

## **Combating Climate Change**

### **The Challenge**

The overriding environmental challenge of our time is climate change. The problem originates from the emission of greenhouse gases, primarily carbon dioxide, mainly from the transport and energy sectors. If humanity fails to come to terms with this problem, we will be forced to make dramatic changes in the way we live our lives, but above all it will radically affect the lives of our children and grandchildren

Total global emissions of greenhouse gases in 2000 amounted to 37 billion tonnes of carbon dioxide equivalents, of which more than 23 billion tonnes carbon dioxide. The trend is towards a dramatic increase, especially in countries that are experiencing rapid growth such as China and India. Carbon dioxide from combustion dominates. Studies show that an acceptable temperature increase and long-term temperature stability could be achieved at a concentration of 550 ppm of carbon dioxide equivalents in the atmosphere. But, we have to respect that this is the current wisdom, it may very well be necessary to revise this target downwards.

Whatever the level, it is very clear that we must drastically reduce the current level of total emissions. If, in a hundred years time, the per capita emissions, including those of the developing countries, should be equalized at the same time as temperature stability is achieved, then a dramatic reduction in emissions from fossil fuels is required. The challenge is, however, not only long-term, it is urgent that we start acting now. At the same time, we must also ensure that the measures taken do not lead to unnecessary costs. The most pressing need is to create a credible, stable and predictable long-term framework defining how reductions will be achieved. Given efficient incentives, most parties in society can and will act in a rational and accountable way.

### **An outline of a framework leading to a low carbon emitting society**

In the report "Curbing Climate Change – an outline of a framework leading to a low carbon emitting society" my company Vattenfall proposes an adaptive burden-sharing model. It is based on the assumption that an overwhelming majority of all countries can be convinced to commit themselves to participate in the system on the understanding that they will only face restrictions once the country is wealthy enough in relative terms. The long-term predictability and the flexibility needed for economic growth can thereby be sustained.

We have tried to outline a burden-sharing model that both results in a practical and acceptable way of reducing global emissions and at the same time creates a stable and predictable environment for governments, individuals and corporations. It is based on the belief that this can be achieved by setting long-term rules that all parties are prepared to accept, and that these rules should include commitments to reduce emissions. Different methods can be used to achieve these reductions.

It is our belief that a GDP-based mechanism has the best chance of being accepted by different countries. For a given level of global emissions, it will not force the industrialised countries to commit to unreasonably large reduction, but at the same

time it will give all countries similar opportunities to grow – especially since poor countries do not face restrictions at the start. This also means that if the GDP/capita quotas converge then the allocation of emission permits per capita will also converge, thus giving equal entitlements to everyone.

In the ongoing discussion on allocation, several different approaches have been identified. To what extent is our outline in line with these approaches? To begin with, our proposal clearly follows the multi-stage approach, since we suggest that countries should “qualify” into the system when they reach a certain pre-determined threshold. All countries should, however, commit *ex-ante* of doing so. To some extent the proposal also follows the contraction and convergence approach, although the convergence towards equal per capita allowances depends on the assumption of convergence in GDP per capita. This means that our proposal provides a possibility of meeting the equal entitlements principle in the long run. The outline also has the potential to lead to equal mitigation costs, although not necessarily as a share of GDP. Given that the right instruments are used to reach the targets, we can however achieve equal marginal mitigation costs, and thus cost efficiency. This also means that the actual emission reductions will take place where the opportunities are best. High emitting economies also have to make larger reductions and thus take on a larger share of the total burden, which in practice means that wealthier countries will take on a larger burden.

The proposal outlined here can clearly not satisfy all the, partly conflicting, views on fairness. But no other proposal can do that either. What is important is that this proposal has the potential of allocating the burdens in a way that is acceptable to most, or hopefully, all parties. For a given level of global emissions, it will not force the industrialised countries to commit to unreasonably fast reductions, but at the same time it will give all countries similar opportunities to grow – especially since poor countries do not face restrictions at the start. In the long run, it is also necessary that it will be more attractive to be a part of the system than to stay outside. Given the establishment of an international system, each single country’s relation to this system will be a new and important part of that country’s role in the international community.

### **Implementation - What must be done?**

We have to *realize* that there is no such thing as a handful of simple short-term solutions; we have to *realize* that handling the issue on a global scale will take time. Economy, energy and environment are closely interlinked, so we have to *realize* that we are implementing a major shift in the world economy that will ultimately influence everything and everybody and that a long-term perspective must be applied stretching up to 100 years. Combating climate change must and will be a part of everyday life all over the globe. Climate change is a global issue that has to be handled at the global level; solutions and initiatives are needed for both local and global growth.

Regimes and structures for global governance are, unfortunately, in short supply. It is now high time to take action and shoulder responsibilities on this crucial issue. Even though climate change is a global problem, we all have a responsibility to do what we can to contribute to a solution.

