Arctic Council input into the preparatory process of the International Polar Year 2007-2008

The Arctic Council highly appreciates the work carried out by the International Council of Scientific Unions Planning Group for the preparation of the International Polar Year (IPY) 2007-2008.

The Arctic Council will take an active part in the IPY. The IPY is a unique opportunity to stimulate cooperation and coordination on Arctic issues, to increase awareness and visibility of the Arctic region and take important steps in furthering Arctic research. The Council looks to the IPY to help secure long-term commitments from key Arctic constituents in order to take full advantage of the opportunity.

The Arctic Council is mandated to address all three pillars of sustainable development in the Arctic; the environmental, social and economic. The scientific work and policy guidance of the Arctic Council is carried out in several expert working groups focusing on such issues as monitoring, assessing and preventing pollution in the Arctic, climate change, biodiversity conservation and sustainable use, emergency preparedness and prevention in addition to issues related to the living conditions of Arctic residents. Through this work, the Arctic Council offers many opportunities for broadening the appeal of the IPY.

The Arctic Council offers to contribute the following activities as building blocks for the IPY, particularly as they focus on the life of Arctic communities.

The Human Dimension

The Arctic Council is particularly interested in the inclusion of a human dimension in the IPY concept and welcomes that social and economic issues are to be addressed in the programme for the first time. The mandate of the Sustainable Development Working Group of the Arctic Council embraces social, economic and cultural aspects of sustainable development. Several of its ongoing projects could serve as platforms for IPY activities. Particular attention should be drawn to two projects giving an overview of critical issues Arctic inhabitants and societies are confronted with:

- The Arctic Human Development Report will be a comprehensive assessment of human conditions in the circumpolar region. It will be presented to Ministers of the Arctic Council Member States at their meeting in Iceland in November 2004.

- The Survey of Living Conditions in the Arctic (SLICA) is a joint international project involving a comparative study of living conditions among the Inuit and Saami peoples of the United States, Canada, Greenland, Norway, Sweden, Finland and the indigenous peoples of the Kola Peninsula and Chukotka in Russia. One of its main objectives is to develop a new research design for comparative investigations of the living conditions of indigenous Arctic populations.

Further work on the basis of the findings of those two ambitious projects would help bring a "human focus" to the IPY programme. The development of a Sustainable Development

Action Plan, lead by the Russian Federation, could also take account of IPY priorities in defining new projects and priorities in Arctic Council sustainable development work in the coming years.

Arctic Climate Impact Assessment

In an effort to improve the scientific understanding of climate change in the Arctic, the Arctic states have embarked on, under the lead of the United States and in cooperation with the International Arctic Science Committee (IASC), the so called Arctic Climate Impact Assessment (ACIA).

The assessment, to be presented in the fall of 2004, will be the first comprehensive regionally based study of climate change to be published since the United Nations Framework Convention on Climate Change. Its goal is to evaluate and synthesize knowledge on climate variability and change and its consequences and provide useful and reliable information to governments, the international community and the people of the Arctic region. In addition to the scientific assessment, the ACIA also involves a policy making process.

Assessment of climate change in the Arctic is highly relevant for other parts of the world and contributes to an understanding of global climate change. It is important to note that the Arctic, as the place where rapid and amplified warming is expected to occur, can act as an early warning of global climate change.

In the light of the main objectives that have been set for the IPY, the ACIA would be a good candidate for integration into the long-term planning perspective. As the ACIA will be finalized in 2004, it is important to note that all the chapter authors involved in the ACIA project have identified research priorities of importance that need to be addressed in the context of climate change in order to answer some of the most compelling questions of the future.

Monitoring and assessment of pollution

Over the last decade the Arctic Monitoring and Assessment Programme (AMAP) has been engaged in several studies documenting, among other things, a close link between global processes and the state of the Arctic environment as regards e.g. contaminants and climate. Most of the contaminants within the Arctic are derived from sources outside the region, in particular the industrialized areas of Europe and North America. It appears that the sources of Arctic contaminants are increasingly also found as far afield as Southeast Asia.

AMAP, together with the Arctic Council Working Group on Conservation of Flora and Fauna (CAFF), could use the IPY to promote the establishment of a comprehensive network of circumpolar research and monitoring stations (on land and sea) that can serve their programmes and other international programmes, e.g. WMO, UNEP, ENECE etc. Space monitoring could complement such monitoring.

Circumpolar monitoring and assessment projects in the following areas could be undertaken under the auspices of AMAP in relation to the IPY and in close cooperation with other international bodies:

- Atmospheric transport, precipitation and bioaccumulation of POPs and selected heavy metals (mercury, lead and cadmium);

- Special projects to study the link between climate change, ozone/UV and contaminants;
- Effects of climate change on the Arctic environment;
- Effects on Arctic peoples and their well-being due to contaminants and changes in climate and ozone/UV;
- Trends observations of selected POPs, heavy metals, radionuclides, climate and ozone/UV;
- Special projects on the interaction between the atmosphere and the aquatic phase.

The Central Arctic Ocean represents one of the major geographic gaps in AMAP's observation network. To improve this situation, there is need for increased observations in the ocean. Icebreakers or floating stations for sampling and observations could be used to provide information on climate and contaminant related issues as part of the IPY activities.

The work of AMAP should be an integral part of the IPY.

The Arctic Council Action Plan to Eliminate Pollution in the Arctic (ACAP)

The Arctic Council member states have declared their readiness to cooperate to reduce pollution in the Arctic. As a direct follow-up of the AMAP monitoring and assessment work, the ACAP was set up to address the sources identified by AMAP. The Action Plan involves several priority projects to reduce pollution in the Arctic, including a project on the reduction of atmospheric mercury releases from the Arctic.

The main sources of mercury contamination in the Arctic are outside the region and its effects are often heightened due to the unique environmental conditions that prevail in the region itself. Once in the Arctic, mercury can be taken up in the lipid rich food chains of the region, in particular the marine food chain and give cause for concern as regards certain species, including seals, polar bears and some birds. Mercury is toxic to biota and can cause neurodevelopmental effects in humans. Parts of the human population, including the Inuit of northeast Greenland and Canada, are exposed through their traditional diets to levels that go beyond benchmarks of tolerable weekly intakes established by the WHO and many nations.

The objective of the ACAP mercury project on the reduction of the atmospheric mercury releases from the Arctic is to identify anthropogenic source categories for mercury emissions within the Arctic Council member states, and to initiate cost-effective reduction measures at one or a few specific sources as pilot projects. Phase I of the project includes a mercury release inventory, mercury use and waste related characterization and the prioritizing of actions. A seven country inventory has been developed through questionnaires and with technical support to the Russian Federation. All possible major anthropogenic sources were considered, such as coal-fired power plants, the metallurgical and the mineralurgical industries, waste incineration, the chloroalkali plants and other production facilities or activities releasing mercury. An assessment of the submitted inventories for all countries is expected to be available during 2004.

Phase II includes the development of proposals for cost-effective reduction measures at one or a few specific sources in Russia (pilot projects). Proposals will be evaluated in mid 2004. The project(s) will assist the Russians in preparing a mercury action plan and strategy for mercury reduction with expert support from all Arctic member states.

Phase III will involve implementation of pilot demonstration project(s).

Mercury contamination in the Arctic needs to be seen both in the circumpolar and the global context and addressed as such. The IPY should be used to highlight the need for action on this important issue.