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***Public Lecture***  
*by*  
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***[1. Introduction]***

I am here today to speak about a vision for a sustainable Europe... And I would also like to tell you a story about a man who had a dream of building cars out of soybeans...

I will come back to that story later, but let me start straight away by saying that I have some good news and I have some bad news. I know that there are many English jokes that start like that...

Like the one with the patient who goes to the doctor to get the results of some tests and the doctor says: "I have some good news and some bad news."

Patient: "Give me the bad news first doctor."

Doctor: "You have a terrible incurable disease that will leave you crippled, blind, deaf and in great pain for the rest of your life."

Patient: "What's the good news then?"

Doctor: "You only have a week to live."

***[2. The bad news: we are consuming our world and its future]***

My version of the story has a slightly different twist, the bad news is that we are in fact consuming our world and its future...

I recently read the World Watch Institute's Earth Report 2004. This year's edition is excellent, and has a special focus on consumption and on the consumer society. The facts and figures contained in the report are extremely telling and thought-provoking – to say the least.

For example, private consumption expenditure has increased fourfold since 1960, and had reached more than 17 trillion euros in 2000. Some of this increase can be explained by population growth, but most of it is explained by the advancing prosperity of developing countries and by ever higher levels of consumption in the western world.

Around 1.7 billion people worldwide – more than a quarter of humanity – have entered the consumer class, and now have diets, transportation systems, and lifestyles that for most of the last century were known only in the rich nations of Europe, North America and Japan .

We should nonetheless remember that consumers still have quite different ecological footprints. The imbalance is staggering. Of the world's population the 12 percent living in North America and Western Europe account for 60 percent of total consumption, while the 33 percent living in South-Asia and sub-Saharan Africa account for only 3.2 percent.

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So what does this growing consumer class mean? More global prosperity, a fairer society and sustainable development? If we use the three dimensions of sustainable development as a yardstick - the economic, social and environmental criteria – we have to admit that the picture is rather mixed and that in many cases the evidence speaks for itself.

From an environmental perspective, despite enormous technological progress, the impact of our consumption in terms of abuse or inefficient use of natural resources is enormous.

Here again, I would like to give you just a few telling examples, in particular in the area of waste.

- Every year Americans throw away some 20 billion disposable nappies, making them the third largest source of solid waste in the nation's landfills. With today's manufacturing standards, most of them will take centuries to decompose.
- Every month we throw away 45 tonnes of obsolete CDs.
- On average we keep a mobile phone for 18 months, and there are estimates that show that by 2005 consumers will have stock-piled 500 million cell phones that are likely to end up in landfills where they could leach as much as 142 tonnes of lead.
- OH showing a banana wrapped in plastic  
And some times one really wonders what we use our brains, technology and resources for, as an example look at this banana packaged in plastic... etc...

Our eco-systems are shrinking to make way for the rapid growth of the consumer economy. Industrial fleets have now fished out at least 90% of the large ocean fish, groundwater levels are decreasing at worrying rates in developing countries, and about half of the world's original forest cover is now gone – not to speak of what fossils fuels and global warming will do to our planet in the near future...

The United Nations Population Division forecasts that world population will increase to 8.9 billion people by 2050, and 99 percent of this population growth will occur in developing countries. As will most of the economic and consumption growth...

China's GDP is projected to quadruple by 2020. Estimates show that there will be over 150 million cars in China by 2015, as many as there were in the U.S. in 1999. In the next three years alone, China's steel, chemical, construction materials, and mobile phone industries could double their production capacities. This is causing demand for energy, chiefly oil, to grow rapidly. China is on the fast track to become the world's second largest oil consumer behind the U.S. This development will put huge additional pressure on the environment and the climate, the Kyoto objectives.

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I would like to make it absolutely clear that I am not saying that consumption growth in itself is bad. Of course we need consumption. We need consumption to live, to create jobs, to meet basic needs and to improve quality of life.

And the world's poorest people – like those in sub-Saharan-Africa where consumption is actually decreasing – will need to consume more, if they like us are to lead lives of dignity and opportunity. So, I am not questioning the fact that we consume, I am rather questioning *how* we consume and *what kind* of growth we are promoting.

In this respect, another important point is that our consumption-driven economy appears unsustainable, not only in relationship to ecology but also as concerns the social and economic dimension.

Globalisation has certainly helped to reduce some of the world's poverty, but the picture which is emerging shows us a world with increasing extremes of wealth and poverty. We see a dangerous polarization between the people living in developed and developing countries, or rather between the growing global class of consumers and those who do not belong to that class. Two out of five humans on the planet live on less than 2 euros a day and roughly 1.2 billion people live in extreme poverty, with an average income of less than 1 euro a day.

