

## INTRODUCTION

Wonderful series of speakers and workshops lined up. Thanks to all of the organizers who have put this gathering together. We've had an overwhelming response from leaders across the North. At this summit we are hoping to build practical knowledge and ability to think and plan in ways that will help your communities and regions deal with the impacts of climate change.

We will all be working hard to reduce the causes of climate change, but unfortunately we have now set in motion some major changes to the climate that will continue on their own until conditions stabilize again tens to hundreds of years in the future. Therefore we are experiencing, and will continue to experience increasing impacts of climate change. At this summit, we want to learn how we can prepare to withstand those impacts with the least costs and harm to our communities, while maximizing the benefits the changes may offer.

Many of the negative impacts of climate change have very serious repercussions. Based on experiences to date and from around the world, the impacts of climate change may cause damage to or the loss of homes, community buildings, vehicles, even whole cultures, and whole populations of some kinds of animals and plants. Traditional knowledge may become unreliable. Barge traffic, air transport, winter and all-weather roads, all will face challenges. After a weather event these days, you probably already hear people saying "I've never seen anything like it." Many of these impacts of climate change will be costly to the financial, social, physical and spiritual health of our peoples and communities.

We know that northerners have incredible powers to adapt to change, and to take positive action. However, because climate change poses the risk of much greater change than we have experienced before, we have called this summit to help us prepare for these extraordinary challenges, and to engage our full capabilities to take adaptive action now.

I would like to recognize all of you in attendance for your foresight and leadership in taking time to attend this conference, and I call upon your full attention and participation in this work.

To help make sure we all have a similar base of understanding, I will review some of the language and relationships that may be used in the discussions. Many will be familiar to many of you.

## CLIMATE CHANGE CONCEPTS - A REVIEW

### **Greenhouse Gases and the Greenhouse Effect**

When we boil water, steam rises - the steam - or water vapour - is actually a visible gas, a form of water that makes clouds. Similarly, water evaporating from lakes and rivers and oceans makes clouds of water vapour. We know that cloudy days are warmer days, because the clouds act like insulation, holding in more heat from the sun. This is because water vapour is actually a **greenhouse gas**, a good insulator that helps keep the surface of the Earth warm enough for us to live on.

All of the **greenhouse gases are good insulators in our atmosphere**, acting like a warm blanket in the air above the Earth (the **Greenhouse Effect**). However, too

many greenhouse gases act like a thicker blanket, and cause the surface of Earth to warm up more than normal. We are particularly concerned about **greenhouse gases like carbon dioxide** - a gas is released in the exhaust **from burning gasoline, fuel oil, natural gas, and coal**, such as when we heat our buildings, use our vehicles, snowmobiles, aircraft, diesel generators, outboard motors and so on. These kinds of fuels are sometimes called **fossil fuels** because they formed very slowly over many millions of years from life forms that existed long ago. **Our excessive use of fossil fuels** with the resulting exhaust of so many greenhouse gases is causing the Earth to be increasingly insulated, trapping heat in our atmosphere and **causing global warming**. But many conditions influence local and regional climates, so there is a lot of regional differences in whether an area is warmed or cooled, and by how much. For this reason, it is more accurate to refer to our situation as **climate change**, even though across the world, our average temperatures are rising.

Oil and gas, or fossil fuels, are forms of non-renewable energy which we will eventually run out of. Another form of energy is called **renewable energy**, which includes **energy from the sun (solar energy), the wind (wind power), flowing water (hydroelectricity), and wood (heat)**. The use of renewable energy causes much, much less release of greenhouse gases than does burning fossil fuels, so they are the best forms of energy.

**Mitigation means reducing the causes of climate change.** The climate changes are caused largely by increasing greenhouse gases which come from our use of fossil fuels like coal, gasoline, fuel oil, and natural gas. In some parts of the world, the rapid removal of forests also causes the release of greenhouse gases that were previously stored safely in the trees, plants and soils of the forest.

Therefore, **mitigation is action which reduces the amount of greenhouse gases released from our 1) burning fossil fuels and 2) rapid removal of forests.** **An example of mitigation** is using renewable energy (like wind power or hydro) instead of fossil fuels to heat buildings, or to provide electricity for your community.

**Adaptation means adjusting to the impacts of climate change.** We can learn about expected impacts, and make plans ahead of time, or we can just plan to deal with emergencies as best we can when they occur. Experience has shown us that the costs of impacts are less when we anticipate them, and plan for them before they happen.

## CLOSING REMARKS

That is what this **Summit is about - learning how our communities can best adapt to the impacts of climate change, by preparing and planning for them as much ahead of time as possible.**

This summit is a step towards recognizing the responsibilities and abilities of communities on the issue of climate change, and adaptation to its impacts. When all is said and done, it is people in their communities that will bear the impacts, and have to deal with them or take advantage of those possibilities they present. We know our people have the ability, the local know-how, and the motivation to act to their own benefit.

While effective adaptive action can best take place at the local and regional level, the work will require the resources and participation of a wide range of partners - from family households to local, regional, Aboriginal, territorial and federal government agencies and non-government organizations. Some programs already exist, and others will be developing as the impacts become more pronounced and the slow mass of government begins to react. Be aggressive in learning about those programs and engaging partners to initiate your work on adaptation.

The best kind of action to adapt to climate change also helps mitigate, or reduce the cause of climate change. We know that as a northern society we must both adapt to climate change and reduce the causes of climate change, but at this Summit we will concentrate on adaptation - remembering always that an adaptation action that uses a lot of fossil fuels is not really an acceptable solution.

In general, appropriate action can have many benefits, and a good general guide is that besides reducing consumption of fossil fuels, adaptation measures can strengthen the self-sufficiency of our communities and our residents. By way of example, providing for such basic needs as food and energy with local and renewable resources can be huge in this direction. Re-developing gardens such as we had in the old days but with even better ways, gathering and caring for wild foods, learning about and installing solar panels for electricity, solar collectors for heating water, building homes to take advantage of the sun's heat and light, replacing our diesel generators with small hydro or wind power are often simple ways that we can make big strides towards both adaptation and self-sufficiency. Many skills already exist in these areas, and these solutions are often easy to do if we prepare for them in advance, and gradually work towards getting them going.

Climate change and adapting to its impacts comes into every aspect of our lives - lets all focus on how we as leaders can become more knowledgeable and more effective at preparing for the impacts, at reducing the costs, and at taking advantage of the opportunities that our communities will experience. We need the awareness, skills, innovation and involvement of our elders, our youth, our women, all levels of government and organizations - every component of our communities and society. Lets begin here a process of communication, sharing our knowledge and working together on adaptation to climate change that continues to strengthen our communities long after we return home.