Symposium VII: 'The Arctic: Mirror of Life'

under the patronage of

HAH The Ecumenical Patriarch Bartholomew

HE Mr José Manuel Barroso, President of the European Commission

HE Mr Kofi Annan, Former Secretary-General of the United Nations

6th – 12th September 2007

RELIGION, SCIENCE AND THE ENVIRONMENT

"It has been well observed that we should wage war not against the natural world, which has been created by God, but against those movements and energies of the essential powers within us which are disordered and unnatural and hostile to the natural world."

St. Maximos the Confessor,
Monk and theologian, 580-662AD


THULE
KAP YORK
UPERNIVIK
UMANAK
GODHAVN
JAKOBSHAVN
EGEDESMINDE
HOLSTEINSBORG
SUKKERTOPPEN
FREDERIKSHAAB
JULIANEHAAB

From the Amazon to the Arctic

Since 1995, the non-profit organisation *Religion, Science & the Environment* has convened six symposia to study the fate of the world's main bodies of water - the sacred element for most religions – which cover seven-tenths of the earth's surface. Participants come from diverse backgrounds and disciplines, including religious leaders, scientists, policy-makers, environmentalists, activists, local community leaders, and the media. These unique global gatherings have promoted the environmental ethics movement through an alliance between science and religion forged in a spirit of mutual respect and cooperation.

The most recent symposium, *Amazon: Source of Life*, travelled through the world's most magnificent system of rivers. It reaffirmed many of the lessons learned in previous years, while engaging with the ancient wisdom of the indigenous people for whom these waters have always been sacred.

In what is also the world's largest forested area, this 6th symposium took RSE onto new ground, focusing attention on the critical ecological roles played by the Amazon's 42 billion trees and the risk inherent in their systematic destruction. The impact on the regional hydrological cycle will soon threaten the water supply to Brazil's largest cities. As the source of two thirds of all greenhouse gas emissions from Brazil, the cutting and burning of rainforest also contributes significantly to global warming.

Even before the journey to Brazil, Ecumenical Patriarch Bartholomew had made a strong statement on climate change. As scientists reached a consensus, he said, it was no longer just an issue of environmental preservation but "insofar as it is human-induced, it is a profoundly moral and spiritual problem". The evidence of human actions is painfully clear worldwide: low-lying islands in the Pacific are already underwater; hurricanes of magnifying intensity and frequency are wreaking havoc along the US coast; the number of food emergencies in Africa each year has almost tripled since the 1980s as a result of drought and desertification. Nowhere do the effects of this moral problem more cruelly manifest themselves than in the Arctic, a starkly truthful mirror of our own failings.

ARCTIC REGION

Symposium VII – The Arctic: Mirror of Life

Recognising this to be a pivotal moment in human history, Symposium VII will take place in the Arctic Ocean in September 2007. Contrasting the colourful exuberance of the Brazilian rainforest with the silent majesty of the Arctic, our journey will be a polar pilgrimage conducted in awe and humility.

Given the sensitivity of their ecosystems, both poles have been called an early-warning system for the world, because that is where the environmental sins we perpetrate in the tropical and temperate zones impact most severely. But in the North, there are indigenous populations which have already suffered tremendous upheavals, the sea-ice is particularly fragile, oil exploration has brought pace and purpose to encroachments from the outside, and there is still no international treaty to offer the enforceable protections that provide a measure of shelter to Antarctica in the south.

If the Arctic is one of the first victims of human-induced climate change, however, it is by no means a passive one. The vast stores of water locked, until now, into the rapidly melting Arctic Ocean sea-ice and the Greenland ice-cap have the power to unleash a ferocious vengeance on the rest of the world. About 77% of the earth's freshwater is locked in as polar ice. In the last ten years, the amount of fresh water flowing into the Arctic Ocean has increased dramatically. Scientists fear this will reduce its salinity, causing the Gulf Stream to falter and possibly plunging Europe into a mini Ice Age. A rise in sea temperatures of just 2.7°C could start an irreversible process that would eventually raise global sea levels by 7 metres, with devastating consequences for low-lying small island states and countries like Bangladesh, Egypt, Vietnam, the Netherlands, and parts of the United States. Many major cities, from New York to Shanghai, would be overwhelmed with knock-on effects beyond imagining.

