
The Challenge of Sustainable Production and Consumption Patterns

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The Problem: it took all of human history to grow to the 600 billion dollar world economy of the year 1900. Today, the world economy grows by more than this every two years. Each year, economic expansion corresponds to the entire economy of South America. Only a lifetime away, our 14 trillion dollar world economy may have grown five-fold. An average person in North America consumes almost twenty times as much as a person in India or China, and sixty to seventy times more than a person in Bangladesh. It is simply impossible for the world as a whole to sustain a Western level of consumption for all. In fact, if 7 billion people were to consume as much energy and resources as we do in the West today we would need ten worlds, not one, to satisfy all our needs.

Our dilemma is that at the very best, all countries are pursuing two potentially conflicting goals: to improve environmental quality and to ensure a high level of economic activity so that tomorrow's societies will hold more promise for the majority of people. But we also know that we cannot continue to perpetuate present production and consumption patterns. As we strove in the World Commission on Environment

and Development to agree on concepts that could gather global consensus, we all realized that it would be difficult to gain support for global change if we had to conclude that countries and regions would have to sustain a significant decline in their standard of living. Some view decline in the standard of living for industrialized countries as a necessary step in bringing total global consumption to a sustainable level. However, the Commission did not conclude that such a measure was needed, nor that it was desirable. Global change requires thriving economies, large-scale investment, and technological change. Neither change nor full employment will come about as a result of reduced economic activity. In the ongoing debate, we are often presented with an over-simplified picture of what rich countries must do as opposed to poor countries. In our analysis, we should never forget that there are rich people in poor countries and poor people in rich countries, and that many of those who are called "rich" don't feel rich at all. With 34 million people out of work in the OECD countries, we are compelled to address both unemployment and the necessary transition towards sustainable development as one combined operation. Our basic conclusion was that the content of economic growth would have to change. Our economies would have to change. Our economies would have to rely less on finite natural resources and to generate less waste.

Traditionally, economic growth has meant producing more and more goods, using more and more natural resources, and placing an increasing strain on an already fragile environment. Perpetuating this kind of economic growth is neither necessary for employment nor possible for environmental reasons. Growth is an imperfect concept. It uncritically includes all kinds of human activities, including positive changes as well as unsustainable activities. Consumption, too, involves a wide range of activities. Consumption is not good or bad in itself, but it must be analyzed and broken down in our debate on sustainability. Some goods can obviously be consumed in abundance whereas we must steadily reduce the consumption of

goods which are scarce.

Practices that reduce the options of future generation must be the focus of our attention. Our generation is the first to face the following challenge: there is no limit to the number of future generations that we must show our solidarity. No previous generation has had this knowledge. We can do a great service to the world community by advancing our debate and furthering our knowledge, designing paths of progress that will lead to greater prosperity in the widest sense of the word, thus enriching the environment and life opportunity for billions of people.

General Goals:

Is this possible? In Norway, the private consumption of goods has increased by 7 percent since 1980 while consumption of private services increased by 40 percent. Our strategy is to reconcile the need for growth with the need for change. In the coming decade, growth is likely to take place in the field of services rather than in the production and consumption of goods.

In recent years, international environmental agreements, stronger national efforts, deliberate use of administrative and economic instruments, and an alert and active public opinion have resulted in considerable reductions in our emissions to air, water, and soil. The assets of our natural and cultural heritage have also attracted far more attention and been given greater protection than before.

In order to move forward, we must mobilize research on a scale comparable to the programs which put man into space. The U.S. program aiming at developing the car of the future is an example of the direction to take. We need coherent scientific programs with a clear focus on diminishing environmental stress. We also need clear and agreed framework conditions that can inspire industry to develop sustainable technologies and speed up the technological changes which are al-

ready possible, but which are not implemented as long as the present range of products and services is profitable.

Major environmental improvements have already been made in a number of fields, but further reductions of emissions to air and water will be more costly than those we have already achieved. As we move forward, the damage we set out to rectify will be less visible to the public on which we rely to support new policies and the solutions we propose will be less popular especially when they seem costly in the short run. That is why we must emphasize the need for information and education. I envisage a virtuous circle whereby information and education lead to support for policies as well as to industrial breakthroughs.

