



## **CLIMATE CHANGE AND NEW SECURITY CHALLENGES**

**A Speech  
by  
the President of Iceland  
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Global Change and Local Adaptation**

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Ladies and Gentlemen

It is an honour and a privilege to address you on a subject which for the last ten years has profoundly influenced my intellectual journey and official responsibilities.

The people of Iceland have witnessed the alarming melting rate of our glaciers, which have long been the largest in Europe. The pace of retreat is so striking that some mountains and valleys which have been covered by ice for centuries are now visible for the first time.

My country can thus be described as a theatre of the climate change process. This is not only because of the glaciers but also due to our struggle with the largest desert in Europe. We are also aware of how the Gulf Stream encircles our island, joining with the water produced by the melting of the Arctic and so creating what can be described as the motor which drives the global conveyor belt of ocean currents, influencing the climate in Asia, Africa and the Americas.

Iceland can also serve as an inspiration, as an example of how to battle climate change through comprehensive transformation of the

energy systems. In the early years of my life, over 80% of Iceland's energy needs were met by using coal and oil. Now 100% of our electricity is produced from clean energy sources, and over 75% of our total energy needs, including fuel for cars and shipping, are met by hydro or geothermal power. Within the lifetime of one generation, we have transformed Iceland from being predominantly a fossil-fuel user into a world leader as regards the production and consumption of clean energy.

The abundance of clean energy is the main reason why Iceland is now, notwithstanding the financial crisis, an attractive investment location for foreign companies. An ever-growing number of investors are willing to go anywhere if they can get permanent and secure access to clean energy, thus becoming well positioned when a global carbon tax, in one form or another, is introduced. This magnet nature of clean energy production is especially important for 21<sup>st</sup> century IT investments, for software and information-based companies. For this reason, an abundance of clean energy will give countries a strategic advantage in the 21<sup>st</sup> century global economy.

The people of Iceland have also been able to meet the setbacks caused by the collapse of our major banks and the global financial crisis partly because our energy economy was transformed some years ago to provide cheap clean electricity and space heating, making the economic hardships for families and homes less severe than in many other countries.

There are more than 100 countries in the world that could effectively use geothermal resources in this way, and we are now helping cities in China to replace coal plants with geothermal to provide urban heating, cooperating with Djibouti to formulate plans which could make it the first clean-energy country in Africa. We have also engaged in extensive discussions with the US Administration, the Department of Energy, members of the US Senate and the House of Representatives, governors and mayors, to map out the role which geothermal power could play in the transformation of the US energy economy, contributing to the security of the country, limiting dependence on the import of fossil fuels, reducing the risks caused by fluctuating oil prices and providing opportunities for new infrastructures, supporting the cities and regions where the resources are located.

Thus, our small country is involved in many different types of international collaborative work in the energy field. To me, perhaps the most fascinating one is with Abu Dhabi.

I strongly believe that if we could do this, so can others. The fight against climate change is fundamentally about the future of energy.

Global warming could clearly be slowed down or even averted if the Icelandic model were followed on a global scale by utilizing the variety of clean energy resources available to every country.

The problem is, however, that time is short and the hurdles are enormous. Unfortunately, it seems wise to prepare our nations and the international community for dealing with the consequences of climate change.

In recent years we have gained increasing awareness of how our eco-world is in fact a single system, how developments in one particular area of the grand mechanism of our existence may have hitherto undreamt-of consequences in another. The most dramatic contemporary manifestation of this interdependence is the relationship we have come to understand between climate change and the destruction of the soil, and how this constitutes a vicious circle.

Land degradation, manifested in the loss of carbon from the terrestrial ecosystem, is one of the major contributors to the buildup of greenhouse gases in the atmosphere. As land loses its cover and vegetation retreats, its capacity to capture carbon is reduced, and this in turn accelerates climate change. Warmer years may result in droughts, affecting water resources and an endless number of eco-systems, often furthering the spread of dangerous diseases.

A formidable body of scientists estimates that we only have 10–15 years to transform our systems in ways which could prevent irreversible effects of climate change. Others argue we might have 20–30 years. In either case, it is a very short time. Even the ultimate optimist might find it difficult to believe that our national economies and our global system could be radically altered within such a short time-span.

I do, however, believe that it can be done. In this sense I am the ultimate optimist, yet I am also a realist, moulded by decades of involvement in national and international politics and decision-making. I know that the pace of reform can be slow and frustrating. Even if you can lead the horse to the water, with strong and persistent goading, it is not easy to make him drink.