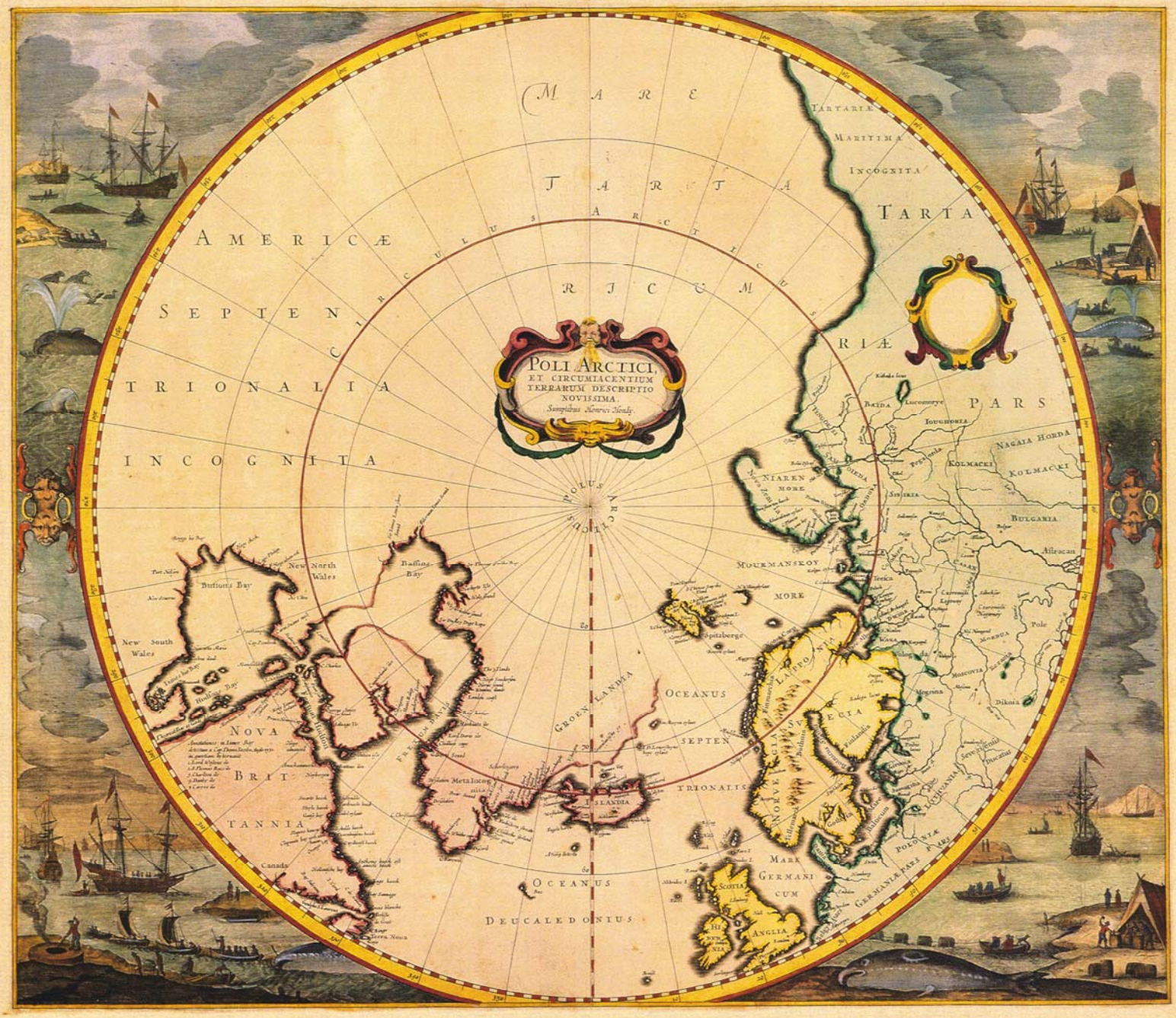
In the Arctic regions, large amounts of methane - a particularly potent greenhouse gas - and carbon dioxide, trapped for centuries in the permafrost, will be released, accelerating the warming process. Permafrost, which covers 27% of the world's land surface, is already starting to melt, particularly in Siberia, Alaska and Canada.