At present, the situation regarding climate change, the future of UNFCCC, Post-Kyoto, the US – EU relations, the role of the growing economies among the developing countries (China, India, Brazil, South Africa, Mexico) is fairly confused. No solution is possible if not the entire, or at least most of, the world economy is included. Agreeing on and implementing a common global system will take time. The most important thing is, however, that we start now by forming a burden-sharing model built on commitments to long-term reductions.

We must do all we can to set the correct price on emissions and the pricing must be as global as possible. The only possible way to do this is to make use of market forces, i.e. a global system for emissions trading must develop. Pricing will create the financial resources needed. If emissions are priced properly and the price formation process is trustworthy, i.e. it mirrors market fundamentals, it will be much easier to motivate as well as finance what each single player out there can do. The price has to be global. Otherwise, we will see a lot of second-best solutions and the comparative advantages will not be exploited. Market forces are driving the globalisation process and are some of the most powerful tools in our hands. Used in the right way, they will help to minimise the consumption of resources and provide the best distribution of labour around the globe. An important prerequisite for such a positive development is that there is a global framework of regulations.

Emissions trading in Europe as it is conducted today is limited in many respects. Getting a majority of the world to participate in an emissions trading system is therefore vital. The disputes surrounding the Kyoto Protocol must become a thing of the past. Prestige must be laid aside. The USA and the EU have a responsibility, as the regions that release most emissions of carbon dioxide, to show joint leadership. What we need here is a reasonable and generous compromise between the developing countries' demand for fair development conditions and the industrialised countries' demand that competition throughout the world must not be distorted. It is much more important to get everyone to take part than to focus on short-term emission limits.

The emissions trading system will not be sufficient on its own to solve the problem, but it is a tool for creating the incentives for actions that will result in solutions. Investments in research and development must be focused and significantly increased in order to produce new technology that can replace or radically improve current methods for transportation and the generation of energy. Prices are fundamental market signals and time will give results. Costs will be limited by the technology available for reducing emissions to the desired level. Greater investments in research and development will accelerate technological development. This is obviously a joint responsibility on the part of the political and industrial spheres. We must be open to the use of all available technology in this process. The most important technological development of the next few decades will probably be to achieve sequestration, i.e. to capture and store the carbon dioxide produced in connection with the combustion of fossil fuels. Nuclear power, present and future, will also be a part of the solution. Of course, all the various forms of renewable energy must be used. The transport sector will gradually complete the transition to emission-free engines, probably via hybrid vehicles to fuel cells that use various fuels. Efficiency levels will be up as a consequence of clear market signals.

The introduction of a global regulatory framework will present many business opportunities. This will stimulate the formation of new industries with new workplaces. It will be possible to

exploit the market system to the advantage of the environment. The costs of solving the problem will have only a marginal effect on total global growth if price signals and markets are employed in a wise way. Even more important, given that we have a real and serious problem to solve, not taking action will add costs. Being forced into managing recurring crises will definitely be more costly than introducing effective market-based incentives in due time.

Curbing climate change is about combining technology, finance and policy in a wise way. If that is done a worldwide carbon dioxide market will follow. Technology is not an unsolvable problem, given time and incentives, neither is financing. The real challenge is policy. Will it really be possible for policy makers to get their act together in due time? To be very short, there are no alternatives if humanity should be able to curb climate change.

The climate change issue has been compared with the issue of free trade. Free trade has developed gradually since the end of World War II and has still not reached a state of full openness. The same goes for the climate change issue: we are still in the initial stages of dealing with a major problem to which solutions will be developed gradually over the next few decades. We can easily identify threats, but we can also see opportunities, and without being over-optimistic, surely we will see most of the latter given that wise political decisions are made.

An issue of outstanding importance is the future role of the international business community. Up to now, business leaders in general have made a strategic mistake by letting politicians and NGOs handle the challenge mainly on their own. It is high time for the international business community to rethink the entire climate change issue, we, as business leaders, must play a central and very active role in setting up the basic rules and regulations. The business community has unique knowledge that must be taken into account already when the rules and regulations are established. Business and industry can contribute important experience and know-how. Handling climate change purely or mainly in terms of “red tape” will be extremely expensive – high costs and poor results are to be expected. Today, the climate change issue is driven by politicians, public officials and NGOs that are trying to pull business into a low-emissions future. Looking forward, we as representatives of business and industry have to show leadership. Instead of being pulled by society, we should be pushing and in a positive way integrate climate issues into the world of markets and trade on a global scale.

On the political level, Europe and the USA have diverged. This is not a sustainable situation and there is great need for a transatlantic dialogue. This responsibility lies primarily on the political system, but the business community has a vital role to play in contributing to such a dialogue. All company executives, but primarily those on either side of the Atlantic, must commit themselves to working for a global emissions trading system. Industry should unite to facilitate joint political leadership, first of all from Europe and the USA, on this issue.

Joint action on the part of business leaders can make a major contribution to breaking the deadlock between Europe and the USA. Business leaders, let us form a Trans-Atlantic Forum in order to push society and politicians. We can make a major contribution to finding ways to really globalise the issue and to integrate abatement costs into the global economy. Real progress in combating climate change will, as always, be built on dialogue, mutual acceptance and understanding.