Public opinion polls in some countries have shown that a majority of the population is willing to reduce their standard of living provided that the resources released are used to protect the environment. Raising the cost of unsustainable consumption is one way of applying the Polluter Pays Principle. This has had many positive effects and will continue to have more, for if such cost increases are predictable, forward-looking industrial leaders will develop business strategies, products, and processes accordingly. A number of new products have already been developed which have found significant markets at the same time as they have benefited consumers and the environment, provided jobs, and stimulated business.

We must eliminate subsidies and rethink the entire pattern of taxation — if we are to achieve sustainable consumption patterns, individuals must be prepared to pay the environmental costs of their consumption. This means that it will cost more to use private cars and that charges for waste disposal, sewage, and energy will increase. As we know, such increases are not popular. In a number of countries, the removal of subsidies for unsustainable use of energy or protection of domestic resources will lead to such cost increases.

One of the more promising features of our time is how we are proceeding in decoupling growth in energy consump-

tion from growth in GDP. If we exclude off-shore activities and maritime transport, energy consumption in Norway has remained stable since 1980. In that same period, our mainland GDP has increased by twenty percent, and we are shifting the use of petroleum from heavier oils toward lighter oils and hydro-based electricity by means of taxation. Thus, we are constantly changing the content of growth. The switch away from heavier fuels has contributed to a more than sixty percent reduction of our SO₂-emissions. This is a change in consumption patterns that is going on right now. Its further success will depend on how effective countries are in agreeing to new measures.

Countries have not yet fully explored the positive effects of shifting some of the burden of taxation from resources which we use too little, such as labor, to resources which we use too much, such as finite natural resources. However, if "green fees" are introduced unilaterally, by only one or some countries, there is a risk that this will lead to loss of competitiveness and to more unemployment. For example, Norway introduced the highest carbon taxes in the world, but because they were so much higher than in other countries, we were forced to take one small step backwards when other countries were reluctant to impose similar measures.

The EC proposal for a carbon tax of about three dollars (U.S.) per barrel and of oil tax increasing to ten dollars (U.S.) by the year 2000 would have been a first step in an all-European "green fee" effort. It is deplorable that the proposal seems to have been delayed in a quagmire of back and forth. If we sit and wait for others to move first, and in particular if every action we make depends upon what is done in the U.S., the Western world will delay its own modernization. "Green fees" would increase the demand for cleaner energy and speed up technological improvements.

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Technological breakthroughs will be needed in a number of areas. The difficulty in the case of environmental technology is that this "need" is not a private need but a public need — one that only people acting together can articulate. This is a serious problem as our economic systems do not yet take sufficient account of harm done to people's welfare or the environment. Where the market is insufficient, we will have to act politically. Therefore, part of the solution must be to ensure that incentives and disincentives act in harmony with the needs of our society today and in the future.

We should also increasingly focus on knowledge as the ultimate resource and as an engine of growth and change. It is not natural resources themselves that give us wealth, but the way we utilize these resources. If resources alone made us wealthy, we would have reached our standard of living thousands of years ago!

We are now embarking on the transition towards a post-industrial society. This process should not be viewed with fear and anxiety, but rather with hope and optimism. It is not a question of sacrifice, but of new opportunity and of a transition from quantity to quality.

Specific Challenges:

New agreements must build on the principles of solidarity across boundaries and generations and the critical thresholds of nature: the precautionary and the cradle-to-grave principle. They must strengthen the international rule of law and further develop financial and institutional mechanisms. We must, in the words of the World Commission, "produce more with less." We have not yet exploited every possibility to reduce environment stress by reducing consumption of energy and raw materials per unit of production, nor have we encouraged energy efficiency and recycling through charges and similar measures. There are only six years left in the millennium. We must make significant progress before then, and I would like to suggest five possible elements or challenges of an

"Agenda for Change:"

• *First Challenge*

We can share our resources in a more equitable manner and still leave enough for all peoples to attain an acceptable standard of living. We must choose to leave enough "Environmental Space" so that future generations, recognizing that our planet has limited capacity, may absorb the by-products of industry.