We know about tipping points, yet we ignore the warnings written large across the cap of the world. It is our nemesis that bubbles up from the

melting permafrost in methane release. It is our whole planet that is at risk from the melting Greenland Glacier. It is our future that is threatened by the loss of the precious reflective whiteness of the Arctic ice. The planet is in crisis and each of us has a moral obligation to take urgent action.

To underline this, the symposium will visit areas where the impacts of melting ice are already clear, the northernmost communities in the world who have shown extraordinary resilience in the face of change, and finally the towering edge of the ice mass, still vast but retreating year on year towards the Pole. There, the assembled leaders of different faiths and disciplines will join in a prayer for the planet.

Few people now doubt the science of climate change, but this prayer from the top of the world will offer a different message: that the polar pilgrimage should be joined in spirit by all those who care about the future of mankind and its relationship with the planet, be they in Manaus or Moscow, Borneo or Beijing, Innsbruck or Ottawa.



«POLI ARCTICI» – «NORDPOLEN». Hendrik Hondius. 1646. Faksimiletrykk av håndkolorert kopperstikk. Svalbard Samfunnsdrift 2001.

Symposium Themes

I. One Living Planet

Our planet is unique because it is clothed in a complex web of life. Destruction or disruption in one part affects the whole. The damaging impact of human activity is now reflected throughout the biosphere. To reverse this damage, we must change our relationship with the earth, committing to the principles of interdependence which are common to both religion and science. A planet in jeopardy requires new paradigms for thinking about the environment.

1. Physical Interdependence: One Living Planet

2. Spiritual Interdependence: The Eternal Covenant

3. The Intellectual Point: The Structure of Scientific Revolutions

4. The Physical Tipping Point: Climate Change in the Arctic

II. Damage to the Arctic Ecosystem

With its direct influence over the whole planet, the Pole is a powerful icon of the interconnectedness of humanity. This interdependence is highlighted through scientific evidence, but also through human experience. We shall examine four interconnected aspects of change in the Arctic. They are all the result of human activity elsewhere, and are further exacerbated by the changing climate. Each case will be considered in terms of the global context, the direct impacts witnessed in the region, and finally the human choices which originate and perpetuate the problems.

1) Contaminants

The Arctic is no longer a pristine wilderness. Chemicals produced in industrialised nations are carried north by air and water currents, and the Arctic acts as the final sink where persistent organic pollutants are trapped. The traditional foods of indigenous people are now unsafe. There is also radioactive contamination. Leakage and waste from nuclear power plants from Western Europe is carried to the Arctic Ocean, where there are also some 120 decommissioned nuclear submarines.

2) Energy

Growth in world population, increased demands for energy and continued reliance on non-renewable sources are having a major impact on the Arctic. The region holds 25% of the world's remaining hydrocarbons, the core agent of global warming. Ironically, as the Arctic ice melts it becomes easier to extract more oil and gas, further focusing commercial interest and activity. Nuclear energy, the alternative favoured by many, has brought its own set of problems to the region.

3) Biodiversity

The Arctic is home to some of the world's most distinctive mammals, millions of migratory and resident birds, a rich ice-edge community, and some of the world's major fisheries.

The physical and biological impacts of a warmer climate on Arctic ecosystems will be tremendous, affecting nearly all marine- and land-based wildlife species. Even a few degrees increase in seawater temperature will affect the Arctic marine ecosystem in many ways. Warmer temperatures will lead to increased biological productivity at the lower parts of the marine ecosystem. Reductions in sea ice will drastically shrink marine habitat for polar bears, ice-inhabiting seals, and some seabirds, pushing some species toward extinction. Caribou, reindeer and other land animals are likely to be increasingly stressed as climate change alters their access to food sources, breeding grounds, and migratory routes.

4) People

Human communities also survive in a delicate balance with the Arctic climate and are equally sensitive to change. Indigenous populations in the region maintain a strong connection to the environment through subsistence on wildlife and natural resources, a practice that has endured over thousands of years. Indigenous communities, whose knowledge of the land, sea, and ice dates back perhaps as many as 30,000 years, are already reporting signs of significant climatic change. Ice now forms later in the year and breaks up sooner. Changes in the ice pack alter travel routes over land and sea. Experienced hunters are falling through thinning ice into seawater cold enough to kill in minutes. Once-frozen coastlines are eroding, destroying homes.

