

Future denizens of the earth should contribute towards a cleaner planet

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**C**limate Change! Isn't it weather that changes? Yes, weather can change in a short time, it may rain for an hour and then the sun may come out. Climate describes the total of all weather occurring in a place over a period of years. Climate can change too. Climate change is natural and earth's climate has been swinging from warm phases to ice ages. In the past it has taken a very long time for such changes. Today the rate of change is faster. And the change is that the earth is getting warmer. Scientists have confirmed that the world is now warmer than it has been at anytime in the past 2000 years. Global temperature rose by about 0.6°C during the 20th century. Scientists say that it is human beings that are responsible.

#### How Can Humans Change the Climate?

By the things that we do and the way we live. About 220 years ago came the Industrial Revolution - people began using machines to produce things. Machines needed energy to run and it came from coal. Soon, petroleum and natural gas were used for energy. Coal, oil and gas are fossil fuels, and when they are burnt they release carbon dioxide. Carbon dioxide is a Greenhouse Gas (GHG). Methane, water vapour, nitrous oxides, ozone, chlorofluorocarbons are the other GHGs. Over the last 200 years we have been releasing huge quantities of GHGs into the atmosphere.

#### GHGs and Climate Change: What's the Link?

Earth is the only planet we know that supports life. Earth's average surface temperature is 14.4°C and is conducive for life. It is the GHGs in the earth's atmosphere that keep earth's temperature so comfortable. The GHGs present absorb some of the sunlight and trap the heat near the earth's surface, and kept the earth rightly warm. This natural mechanism is known as the greenhouse effect. Without atmosphere earth would be sizzling hot by the day and freezing cold during the night. But too much of GHGs can create problems. As their quantity increases more heat is retained on the earth's surface. This causes the phenomenon known as Global Warming. This warming of the earth is leading to a change in climate.

#### What will be the effects of a warmer world?

Even a 0.6°C rise in temperature could have big impacts. Every aspect of life on earth will be affected, direct-



# A Cooler Planet!



ly or indirectly.

**Weather extremes:** There will be more cyclones, storms and floods. Most places will become hotter; some will become drier and others wetter. We will experience more violent weather events: heat waves, droughts, floods (because of heavier rainfall and melting glaciers) and intense storms.

**Shrinking glaciers and melting sea ice:** Glaciers and ice caps are sensitive indicators of climate change. Mountain glaciers are already shrinking. The glacier from which Edmund Hillary and Tenzing Norgay began their ascent of Mt. Everest in 1953 has retreated by over 4 km in the past 50 years.

**Rise in sea level:** Melting of glaciers and polar ice caps will increase the water in the seas. This along with expansion of sea water due to warming

would raise the sea level. This would submerge coastal areas and small islands like Maldives.

**Agricultural production:** Areas of the globe that are now producing rice, wheat and other food grains may not be able to produce the same quantity anymore because of global warming. Increased evaporation and drier soils in some regions would result in prolonged droughts. Agriculture would also suffer from increased infestation of pests, crop diseases and weeds.

**Loss of ecosystems and biodiversity:** Plants and animals would be forced to migrate to keep up with climate shifts. Those that cannot migrate would disappear in the course of time. Those adapted to cool climates would become extinct as their habitats disappear.

**Effect on human health:** Deaths due to heat waves and other extremes of climatic conditions are some direct consequences that we would face. Tropical diseases such as malaria, encephalitis, yellow fever and dengue fever could spread to the present temperate regions of the world.

#### Can we stop Climate Change?

Effects of global warming cannot be simply reversed or switched off. They are projected to continue for the next

hundreds of years. GHGs already in the atmosphere will not just disappear. They will linger - some like methane for decades, some like carbon dioxide for hundreds of years, and some gases like perfluorocarbons, even for thousands of years. Even if all emissions of GHGs ceased tomorrow, the climate would continue to change, and with it the effects of life on our planet.

#### What Can Each of Us Do?

Climate change is a big problem, but there are many little things we can do to make a difference. Each of us has

to be smart and sensible about our lifestyle choices we make. Here are few tips for individual action:

**Understand climate change:** Start with this page. Check out websites like [www.kidsgreen.org](http://www.kidsgreen.org) for more on this topic. Share what you learn with your family and friends.

**Save electricity:** Whenever we use electricity we put GHGs into the air. By turning off lights, TV, computer when not in use, you can help a lot.

**Bike, bus and feet:** More cars on the road mean more GHG emissions. Use mass transport, take a bus or train whenever you can. Bicycle or walk wherever you can.

**Drive the change:** If you do have to drive, urge your parents to drive gently, and below speed limits. Keep vehicles properly serviced and tuned.

**Become resource savvy:** Conserve energy at home and school. Save water, save paper. Prevent waste - Recycle, Re-use, and Refuse. Do not burn waste and compost biodegradable waste. Keep electrical appliances in good condition - air filters on ACs clean, fridge coils and tube lights dust free. Depend less on artificial aids for lighting and cooling and more on sunlight and natural ventilation.

**Buy local and in season foods:** Buy fruits and vegetables sourced from local markets and those that are in season. Avoid packaged, preserved and imported goods. Trucks and planes bringing goods from far away use huge amounts of fuel for transportation, and more goes into their storage and maintenance.

**Be a concerned customer:** Choose products and services that use environment friendly technologies and energy efficient practices. Why not consider a solar water heater or cooker. No fossil fuels, no emissions, just pure sunlight!

**Save and plant a tree:** Trees are great for absorbing carbon dioxide from the air. Every tree you prevent from being cut, or that you plant, and nurture till it's grown, will serve a lifetime of absorbing carbon dioxide, even while it provides beauty and shade, shelter and food, and keeps the soil firm and healthy.

The time is now. Review your lifestyle, and take action to do your bit to make the world a Cooler Planet.

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