The equation must include the developing countries, but through the development of new technology and more efficient use of energy and raw materials, most people in industrialized countries will be able to simultaneously maintain their material standard of living and gain a better quality of life.

We must move away from a "use and discard" mentality and towards a more consistent use of the "cradle-to-grave" approach. We must develop products with a longer life span. We must avoid use of scarce or hazardous products and develop products that can be easily repaired and re-used. Eco-labeling of products must indicate both content and length of life. Efforts to protect nature and the cultural heritage must be intensified.

All of us must encourage the development of networks, help to mobilize the public through information campaigns, and use the media to spread knowledge and incorporate environment and development issues into education.

• *Second Challenge*

Renewable energy must gradually replace non-renewable. We must agree on targets towards this goal as soon as possible. The development of energy-efficient technologies must be speeded up. We must agree on a system whereby energy prices reflect environmental costs. Solid solutions must be found for the waste problems and risks associated with nuclear power.

Through financial mechanisms, developing countries

should receive substantial support for developing competence in the use of renewable energy resources, such as solar and wind power. Technology transfer efforts must be given high priority.

Industrialized countries should move first to implement a CO₂ tax which reflects environmental costs. At present countries are watching each other, waiting to move in order to guard what they see as their competitive edge. In Norway we have managed to reduce our CO₂ emissions by five percent since 1992. In many other countries, however, the taxation level is much too low. Even when adjusted for inflation, the prices of oil in the U.S. after Iraq's invasion of Kuwait were far below those of 1979 and 1980. Still, the price is only one-fourth of that in Norway or in Italy. Such prices offer little incentive for energy conservation. The current disorder in the oil market is a major setback for sustainability.

- *Third Challenge*

Economic policy must be reconciled with the laws and limitations of nature. We should institute a comprehensive revision of economic models so that sustainable development becomes both the goal and the driving force. The concept of growth must be widened to include use of renewable and non-renewable resources. We must use administrative and economic instruments to promote sustainable consumption patterns. International environmental requirements must be introduced for all production and resources uses which have transboundary effects, and we must find solutions to environmental problems resulting from transport and final disposal of products. The OECD countries should agree to develop a policy-oriented and high level international research program to draw up proposals in this area.

At the national level, charges must be consistently based on the Polluter Pays and the cradle-to-grave principle so that prices reflect environmental benefits and quality and length of life, both in terms of production and in terms of the product

itself.

Industry must integrate environmental objectives in policy plans, and implementation of these objectives must be the responsibility of top management. The concepts "Green Business" and "Environmental Auditing" are result-oriented instruments in such a process. A recent promising trend is the introduction of systems for quality control and the methods developed by the International Standardization Organization. Public authorities must lead the way and set a good example, for instance by basing their purchasing policies on environmental considerations.

- *Fourth Challenge*

We must help develop a new generation of instruments for transport planning. Transport systems which ensure accessibility and flexibility of public transport and other community services must be designed for urban communities. The creation of new jobs, service institutions and shops should be based on the proximity principle: they should be located as close as possible to the consumers.

We must develop sustainable cities. Pilot cities can be designed which plan and develop their transport systems on the basis of clear criteria for air quality and noise emission levels and the accessibility of public transport.

- *Fifth Challenge*

The total amount of waste which is a result of production and consumer patterns must be reduced to a minimum. In principle it should be possible to recycle all waste by 2010. All countries should initiate projects to develop "waste-free local communities." Such projects should include producers, retailers, and consumers in order to significantly reduce the amount of waste at all levels. Collection of waste should be organized in ways which are easy to implement and which allow waste to be quickly recycled or reused. Safe methods of handling all hazardous waste should be developed before the

year 2000, and we must ensure that such waste is not exported to developing countries.

The Way Forward

The challenges I have described are examples of what is needed to achieve sustainable consumption patterns. One of the pioneers of social science, Torstein Veblen , an American of Norwegian decent, coined the phrase “conspicuous consumption” early in this century. It described the kind of affluence which, at that time, was the hallmark of personal success for many in our industrial societies.

If sustainable consumption can become the overriding principle against which the advances of our societies will be measured, there is hope for us and for future generations. ♻