Residents have observed changes in the animals around them, including caribou, polar bears, ringed seals, walrus, beluga whales, and seabirds, upon which the local people depend. The culture has relied on these animals for food, clothing, and various materials. Increasingly, they are noticing that polar bears cannot find seals along the receding ice edge and are forced to scavenge elsewhere for food. And robins and barn owls —birds for which the indigenous people had no name— have started to appear for the first time.

Thousands of years ago, nomadic Arctic populations adapted to environmental change by settling in favourable climate conditions along the paths of animal migration. Today, Arctic people cannot adapt as easily, because most now live in permanent settlements.

If climate change disrupts subsistence livelihoods in the Arctic, communities could face increased poverty, leading to drug and alcohol abuse and a host of other social problems. Such problems are already common in some areas, where traditional hunting and fishing based economies have given way to less reliable employment. The social and cultural impacts of a changing environment could be overwhelming.

In the Arctic, the traditions and lifestyle of indigenous peoples have been threatened and even destroyed as a result of the needs and demands of other parts of the world: oil and gas exploration, ozone depletion, acid rain, pollution from mining and timber production, and commercial fishing.

What happens to the Arctic and its human population concerns us all, for the response of the area and its people to climate change serves as an indicator for what may occur in other regions and to our planet as a whole. Arctic indigenous people, with their profound sense of spirituality, remind us that we are part of nature and not masters of it.

III. Alternative Reflections

When we look at the world now, we see the reflection of our own choices. The Arctic has a latent power to turn the harm it has been done back on to the rest of the planet. In many cases, it is in our power to make different choices, and to see as a result a different world.

1) Physical Reflections: the Threat to the Planet

- Rising sea levels
- Desertification
- Drought
- Climate refugees.

2) Alternative Reflections

- Technologies
- Economics
- Perceptions
- Politics.

3) Religion, Science and the Environment.


POLHAVET
LINCOLN HAV
GRØNLANDSHAVET
ELLESMERE ISLAND
PEARY LAND
KNUD RASMUSSEN LAND
AVANNAARSUA
KONG FREDERIK VIII LAND
LAUGE KOCH KYST
BAFFIN BUGT
KONG CHRISTIAN X LAND
TUNU
KITAA
CUMBERLAND PENINSULA
DAVIS STRÆDE
KONG FREDERIK IX LAND
DRONNING INGRID LAND
KONG CHRISTIAN IX LAND
DANMARK STRÆDE
NUUK
REYKJAVIK
KONG FREDERIK VI KYST
KALAALLIT NUN
GRØNLAND
1 : 7 100 000
100 50 0 100 200 300

Draft Itinerary

Day	Location	Time	Programme
Thursday September 6th	Ilulissat	Afternoon	Charter flight London – Kangerlussuaq
		Afternoon	Internal flight Kangerlussuaq - Ilulissat
		Late Afternoon	Embarkation on the M/S Fram
Friday September 7th	Ilulissat	Noon	Departure of the M/S Fram for the Icefjord
	Icefjord	12:00	Silent Prayer for the planet by Religious Leaders aboard the M/S Fram
		Afternoon	1st plenary session
		Evening	Dinner with Dignitaries Overnight stay at Ilulissat
Distance between Ilulissat and Nuuk: 395 miles / 33h			
Saturday September 8th	At Sea	08:00	Departure for Nuuk
			2nd and 3rd plenary sessions on board
Sunday September 9th	At Sea Nuuk	Morning	4th plenary session on board
		17:00	Arrival at Nuuk
		Evening	Reception at Katuaq Cultural Centre hosted by the Greenland Home Rule Government
Monday September 10th	Nuuk	Morning	5th plenary session on board
		13:00	Lunch with dignitaries
		Afternoon	Closing ceremony
		Evening 22:00	Departure for Quassiarsuk
Distance between Nuuk and Qassiarsuk: 350 miles/31h			
Tuesday September 11th	At sea	Morning	1st Panel Discussion
		Afternoon	2nd Panel Discussion
Wednesday September 12th	Narsarsuaq Qassiarsuk	08:00	Arrival at Narsarsuaq
		09:00	Qassiarsuk
		Noon	Tjodhilde's Church Byzantine Prayer Service by HAH Ecumenical Patriarch Bartholomew
		Afternoon	Concluding discussion on board-Dialogue between Religion and Science
		20.00	Departure Narsasuaq-London
Thursday September 13th	London Heathrow	Early Morning	Arrival at Heathrow Airport

