

# ARE YOU AS SMART AS THE POLAR BEAR?

The Polar bear has a thick layer of fat beneath the skin. It has a thick guard hairs with hollow, insulating and water repellent hairs, and a warm layer of under-fur in wintertime. This warm, insulating fur is covering the whole body.

The white fur has hollow hairs that leads the light (the heat from the sun) down through the fur to the skin.

The dark skin under the fur absorbs the heat, so that the Polar bear can save on its heating costs (the metabolism in the body).

The Polar Bear has enormous paws with thick fur, which works approximately like insulating snowshoes. This helps it to walk safely on the slippery ice, while the thick fur keeps the paws warm.

Compared with other bear Species, the Polar Bear has relatively small, but long and narrow head and smaller ears.

The Polar Bear is in fact so well insulated that it must move slowly in order to avoid over-heating.

**The Polar Bear is the biggest of the worlds Bears. It has the entire Arctic as its habitat and spends much time on the sea ice. Because it usually is icy cold in the Arctic it is equipped with the best insulation in the animal kingdom.**

**With this exhibition we will show you how you can help the Polar Bear to keep the sea ice, by learning from the Polar Bears best characteristic.**

The main threats against the Polar bear are:

- Global warming (the sea ice is melting, changes in food resources and birthing areas).
- Pollution of the food (from poisonous, non-biodegradable chemicals such as PCB, DDT, Dioxin) and heavy metals such as mercury. Many of these chemically bond with fat. This makes the Polar bear exceptionally vulnerable because of its fatty diet.
- Oil pollution at sea and influences from increased industrial and marine activity in the Arctic.
- Destruction of key habitats from industrial use and development (for example oil and gas exploration).
- Over-exploitation of natural resources.

# HOW ABOUT AN ELEPHANT WITH "EAR"-CONDITION?

**Elephants are the biggest and heaviest of all land-based mammals. But how can such a big animal live in the hottest regions of our planet?**

Elephants love mud baths – and the mud protects the skin against the intense sun.

The elephant's blood is circulating through the ears, where a dense network of blood-vessels cools the blood by contact with the air through the thin skin in the ears. The cooling effect is increased when the elephant is fanning its ears.

The elephant's wrinkles increase the surface area and assist in keeping the temperature down. The wrinkles also help to retain the moisture from water- or mud-baths better on the skin. This also helps to keep the elephant's body temperature down.

By moving the huge ears, the elephant cools its body, just like an electric fan cools you in the summer.

## The main threats against the elephant are:

- The elephant has no natural enemies as adult, other than Man.
- Deforestation and loss of habitat, as a consequence of more land being used for human activities.
- Illegal hunting to get valuable ivory for sale.
- Climate changes may in the future be a big threat against the elephant. Drought and desertification can lead to lack of food and water.



# BUT WHAT DO WE DO?

As humans, we have no fur and are not so well adapted to a life in cold climate. On the other hand, we can do quite well in tropical rainforests. The Polar bear does not.

Our body uses energy to keep warm. If it is cold we start, involuntarily, to shiver uncontrollably. Two hours of shivering cause the use of energy and produces the same amount of heat equal to a marathon race!