There are also huge problems with access to clean water and sanitation, energy and education. We continue to see conflict-driven humanitarian disasters, as in Sudan, where in the best case scenario 100.000 people are expected to die in the coming months due to targeted destruction of water sites and food stores. And – last but not least - gender inequality, between men and women, is one of the world's biggest instances of injustice, when it comes to resource distribution. In short, we are not delivering on the UN millennium goals...

It is clear that, in order to cope with population growth and rising living standards in developing countries we need to substantially reduce the “materials use” generated by current production and consumption models. There is no other way to accommodate the twin imperatives of environmental protection and social equity. In short, there is no way we can stop global warming and create a sustainable society without addressing consumption and our fossil-fuel-based economic system, on a global scale.

### ***[3. The good news – the soybean car, a seed for the future]***

Yes, it's finally time for the good news. And let me start with the story I promised you about the man who dreamt of building cars out of soybeans...

In the USA, during the great depression in the thirties, there was a man, an inventor, who spent many long hours in his lab near Detroit, trying to turn humble beans soybeans into cheap plastic.

This man was already known for wearing suits and ties made out of soybeans. His big dream was to produce a car with a plastic body made completely of soybeans.

It goes without saying that many people thought he was absolutely bonkers. Little did he care, because in 1941 he unveiled a handmade soybean car... His name was Henry Ford, one of the world's greatest inventors...

But, there was just one little snag in this story - a story that could have changed our fate considerably. Like many inventors who have tried to commercialise bio-based materials, Ford never managed to produce marketable soybean-based plastics. Because his plastics could not compete price-wise with – yes, you have guessed it - petroleum-based plastics, which is still the dominating industrial polymer.

So, what became of Henry Ford's dream? More than 60 years have elapsed since then, and the USA is now a country with a President who is notorious for rejecting and obstructing global environmental governance...

Luckily, there are two sides to every coin ... I recently visited the U.S and it is very hopeful to see that some kind of grass-roots revolution is going on there, over climate change and sustainable development.

Several states, led by California, Massachusetts and New York, have joined the eastern provinces of Canada in vowing to cut greenhouse gas emissions by 12 percent before the end of the decade, independent of federal policy. They now want to adopt and join our European trading scheme on CO<sub>2</sub> emissions. A dozen states and cities have even sued the Environmental Protection Agency for refusing to treat CO<sub>2</sub> as a pollutant.

California has been working, since 1990, on implementing policies that would push the market to develop so called PZEVs - partial zero emission vehicles: hybrid cars with a 90 percent emission reduction, and ZEVs - zero emission vehicles: electric or fuel-cell driven vehicles with emission cuts of 99 percent.

And now several other states are adopting the same standards... adding even more pressure to the car industry to follow suit, if they want to continue doing business in those progressive states.

In addition, the new governor of California, Arnold Schwarzenegger, signed an order for California to have a network of stations offering pollution-free hydrogen fuel, covering the state by 2010. For this project he has called on state agencies to work in partnership with NGOs, private companies and existing research coalitions – all those who pushed for the order.

My main point here is that all this has been possible because of a virtuous interplay between the political world on the one hand, and civil society, organised NGOs and progressive industrialists on the other hand. What we see here is a case of progressive actors working on the basis of a new economic rationality, which promotes all three dimensions of sustainable development.

By “thinking ahead” – forecasting instead of fighting progress, these actors have realised that we are facing the end of the oil economy and that sustainable development is cost-efficient. So, perhaps we have some chance of seeing Henry Ford’s dream come true, and of seeing “the light at the end of the tunnel”.

*[Overhead with Ford Model U – the SUV monster]*

Look at this massive car. Yet another one of those super trendy and fuel consuming SUV monsters that cause congestion and pollution in the streets of our cities? Well, this is actually grandma disguised in wolf’s clothing!

Last year at the Detroit motor show, the Ford Motor Company, in homage to its founder, presented a car concept known as the Model U green car. It is the

ultimate recyclable car. You can eat it, purge it, and use it as fertilizer to grow it all over again!

It has a corn-based canvas sunroof. The interior is made of recyclable polyester, the carpets of maize, and the seat cushions of soybeans. The engine oil comes from sunflower seeds. To crown it all, the car is powered by a supercharged hydrogen-fuel combustion engine! This engine has near to zero emissions and has cut carbon dioxide emissions by 99 percent.

What we are looking at is in fact the end of the oil age and the old combustion engine. And Ford would be rejoicing today - bio-technological innovations have managed to solve the puzzle he was wrestling with. Plant-based plastics can finally compete price-wise with petroleum-based plastics.