It therefore seems to me to be prudent to follow two simultaneous and parallel courses of action.

One involves the transformation of our energy systems, our lifestyles, our societies and our economies, in order to minimize, and preferably prevent, climate change. Although this is a colossal task, it can be achieved, especially if we are guided by the same sort of vision and

confidence as inspired the ending of the Cold War and brought mankind through the Great Depression and two World Wars into a new security framework.

The other course of action consists of preparing for the disastrous consequences of the global warming which is now already on the horizon, to engage in a comprehensive and profound dialogue on the new security challenges and to map out how global and regional institutions could tackle the tasks ahead.

The International Alert report has claimed to identify "forty-six countries at risk of violent conflict and a further fifty-six facing a high risk of instability as a result of climate change."

Environmental challenges can often translate into armed conflicts, as demonstrated by recent examples of how soil erosion becomes the root cause of humanitarian crises, vicious and tragic ethnic confrontations. Darfur is but one example. A score of countries in Africa, Asia and elsewhere, have seen the deterioration of the land and the enlargement of the deserts threaten to sow the seeds of severe conflicts in the years to come.

It is important to understand the complex ecological, economic and social interplay of land use, water resources, energy production and carbon emissions. Increased greenhouse gas emissions will bring higher temperatures and in consequence more wind; lack of water will erode the soils in densely populated areas which are highly dependent on traditional agriculture. Now the Caspian Sea and the Lake Chad, two huge water reservoirs, have more or less disappeared, leaving large regions open to dust and wind erosion.

At the same time, the accelerated melting of the Greenland and Antarctic ice caps, similar to what is happening to the glaciers of Iceland and the Himalayas, will make the ocean level rise considerably, washing away excellent farmland soil in Bangladesh, the Mekong delta and various other parts of the world. With increased poverty, social unrest, even warfare, people have very little chance of using their farmlands in a sensible and far-sighted manner.

Many small island states are giving high priority to these security concerns. For them, the prospect of a rise in the sea level and destructive hurricanes poses a greater threat than any military scenarios have done up to now.

Similarly, continental states with long and low coasts are rapidly becoming aware of what could happen. This applies to prosperous and

poor nations alike. Around a fifth of the planet's population lives in coastal areas which are threatened by rising sea levels. Hurricane Katrina and the fate of New Orleans was therefore a wake-up call, not just for the United States but also others.

Recently we have woken up to what is happening in the Himalayas, an area that is sometimes referred to as 'the water-tower of Asia', containing reservoirs for over a billion people and providing the basis for both food and energy production.

The deterioration of the Himalayan glaciers and their water systems is a strong reason for India and China to monitor current and future climate change more closely than ever before; to become active partners in the search for solutions.

Thus, China and India could suffer the most immediate and disastrous consequences suffered by any country. Their leaders might argue, correctly, that it is grossly unfair that the two billion or more people living in those countries should be so severely affected when climate change is primarily caused by the economies of Europe and America.

Since for China and India the stakes are indeed higher than for most Western countries, it is, in my opinion not inconceivable that they could, in the next 10-20 years, achieve greater CO<sub>2</sub> reductions than either the US or Europe. The common excuse, which is so often quoted, for non-action in the West – that China and India are not doing enough – might thus be reversed. By 2025, the two Asian giants could be calling on the US to match their CO<sub>2</sub> reductions.

Although the prospect in the Himalayas is among the most alarming ones to be found, we must acknowledge that all nations, wherever they are in the world, will be disastrously affected by climate change. It is therefore necessary that every state become a constructive partner in an advanced global dialogue on the security implications of climate change, even if this dialogue is mostly of an exploratory nature in the early phases.

We need to move from the old ways of looking at national, regional and international security towards the unfamiliar yet urgent challenges that lie ahead. The international institutions which were established in the aftermath of the Second World War were based on traditional security analysis. It is now important to emphasise, that the multilateral system is at risk if the international community fails to address the threats associated with climate change.

