsed by our three major political parties. In particular, it has been repeatedly endorsed by Ontario's Minister of Energy, Robert Wong, and by Brian Mulroney. According to Prime Minister Mulroney:

"Canada is committed to applying the principles of sustainable development to our energy sector." [2]

Despite its political popularity it is still easier to list the symptoms of unsustainable development than it is to define sustainable development. The greenhouse effect, acid rain, ozone depletion, African desertification, Bhopal, Chernobyl and Valdez are all examples of unsustainable development.

The concept of sustainable development is not new. The idea can be traced back at least to the writings of Thomas Malthus and John Stuart Mill in the eighteenth and nineteenth centuries. In the twentieth century the concept was revitalized by publications such as the Club of Rome's book, The Limits to Growth in 1972. But the concept of sustainable development started to become politically popular in 1987 with the publication of the United Nation's World Commission on Environment and Development report, Our Common Future or the Brundtland Report. The Commission was chaired by Mrs. Brundtland, the Prime Minister of Norway. The



Canadian member was Maurice Strong, the former Chairman of Petro-Canada.

According to the Brundtland Report sustainable development is:

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[3]

These are noble words but what do they mean for Consumers' Gas?

According to the Brundtland Report sustainable development implies that economic and ecological considerations must be integrated in decision making:

"...the major central economic and sectoral agencies of governments should now be made directly responsible and fully accountable for ensuring that their policies, programmes, and budgets support development that is ecologically as well as economically sustainable."[4]

In other words, sustainable development implies a fundamental shift in the principles that the OEB should use to determine your revenue requirement and rates. For example, cost-based rates and the absence of cross-subsidization are appropriate when the goal of regulation is primarily to maximize economic efficiency. On the other hand, they are not necessarily appropriate if the goal is sustainable development.

In addition, according to the Brundtland Report the world's present level of fossil-fuel consumption is unsustainable and hence must be reduced. It is unsustainable because it is causing global warming, acid rain, smog and toxic air pollution. A policy of fossil-fuel conservation may not, at first blush, appear to be in the interest of Consumers' Gas. Nevertheless, in a few minutes I will try to convince you that it is. Before I do that I would like





to spend a few minutes discussing the greenhouse effect. For the existence of the greenhouse effect is one of the prime reasons why the Brundtland Report concluded that the existing level of fossil-fuel consumption is unsustainable.

### Global Warming

Last June, Toronto was host to an international conference called "The Changing Atmosphere: Implications for Global Security". The conference was attended by over 300 experts from 46 countries. The delegates issued the following statement:

"Humanity is conducting an unintended, uncontrolled, globally pervasive experiment whose ultimate consequences could be second only to a global nuclear war. The Earth's atmosphere is being changed at an unprecedented rate by pollutants resulting from human activities, inefficient and wasteful fossil fuel use and the effects of rapid population growth in many regions. These changes represent a major threat to international security and are already having harmful consequences over many parts of the globe." [5]

According to the Conference Statement:

--> there has been an increase of globally averaged temperature of 0.5 C in the past century;

--> if the accelerating increase in greenhouse gas emissions is continued then the mean surface temperature of the earth will probably rise by 1.5 to 4.5 C before the middle of the next century;

--> if these predictions are correct then the rate and magnitude of climate change over the next century will substantially exceed that experienced over the last 5000 years.



The climate warming will lead to:

- > diminished global food security;
- > rising sea-levels;
- > changed frequencies of climatic extremes;
- > altered precipitation patterns;
- > accelerated extinction of animal and plant species;
- > alterations in the productivity and biological diversity of our forests;[6]

#### What Causes the Greenhouse Effect?

There are four main greenhouse gases: carbon-dioxide, methane, chlorofluorocarbons (CFCs), and nitrous oxide.

Carbon-dioxide is responsible for about 49 % of the greenhouse effect. It is created by the burning of fossil fuels.

Methane is responsible for approximately 18% of the greenhouse effect. The sources of methane are not well understood but they are believed to include rice production, landfills, domestic animals and losses from fossil-fuel extraction and the transmission of natural gas. Losses from energy extraction and transportation may be responsible for as much as 10% of the world's methane emissions.

Chlorofluorocarbons (CFCs) are responsible for approximately 14 % of the greenhouse effect. They are used as coolants in refrigerators and air-conditioners and as foam blowing agents. [N.B., CFCs along with halons, which are used in fire extinguishers, are the primary causes of ozone layer depletion.]