Silent Prayer for the Planet by Religious Leaders
aboard the M/S Fram
preceding the Symposium 'Arctic: Mirror of Life'

This September the leaders of the worlds faiths will pray in their own traditions for the future of the planet in the face of the damage mankind is doing to God's creation on Earth.

Religious leaders from all around the world and representing many different faiths will come together at the mouth of the Ilulissat Icefjord, a world heritage site since 2004 and one of the most sensitive areas in the face of climate change. The prayer will be held in silence before the unfolding drama of colliding ice, continuously changing colours and sounds, as one of the most active glaciers in the world reaches the sea.

This gathering is a call for all humanity to come together and embrace the challenges that life on this planet is facing. Our responsibility in the failing of the earth's natural defences can no longer be ignored. The thawing of the Arctic ice is a testimony to this. Following the Amazon symposium, the Ecumenical Patriarch has selected the Ilulissat Icefjord as the site in Greenland that most accurately mirrors our global predicament.


Oqaatsut
Ilulissat
Ilulissat Icefjord
Ilimanaq

Friday, September 7th Ilulissat Icefjord-M/S Fram

Silent Prayer by Religious Leaders

Symposium Plenaries

Welcoming address **HAH The Ecumenical Patriarch Bartholomew**

Opening -1st Plenary: 'The Greenlandic Story' *Late afternoon*

Chaired by **HE Aleqa Hammond,** Minister for Finance and Foreign Affairs

Welcoming address **Mr Anton Frederiksen,** Mayor of Ilulissat

- 'Current Scientific Work on the Greenland Story and its Global Environmental Significance' **Professor Minik Rosing**
- 'Adaptation and Survival' **Mr Aqqaluk Lynge**

Part 2: 'One Ailing Planet'

Chaired by **Mr Svend Auken**

To change what we see we have to change how we see it. Paradigms for thinking about the environment have changed. Our planet is unique because it is clothed in a complex web of life. Destruction or disruption of one part affects the whole. The impact of human activity is now reflected throughout the biosphere.

Keynote speech **HE Metropolitan John of Pergamon**

'One planet: the Biosphere' **Dr Antonio Nobre**

- **'**What Happened to Humans and the Earth and Why: a Novel View from Fundamental Science' **Professor Victor Gorshkov** **Dr Anastassia Makarieva**

Saturday, September 8th En route to Nuuk

Morning

Ways of thinking change gradually, but with flashes of sudden illumination which show us that old assumptions have died and must be abandoned. These 'tipping points' are starting to occur in the world's understanding of global warming, and three of them now cry out to be recognized in the Arctic region in 2007.

One is the tipping-point notion itself; arguments about the reality of climate change are now behind us, freeing us to decide whether to meet it with prevention, mitigation, adaptation or a mixture of all of them.

A second is the way that evidence of irreversible climate change in the Arctic has now, with frightening rapidity, ceased to be a threat and turned into an accelerating reality of rising sea temperatures, disappearing fish species and-above all-the melting ice-cap.

Finally, global warming and its consequences are sweeping us towards a political tipping-point. It is becoming obvious that current versions of democracy, reduced to a mere neo-liberal competition to satisfy individual wishes, will not be adequate to manage this planetary emergency.

2nd Plenary: 'The Tipping Points'

Chaired by: **Dr Grete K. Hovelsrud**

- '*Physical Tipping Point*: The Threat to the Planet, Rising Sea Levels, Drought, Desertification and Climate Refugees' — **Dr Bob Corell**
- **'***Political Tipping Point*: Implications for Politics and Economics' — **Mr Andi Gross**

Special Scientific Session:

- **'**How Natural Ecological Communities Run the Biosphere: Water Cycle, Climate Stability, Ecological Homeostasis' — **Dr Anastassia Makarieva** **Professor Victor Gorshkov**
- The Global Outlook for Ice & Snow – a Changing Climate and other Relationships of the Arctic for the Global Environment — **Dr Peter Prokosch**

Saturday, September 8th

Afternoon

En route to Nuuk

We are going to look at different aspects of change in the Arctic that are interconnected and all a result of human activity around the globe.