For me, Model U represent the kind of u-turn technologies we need if we are to fight climate change and create a more resource efficient and sustainable society.

To top this development there is promising news from China too. The, soon to be, second largest consumer of oil in the world...

It is clear that China is aggressively seeking to curb the pollution that goes hand in hand with rapidly growing energy demands. A Renewable Energy Promotion Law is in the pipeline, due at the end of this year. And at a recent international symposium on China's strategy for developing hydrogen-powered cars, held in Shanghai, it became clear that China, for some time, has been developing fuel cell cars and the use of hydrogen energy. Hydrogen is definitely an official and vital part of China's energy strategy.

Government officials say that developing renewable energy sources and hydrogen-driven cars are extremely urgent matters for China. It is an absolute necessity in order to safeguard energy security, economic progress, human health and the environment. There are many other progressive initiatives that have been taken recently, like the widespread start up of sustainable villages and communities.

This is a very promising trend that can be observed in quite a few developing countries and as Worldwatch Institute concludes "it appears as though China belongs to those developing countries that have begun to emphasize the opportunities rather than the downsides that await countries that shift to environmentally sustainable economies"...

***[4. How can we better promote sustainable development?]***

Perhaps the greatest challenge will be for developing countries to build strategies for leapfrogging to an eco-efficient economy. And it is our duty, both for ethical reasons and out of self-interest – our very survival - to give them all the help we can.

And for obvious reasons we must start with ourselves. The American and European consumer class is key to reshaping the relationship between consumption and sustainability – not only because we use most of the resources, but also because our consumption patterns echo around the world.

And, if environmental and equity reasons are not enough to persuade people to act, there are other reasons and persuasive arguments as to why we must change direction. We must understand that the world's economy is based on an energy source that is limited, costly and will run out, possibly sooner than we think.

In addition, we are taking a very high security risk in being so heavily dependent on one energy source. This makes our society and economy extremely vulnerable, particularly in the perspective of ensuring security and political stability.

I do not believe in fate: I believe we can shape our future, and we must not let current trends become our destiny. I am convinced that we can still manage to bridge the gap between a growing population, rising living standards and the physical limitations of this planet. And I believe that innovation and technology, like the hydrogen combustion engine and fuel cells - u-turn technologies – is the key to spurring sustainable and equitable economic growth.

A wide range of eco-efficient technologies already exists. U-turn technologies that could virtuously address most of the resource and environmental problems we are now facing.

So, where do we stand in the EU when it comes to sustainable development?

Since Rio in 1992, sustainable development has become a guiding principle in international law and in European policy-making. And over the last decade, there has been a considerable effort within the EU institutions to make sustainable development a reality.

Over time, increasing emphasis has been put on policy consistency, integrated approaches, impact assessment and stakeholder involvement in policy-making. Moreover, commitments undertaken at international level have helped to give shape to an "external dimension" of the EU strategy for sustainable development.

Does this mean that we are on a steady path toward sustainability? Well, after five years as EU Environment Commissioner I can say without hesitation that we certainly are the world champions in terms of governance and multilateralism ... But, to be sincere it is clear that all our efforts have not succeeded in creating strong enough incentives to really change our production and consumption patterns.

Unfortunately, too many of our economic and political players have not yet grasped that it is cost-efficient to be sustainable, whether we are talking about natural, human or societal resources. In other words, adopting a sustainable economic approach will also produce profitable businesses.

I am convinced that we can only revitalise Europe's economy by building on higher social and environmental standards, not the opposite. But this is far from being a widespread perception, as the debate on the chemical reform has clearly demonstrated.

A reason for this backward-looking attitude, which seems to be held by many economic actors in Europe, is that European NGOs and civil society have not been very structured and strategic in creating economic demands for sustainable development. The advances being made in California show us that sustainable development cannot happen without strong demand in civil society.

But there are interesting developments at European level too. Two months ago some of Europe's most prominent environmental and social NGOs joined forces to launch a European campaign for sustainable investment. It is a progressive initiative because it has a strategic focus on measures that are aimed at altering economic rationality by promoting sustainable investment in goods, services, housing and transport.

It is obvious that we need to work more with such modern tools and new concepts. We need policies that provide incentives and reward sustainable behaviour.

We need policies that reward forerunners, instead of the laggards as our present system often does. In short, we must create conditions that support sustainable development.

Now, I am getting closer to my key message. I believe we have reached a stage where we must direct our efforts toward society. Because we could very easily succeed in creating EU institutions that formally promote sustainable development. And, as I said earlier, we have the technological know-how needed for a paradigm shift.

But, in the end, sustainable development will not happen unless there is a demand for it in society. The economic system needs incentives, and politicians need support for progressive policy-making... and for that we all need active and organised citizens...