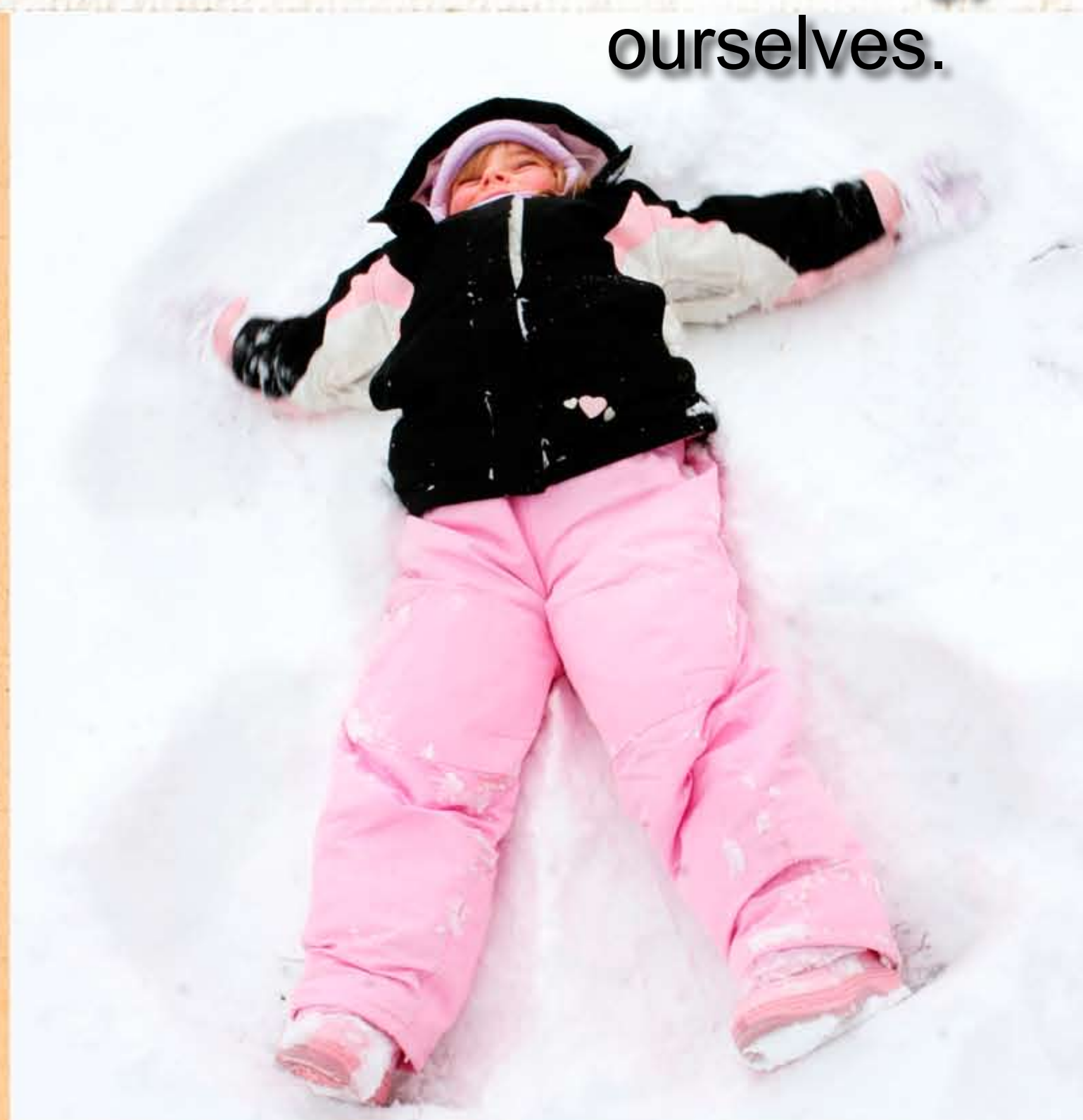
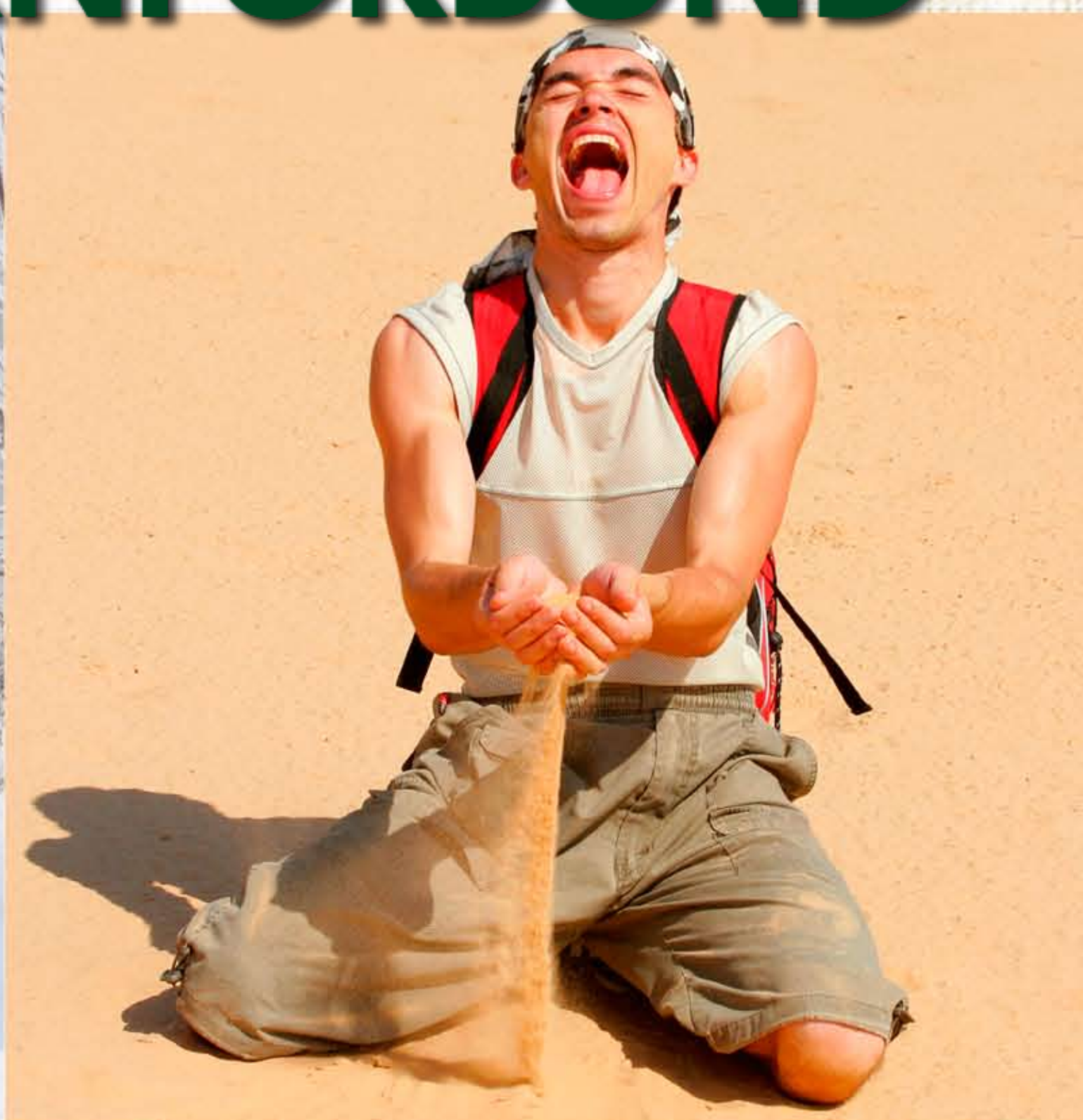
We humans have a highly developed brain and are able to adapt to widely different habitats. If it is cold, we can clothe ourselves in wool and furs from animals to keep warm. Mankind adapts well and increase in numbers and distribution. 200 years ago the world's population was 1 billion. Today it is close to 7 billion.