It is therefore timely and wise to start examining these new security issues systematically. The following list of relevant areas alerts us to the complicated task involved, to the conflicts which the warming of the planet could create:

1. Widespread water crises caused by the drying up of lakes and rivers, by the spreading of deserts and melting of glaciers. Since many of the Earth's biggest rivers run through many countries, the drying up could cause nations to take drastic and even military action to secure their own water supplies. Already, water systems in the Middle East are under intensive stress. Two-thirds of the Arab world depends on water resources originating outside their borders, and Israel might lose 60% of its water supply this century. China with a fifth of mankind only has access to a small part of the global water reserves.
2. In all continents, the reduction of arable land will have a severe impact on food security and create an acute crisis for hundreds of millions of people. Historically, conflicts over water and land, the basis of agricultural production, have led to wars in Europe and elsewhere. Climate change would introduce gigantic dimensions into these traditional causes of military conflict.
3. Increased flooding and prolonged droughts would intensify these developments and make it extremely difficult to deal with them in a comprehensive and systematic way, especially in view of the fourth item on my list.
4. Migration between states, regions and even continents could reach a level hitherto unknown. The migrants would be climate refugees trying to escape droughts, hunger, water shortages and rising sea levels; looking for new and secure homes because theirs have been destroyed by storms or flooding. Almost two billion Asians live within 35 miles of the coastlines and a large proportion of them will lose their homes as a result of rising sea levels.
5. The urge to enter countries which fare better in an era of climate change could grow to such an extent that all the resources and capabilities of the more fortunate countries would be threatened to the same degree as if they were faced with a massive military invasion. Furthermore, deep-rooted ethnic and religious tensions could escalate and might lead to radicalisation and conflicts that would prove almost impossible to control.

6. Fragile and weak states would be in danger of collapsing, and small island states could see all or most of their territories disappear. Thus, entire state structures could wither away, leaving the populations in a political no-man's land and entirely reliant on emergency aid from abroad. Similarly, communities within states, communities with special ethnic or historical characteristics, might see their land destroyed, causing great strains on the capacity of the respective national governments. The consequences could be some form of civil war or other prolonged conflicts.
7. Climate change will also have a dramatic impact on our energy systems, on our capacity to generate electricity and harness the power which is the basis of our economic prosperity. Rising sea levels could damage oil and gas reservoirs and make some inaccessible. We have only to call to mind the problems of the Middle East in recent decades and the importance of oil to realize what could be at stake.
8. The energy resources in the Arctic, amounting to a quarter of untapped global stocks, are also relevant with respect to the new security dimensions created by climate change. The placing of the Russian flag on the ocean bed by a submarine expedition was a sign that a new security era has dawned in the Arctic. Access to the region's energy resources could be a strategic advantage in the 21<sup>st</sup> century global economy.
9. The opening of new sea routes caused by the melting of the Arctic ice, both the Northern Sea Route and the Bering Sea Route, not only shortens the ocean trade routes from Asia to Europe and America in a revolutionary way but also requires systematic arrangements and formal agreements involving Russia, the United States, Canada and the Nordic countries. These sea routes could become as important for global trade in the 21<sup>st</sup> century as the Suez and Panama Canals were in their times – and those canals gave rise to serious tensions and military conflicts. It is clear that control over the new sea routes which climate change opens up in the Arctic will confer enormous power and wealth on those countries that find themselves in key geographical positions.
10. Humanitarian crises caused by extreme weather events will become more frequent and more dramatic, creating societal and cross-boarder stresses with the potential for multiple security implications. Many such crises occurring simultaneously would

severely test the capacity of the existing international institutions. The global demand for relief action could put the Security Council and other UN bodies into a more challenging crisis than they have ever envisioned.

The ten areas of new security concerns caused by climate change which I have here briefly outlined support the view that we must use the next few years to build consensus and agreements on necessary measures, otherwise the consequences of climate change could become more tragic than we ever imagined, even causing upheavals in the global institutional framework that was created after the Second World War.

We were able to contain the Cold War by a series of treaties which at first seemed unattainable. We witnessed the building of a new democratic and free Europe within a single decade, transforming global politics from deadly confrontation to a more interconnected world.

We were able to land a man on the moon and gain extensive knowledge of its landscape but have now to face the startling fact that we know less about the Earth's oceans than the lunar desert.

It is therefore of utmost importance to marshal our forces, both nationally and internationally, in order to prevent disastrous global warming since the consequences of failure could aggravate old tensions and trigger new ones all over the world, spilling over into violence, wars and military threats. Countries in Europe, Asia, Africa and both the Americas will be affected. No one will be immune from these threats to the permanent security of our nations.