Nitrous Oxide is responsible for approximately 6% of the greenhouse effect. Nitrous oxide results from the breakdown of nitrogen fertilizers and the burning of coal and oil.

Other sources are responsible for approximately 13% of the greenhouse effect. They include ozone smog, water vapour and other airborne particles. [7]

#### How Can We Stop Global Warming?

According to last June's conference on The Changing Atmosphere a halt to global warming will require a reduction of carbon-dioxide emissions by more than 50%. The Conference established an initial global target of a 20% emission cut by 2005. To achieve this target they proposed the following measures:

- > energy efficiency investments;
- > switching to lower carbon-dioxide emitting fuels (e.g., natural gas);
- > increased reliance on renewable energy;
- > revisiting the nuclear option if the problems associated with nuclear power can be solved.[8]

These proposals are identical to those of the Brundtland Report. [9]

#### How Consumers' Gas Can Promote a Sustainable Pattern of Energy Consumption in Ontario

I would now like to address the most important question, namely, what are the implications of sustainable development,



global warming and acid rain for Consumers' Gas. In short, I believe that Consumers' Gas can and should play a key role in facilitating sustainable development by:

- 1) promoting the substitution of natural gas for coal, oil and electricity; and
- 2) promoting energy conservation.

### Substitution

Let's begin with a discussion of the rationale for substitution policies. Encouraging the substitution of natural gas for other fuels is nothing new for the Consumers' Gas Company. You have been doing it for over 100 years, and with special success during the last 30 years. In the past the primary rationale for encouraging the substitution of natural gas for coal and oil was because of its low cost. Now there is another important rationale, namely, gas is the cleanest non-renewable fossil fuel.[10]

Furthermore despite the fact that approximately 75% of Ontario's electricity is generated by hydro and nuclear power, which do not emit carbon-dioxide, the substitution of gas for electricity is very much in the environmental public interest. This is because, at the present and for the foreseeable future, Hydro's marginal source of electricity will typically be coal.[11] In other words, when gas displaces electricity it is typically displacing coal-fired electricity. The environmental implications of this fact are very significant. For example, the carbon-dioxide emissions of an electrically heated home are approximately 3.5 to





5.5 times greater than those of an equivalent gas heated home.[12]

### Conservation

Let's now turn to energy conservation. The greenhouse effect implies that promoting the sale of natural gas is not enough. To stop global warming we must also use natural gas as efficiently as possible. That is, the greenhouse effect implies that Consumers' Gas must become just as much a conservation utility as it is a gas utility.

At first blush the idea that Consumers' Gas should become a conservation utility may sound naive or utopian. Needless to say, after 3 years with the OEB I am well aware that within any given year your Company's profits are directly related to the quantity of gas you deliver. Nevertheless I am going to try to convince you that conservation is good for Consumers' Gas as well as the environment.

Becoming a conservation utility is in the self-interest of Consumers' Gas for two reasons. First, it is very good public relations. Second, it will allow you to increase your rate base.

Let's start with the public relations angle. The public is very concerned about the environment. Furthermore they want to be part of the solution. They want to make their lifestyles compatible with sustainable development. If you don't believe me, just look at the success of the Blue Box programme. To the extent that Consumers' helps its customers conserve energy it will win



their appreciation and gratitude. In short, you can and should become the Loblaws of the energy sector.

Let's turn to the rate base implications. The Select Committee on Hydro Affairs in 1976, the Royal Commission on Electric Power Planning in 1980, the Select Committee on Energy in 1986 and 1989, the Electricity Planning Technical Advisory Panel in 1988 and the Ontario Energy Board have all recommended that Hydro should vigorously promote energy conservation. In particular, the Report of the Electricity Planning Technical Advisory Panel recommended that:

"Ontario Hydro and the Ontario government together ensure that conservation programs are specifically designed to reach users who might otherwise not participate in them."

The Panel went on to state that:

"...in order to achieve high penetration rates in each sector it will probably be necessary for Hydro to offer financial assistance at levels up to the total cost of each conservation measure."(emphasis added) [13]

Unfortunately Hydro has largely ignored these recommendations because of its desire to build more power plants. Fortunately since Consumers' Gas is fundamentally a distribution utility, as opposed to a gas producer, it has no similar incentive to resist becoming a conservation utility.

With the advent of the Government of Ontario's commitment to sustainable development, I believe that the public policy rationale for Consumers' becoming a conservation utility is just as compelling as the rationale for Hydro to promote energy



conservation.