3rd Plenary: 'Impacts on the Arctic and its Peoples'

Chaired by: **Mr Aqqaluk Lynge**

The arctic is no longer a pristine wilderness. Chemicals produced in industrialized nations are carried north by air and water current, and the arctic acts as the final sink where persistent organic pollutants are trapped. The traditional foods of indigenous people are now unsafe. Leakage and waste from nuclear power plants from Western Europe is also taken by currents into the Arctic Ocean that is the receiver of radioactive contamination.

- 'Contaminants, transportation and effects of pollution' — **Dr Lars-Otto Reiersen**, **Dr Jens Hansen**

Many of the Arctic's migratory birds and animals now face extinction due to changing climate conditions that have damaged their habitats. Fish species are also facing extinction due to the depletion of fish stocks elsewhere in the world that is increasing the demand for fish from arctic waters.

- 'Biodiversity' — **Dr Jane Lubchenco**

The lifestyle of the Arctic indigenous people is being threatened as a result of the needs and demands of other parts of the world: oil and gas exploitation, ozone depletion, acid rain, pollution from mining and timber production, and commercial fishing. What is happening to their lifestyle is a warning of what lies ahead for all of us.

- 'Indigenous people' — **Mr Pavel Sulyandziga**, **Dr Grete K. Hovelsrud**

Sunday, September 9th En route to Nuuk

Morning

We are often told that we are living in an information society. An information society is barely on the first rung of the ladder of the trinity of information, knowledge and wisdom. How can people attain wisdom? Knowledge is acquired by learning, where some information is deemed useful and retained and other less useful information is rejected. Wisdom however, involves many other qualities such as experience, values, open-mindedness and spirituality. This fifth session will ponder the meaning of wisdom and will seek examples that demonstrate its power and how it may be acquired. Slovenia prides itself as a model of wise development and good environmental practice, and its landscape is one of its biggest assets. Hopefully, the same wisdom that preserved the Slovenes' culture through 600 years without a state of their own will help them to preserve and cherish their environmental soul.

Growth of world population, over consumption, increased demands for energy and continued reliance on non-renewable sources is having a major impact on the arctic which is facing problems that reflect the demands of people in countries around the world.

Despite the failure of many governments to give more than the minimum incentive to bring about a new industrial revolution in renewable energy it is going to happen anyway. Smaller countries like Denmark, Iceland and most recently Sweden and Norway are leading the way. Geothermal power (using hot rocks to generate electricity and heating) wind power, small scale hydro-electricity and burning methane gathered from rubbish tips, are already well established technologies. All could be expanded. Solar water heating and solar photovoltaics (to produce electricity direct from the sun) are booming industries across Europe, Japan and China. Developing fast are undersea tidal turbines and wave power machines both of which are now producing reliable electricity in Europe. The next really large power source will be concentrated solar power. Using giant mirrors to focus the suns rays to boil liquid or expand gas to turn turbines. Stations are already in operation in Spain and California and could be vital in all desert regions. These are just a few of the exciting technologies still being developed that will soon make nuclear energy, oil, coal and even gas redundant for electricity production.

4h Plenary: 'Overcoming our Addiction to Fossil Fuels'

Chaired by: **Dr Jane Lubchenco**

- 'Biofuels'
- 'Oil and Gas in the Arctic -Towards a Less Oil Dependant Society: A View from Sweden' — **Dr Stefan Edman**
- 'Renewable Energy' — **HRH Princess Irene**, **Mr Svend Hardenberg**

Monday, September 10th Nuuk

Morning

When we look at the world now we see the reflection of our own choices. It is in our power to make different choices and if we did we should see a different world.