This implies a model of governance that involves not just governments, but also corporations and individuals. And this to a much broader and greater extent than before.

So we must focus on policy measures and tools that foster a virtuous interplay between civil society, technology, the market and legislation. We must develop tools that make economic rationality promote sustainable development.

The “toolbox” you see here shows a range of new and old instruments that respond to this objective. They include, for example: integrated product policies, phasing out harmful subsidies, taxation, public procurements, labelling schemes, and corporate social responsibility.

*[Show Overhead 3 Toolbox – shortlist].*

I don’t intend to explain here how all these instruments, individually or in combination, can work for sustainability. They are all very powerful systemic tools – mostly of an economic nature - that can create strong incentives both for consumers and corporations, to produce and consume differently – in a sustainable way.

But just to give you an idea of how powerful they can be, let’s take public procurement. Public procurement in the EU amounts to 1.300 billion euros a year. It is not difficult to see what the impact of well-designed rules for public procurements could be. It is not difficult to see, for example, how much they could help achieve a major shift towards sustainable technologies.

Or let’s look at subsidies. Recent estimates suggest that subsidies with distorting and detrimental impacts on the environment amount to 720 billion euros a year, with an additional 1 trillion euros worth of quantifiable environmental “externalities”, or external environmental impact

Just a third example from the toolbox... Let’s talk about sustainable investment. The Dow Jones Sustainability Index for sustainability-driven investments accounts for a total market capitalisation of over 4 trillion euros. This is clearly an emerging market, and in Europe we have hardly begun to explore it.

In various ways these tools can help create a new forward-looking economic rationality, and make it work for sustainable development.

### ***[5. Another world is possible]***

I have talked about technology, system conditions and the need for new policy tools. And I have argued that we already have the knowledge we need to bring about real change – both when it comes to technology and policy-making.

However, as I said earlier this is not enough, we need a demand for change in society. If we really want the vision of a sustainable Europe to become a reality it is not enough to work with economy, technology and legislation. Because we have now reached the point where we must address the “holy cow”, and that is the nature of consumption itself.

We must now direct society’s priorities toward creating “good” forms of consumption.

We must do this because the world around us is inescapably international. Issues from business to agriculture, from human rights to relief of famine and gender equality, require us to use our imaginations to venture beyond narrow group loyalties and to consider the reality of distant lives, and the impact of our living standards.

So, in the end, attaining and maintaining sustainability actually becomes a question of how we articulate our ethical preferences, as consumers, as citizens and as fellow human beings.

In short, the demand for sustainable development has to start with us. We have to learn to consume in a sustainable way, with the objective of improving the quality of life, not only for ourselves but also for those who produce what we consume – everywhere in the world.

And to be consistent with what I just said, I would like to offer you a challenge. Next time you surf on the net go to the World Watch Institute’s homepage ([www.worldwatch.org](http://www.worldwatch.org)) and download a copy of their publication “Good Stuff”.

This is an excellent, interesting and easy to use toolbox for consumers, a guide to sustainable shopping and consumption. Once you have read it you will probably start making some very simple changes. For example, switching off the TV, the video and the satellite receiver instead of leaving them on stand by when you go to bed. If all Europeans did this we would reduce our CO2 emissions by 6.3 million tonnes a year.

It is time to conclude my presentation. In doing so, let me borrow the prologue to a book by Paul Harrison, a British expert on environmental matters who has written a number of entertaining and instructive books on global environmental issues.

He begins his book "The third revolution" (1993) with a description of the plot in Hamlet.

"Claudius is swift in the commission of evil:  
There is no chink of delay between thought and deed  
But Hamlet:  
Hamlet knows from the outset that something is wrong.  
By the end of act one, he knows exactly what is wrong.  
At the end of act two, he knows what needs doing  
Act three brings his best chance of killing Claudius with least damage.  
He lets it pass.  
Then Polonius, Rosencrantz, Guildenstern, Ophelia, Laertes and Gertrude  
all die unnecessarily.  
Hamlet waits until circumstances force his hand.  
Before he does what had to be done all along,  
Hamlet has less than half an hour to live."

Hamlet's indecision is only too understandable. Translated to the environment, it means we are swayed both by those who say the situation is hopeless and nothing can be done about it, and those who say things are just fine and there's no need to get excited!

Hamlet's indecision and vacillation and the devastating consequences are a perfect illustration of our own predicament but, like Paul Harrison, I think we are still somewhere near the beginning of the play.

Ladies and gentlemen,

I believe we can still rewrite the script, I believe sustainable development is possible, and I believe it is an idea whose time has come. Now it is up to all of us to spread it as widely as possible.

Thank you for listening.