### The main threats against humans are:

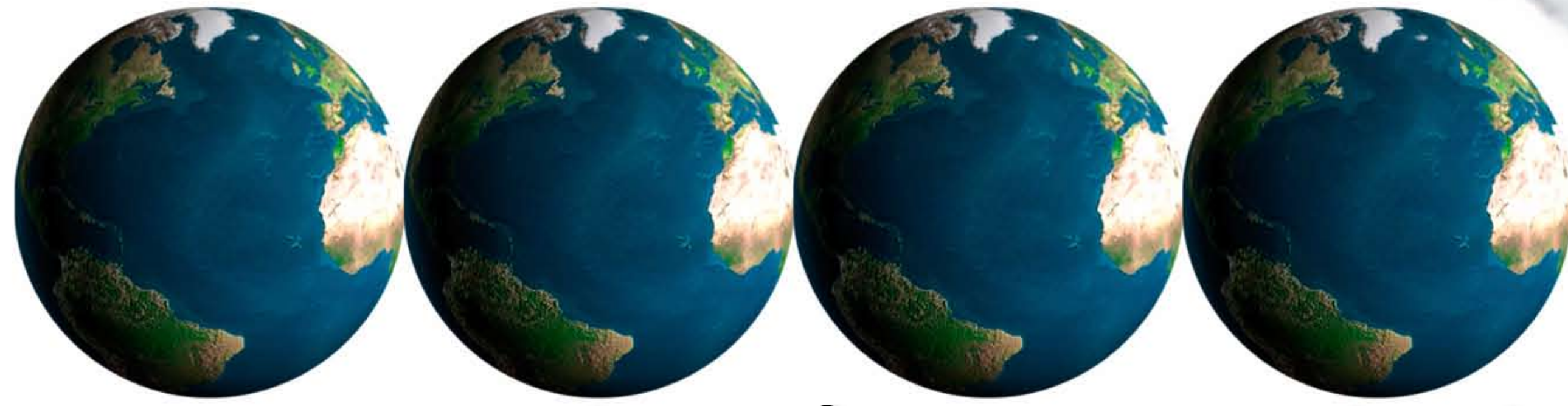
- The biggest threat against humankind is Man himself. We depend on a clean and productive planet to make coming generations and us able to harvest food and other necessary resources.
- In many countries the soil, the forest and the fish stocks are destroyed. In some countries in order to provide food for survival, in other countries to increase some peoples wealth marginally.
- Climate change. This hurts those who have the least resources most, and will increase the number and severity of natural catastrophes and the number of climate refugees.
- A small part (20%) of the world's population (including the Norwegians) have the majority (75%) of the world's income.
- 850 million people are starving, most of them farmers in developing countries. 10 million children under the age of five dies every year, most of them because of mal- and under-nutrition.