5th Plenary: 'Alternative Reflections and the Mirror of Life'

Chaired by: **Professor Laurence Mee**

Welcoming address	**Mr Jonathon Motzfeldt,** Speaker of the Parliament of the Home Rule Government
• 'Alternative Visions of the Future'	**Professor Dr Hans-Peter Dürr**
• 'Discounting the Future'	**Dr Grete K. Hovelsrud**
• 'Justice and Virtue'	**Mrs Margaret Barker**
• 'Democratic Deficit'	**Dr Vandana Shiva**
• 'Environmental Ethics'	**Dr Massoumeh Ebtekar**
• 'Eternal Covenant'	**Mrs Margaret Barker**

Monday, September 10th Nuuk

Afternoon

Nuclear Issues

Tuesday, September 11 En route to Qassiarsuk

Panel Discussion 1: 'Polynyas'

A scientific story about the lakes that open up the in ice in the summer months which support a unique ecology and in turn attract whales to feed on their plentiful plankton. Polynyas are disappearing as the ice disappears, with unknown effects on wildlife. Polynya experts will be on board and pictures of the lifeforms that can be found in them will be available.

Panel Discussion 2: 'Military in the Arctic'

A US Air Force B-52 which crashed near Thule, Pituffik in January 1968 was carrying four hydrogen bombs. In August 2000 it was acknowledged that only three of those were ever recovered. The lease on the U.S. airbase at Thule was renewed in 2004.

Wednesday, September 12th

Arrival at Narsarsuaq

Byzantine Prayer Service
Tjodhilde's Church

HAH The Ecumenical Patriarch Bartholomew

'Dialogue Between Religion and Science'
Chaired by: **Mr Bruce Clark**

HE Metropolitan John of Pergamon
Dr Antonio Nobre

Gardar Foundation

Presiding Bishop: **HE Bishop Sophie Petersen**, **Bishop of Greenland**

Members and Invitees of the Gardar Foundation:

Mr Finn Lynge

Mrs Tina Jensen

Bishop Andrew Atagotaaluk
'Bishop of the Arctic'

Bishop Finn Wagle
'Bishop of Norway'

Bishop Jan Lindhardt
'Bishop of Denmark'

Bishop Karl Sigurbjörnsson of Reykjavik
'Bishop of Iceland'

Cardinal George of Chicago

Archbishop Roger Schwietz of Anchorage, Alaska


Sep:
tentrio:
nalium
Terrarum de:
scriptio.
California regio
Oceanus Scythicus qui et Mare Tabin
Polus Arcticus
Oceanus Deucalidonius
Asiae
Pars
Americae
Farre insule
Scetland insule

The *Religion, Science and the Environment* Movement

RSE symposia are organised under the auspices of His All Holiness Ecumenical Patriarch Bartholomew, the pioneer of this movement. Patrons of past symposia have included HRH Prince Philip, Duke of Edinburgh; HE Jacques Santer and HE Romano Prodi, Presidents of the European Commission; and former UN Secretary General HE Kofi Annan.

The symposia have also reached out across different faiths and denominations, revealing the wisdom of diverse theological traditions, as well as a common imperative to protect the natural world. During the 2002 Adriatic Sea Symposium, Pope John Paul II and Patriarch Bartholomew signed a joint declaration underlining the spiritual duty of caring for God's creation in the interest of future generations.

Past symposia have drawn global attention to the degradation of the Aegean Sea, the Black Sea, the Danube River, the Adriatic Sea, the Baltic Sea, and the Amazon River. RSE's impact has left a positive environmental legacy in all these regions. For example, RSE was instrumental in establishing the Black Sea Convention and organised a series of Environmental Training Seminars for priests and journalists from the region; created a network of cooperation among churches, NGOs, and journalists along the Danube; confronted Albanian authorities over toxic waste entering the Adriatic from abandoned chemical factories in Porto Romano, accelerating the area's subsequent clean-up; initiated the ongoing *Bread and Fish* programme for marine environmental protection in the Baltic Sea; and accelerated agreement on a moratorium on multinational traders buying soya from newly deforested land in the Amazon rainforest.

Travelling down rivers and around seas, sometimes literally following pollution from its source to its point of impact, these waterborne journeys have offered up a tangible sense of the interconnectedness of the world's waters and all its ecosystems, demonstrating the destructive ripples human actions can send through space and time. By bringing participants to the places where environmental problems are most acute and focusing on practical remedies rather than theoretical discussions, RSE Symposia have inspired positive change through collective action.