If you rent, lease or give your customers energy efficient appliances, energy efficient equipment, insulation or super efficient windows you can increase your rate base. As you well know, in the long run your profits are a function of your rate base not the quantity of gas you deliver. In this context, it is worth remembering that already over 10% of Consumers' rate base consists of gas water heaters that are rented to its customers.

I would also like to suggest some other ways in which Consumers' could become a conservation utility.

You could convert your appliance stores into "Conservation Stores". Furthermore you could move them out of your office buildings and into the shopping centres where your customers are. In addition, to selling conventional gas appliances the Conservation Stores could display and promote the most efficient gas appliances available. The Conservation Stores could also provide your customers with information about how they can conserve energy (e.g., insulation, weatherstripping, energy efficient windows and showerheads). Furthermore since Hydro refuses to vigorously promote energy efficient appliances, the Conservation Stores could sell energy efficient electric products that do not compete with gas (e.g., super efficient light bulbs, energy efficient refrigerators).

Consumers' Gas could in co-operation with Union Gas, ICG and government develop an energy labelling programme for gas appliances. For how can customers make economically and



environmentally rational choices if they do not know the energy efficiency of competing appliances?

Finally, Consumers' can reduce greenhouse gas emissions by ensuring that its home insulation programmes do not use insulation that contains CFC gases; by reducing its gas losses during the distribution process; and by purchasing methane from garbage dumps.

### Conclusion

In conclusion, I would like to make the following points. I believe that the people of Ontario intuitively understand and support the concept of sustainable development. Our political leaders have in rhetoric, at least, endorsed the concept of sustainable development. Unfortunately, the large direct and indirect subsidies for the OSLO oil sands, the Lloydminster heavy oil upgrader, Hibernia and Ontario Hydro indicates that there is a gap between rhetoric and action. Simply put, sustainable development policies are not in the short run self-interest of many Canadians. However, sustainable development is, or can be given a few regulatory changes, in the best interest of Consumers' Gas. I believe you can be a major player in the battle to save the environment. I hope you will take up the challenge.

### Footnotes

1. Jack Gibbons, Electric Heating: Does It Make Sense for Ontario?, (Toronto: Energy Probe; 1981), p. 4.

2. World Meteorological Organization, CONFERENCE PROCEEDINGS The Changing Atmosphere: Implications for Global Security, (Geneva,





1988), p.7.

3. World Commission on Environment and Development, Our Common Future, (Oxford: Oxford University Press; 1987), p. 43.

4. ibid., p. 314; see also pp. 62-65.

5. CONFERENCE PROCEEDINGS, p. 292.

6. ibid., pp. 292,293.

7. ibid., p. 124; Environmental Action, (January/February, 1989), p. 18; Lester Brown et al., State of the World 1989, (New York: W.W. Norton; 1989), p. 78.

8. CONFERENCE PROCEEDINGS, pp. 296,297. According to Bill Keepin "the pursuit of nuclear power as a response to greenhouse warming is not a viable strategy because it is slow, expensive, and relatively ineffective." In particular, "Each dollar invested in electric efficiency displaces nearly seven times more carbon than a dollar invested in nuclear power." Bill Keepin, Greenhouse Warming: Efficient Solution or Nuclear Nemesis, (Snowmass, Colorado: Rocky Mountain Institute; 1988), pp. 3,4.

9. Our Common Future, pp. 14,176, 177.

10. The carbon-dioxide emissions (millions of tons of carbon per exajoule) for conventional gas, conventional oil, and coal are 13.8, 19.7 and 26.9 respectively. Irving Mintzer, A Matter of Degrees: The Potential For Controlling The Greenhouse Effect, (Washington, D.C.: World Resources Institute; 1987), p. 48.

11. Ontario Energy Board Docket H.R. 17, Exhibit 8.1.8, p.4.

12. Coal-generating stations have a combustion efficiency of approximately 35% whereas gas furnaces have a combustion efficiency of approximately 65 to 95 % . Hence the relative carbon emissions per unit of space heating for electricity and gas are 77 (26.9/.35) and 15 to 21 (13.8/.95 and 13.8/.65) respectively. See footnote 10.

13. Electricity Planning Technical Advisory Panel to the Minister of Energy, Review of Ontario Hydro's Draft Planning Strategy, (Toronto: Ministry of Energy; 1988), p. 25.