Humans build themselves shelters against rain and wind. To get a comfortable temperature indoors we take energy from nature to heat or cool ourselves.

 **NORGES  
NATURVERNFORBUND**



# OUR HOME THE EARTH IS IN DANGER!



**Our consumption of resources is clearly visible in nature. If everybody should use as much resources per capita as us in Norway, the Earth would not be big enough.**

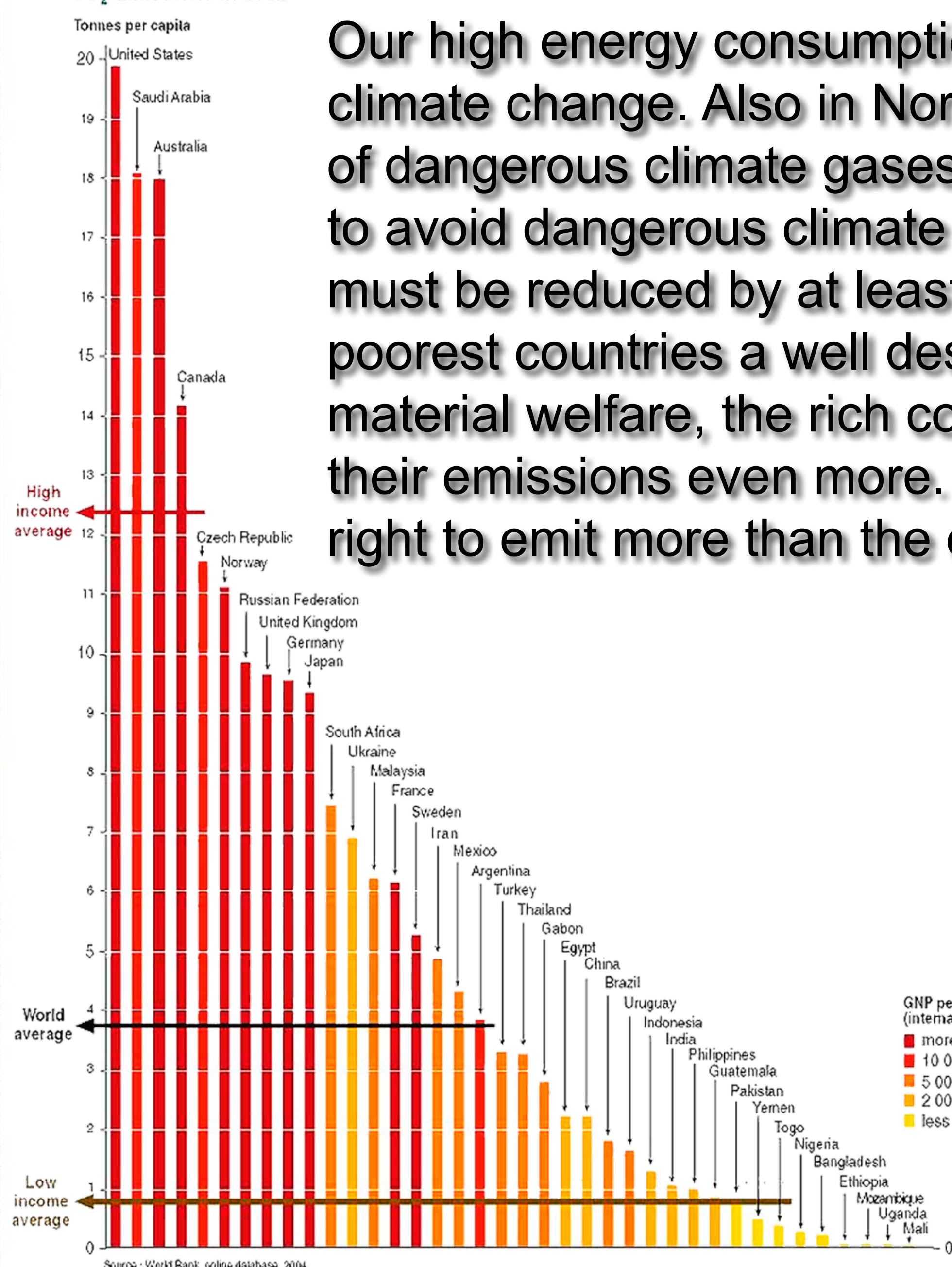
**We would need four planets....**

The Earth is not so big as many think it is. Deforestation and use of non-renewable resources such as coal, oil and gas influences the heat balance on Earth. Increased temperature threaten species and humans that live in regions that is already vulnerable today.

The effect of the climate change is most visible at the Poles. The ice on the North Pole is melting, and if this continues the summer-ice at the North Pole can disappear only 35 years from now. This summer (2008) can be the first when it is possible to sail to the North Pole in regular ships. That can make life very difficult for the Polar bear...

Many millions of different life forms exist on Earth. Our activities exterminate and threaten many species in nature. During the last 150 years, 103 species have become extinct in our country, and 864 species are directly threatened and vulnerable.

CO<sub>2</sub> Emissions in 2002



Our high energy consumption contributes to climate change. Also in Norway the emissions of dangerous climate gases are higher than ever. In order to avoid dangerous climate change the worlds emissions must be reduced by at least 50%. If we should give the poorest countries a well deserved increase in their material welfare, the rich countries must reduce their emissions even more. Or do we have the right to emit more than the others?

The world's emissions of CO<sub>2</sub> in 2002, per capita.



# SAVE SOME FOR US!

**We can be very comfortable even if we use a lot less natural resources – we just have to use them smarter.**

We use energy for light, heat and travel. Energy is also used to produce food and all the goods that we need – and also for those we don't.

If we do not want to destroy the future for coming generations we must learn to cover our needs with less use of energy. Houses can be built with the same small heat loss as a Polar bear. Cooling can be done as efficiently as in an elephant.

## **Active houses and passive houses.**

A solution for the future is to make the energy where we live. Active houses generate more energy than they use, such as the skyscraper with the wind-turbines in Bahrain. Passive houses are so well insulated and use the sun so that you avoid using energy for heating purposes.

## **If a desert city can – why can't we?**

Masdar City, Abu Dhabi, is planned as a zero emissions (climate neutral) city. The city will have 50.000 inhabitants, 1500 small businesses, and no cars. Construction starts in 2009, completion expected in 2015.

## **Time alone in a car is a thing of the past!**

In Norway transportation is responsible for 1/3 of the emissions of gases and particles that influence the climate. In addition the emissions are harmful for human health, crops and materials.

## **Insulate!**

Houses with better insulation is a simple and profitable measure for reducing the consumption of energy.

Re-use and re-cycling reduces the need for new production. Short distance to schools, kindergartens and work-places reduces the need for driving. So does better routes for pedestrians and bicyclists, as well as better public transport systems.

The sun is an infinite source of energy that we must learn to use better. When the sun can heat a Polar bear, it should also be able to heat our buildings? The sun makes plants and trees grow. This is stored solar energy that we can use on a rainy day. The sun also sets the air and the oceans in motion, and evaporate water so that we can harvest energy from wind, water and waves.

Learn how to live smart. Learn how to make better use of a little energy! This will make your global footprint smaller.

## **Justice**

Solidarity with people from regions that are more vulnerable to climate change, should make us think differently.

