

RUSAL



# UC RUSAL

## **PAVING THE WAY TO A SAFER WORLD**

*GLOBAL INITIATIVE*

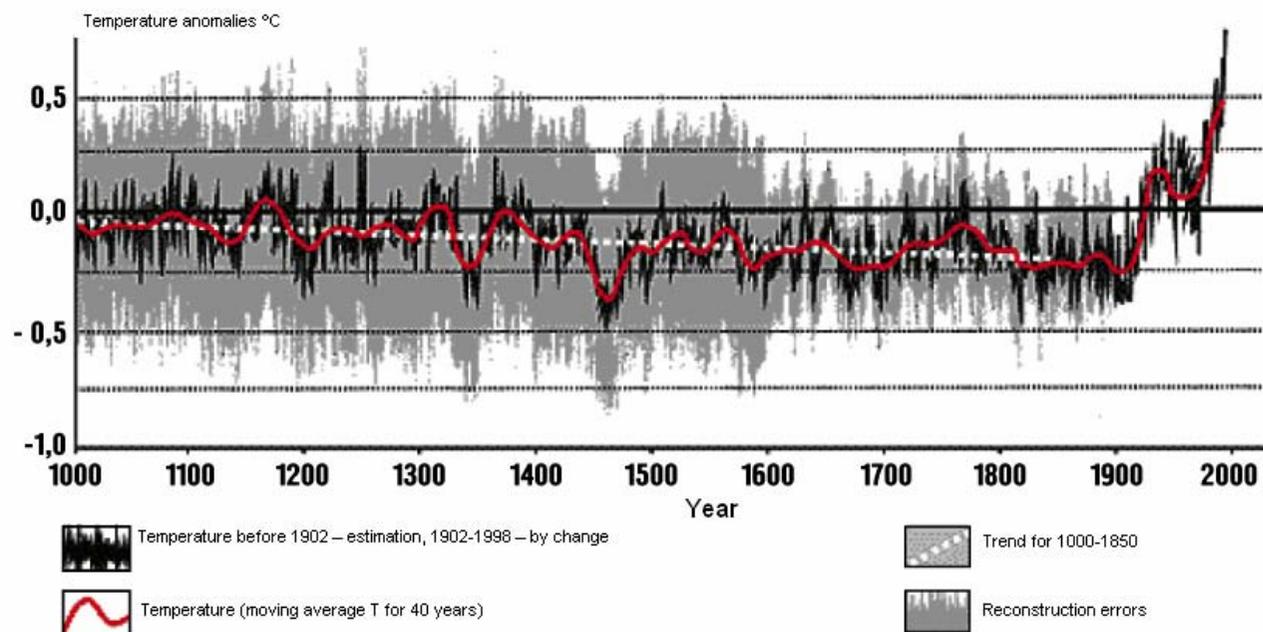
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# CLIMATE CHANGE REALITY

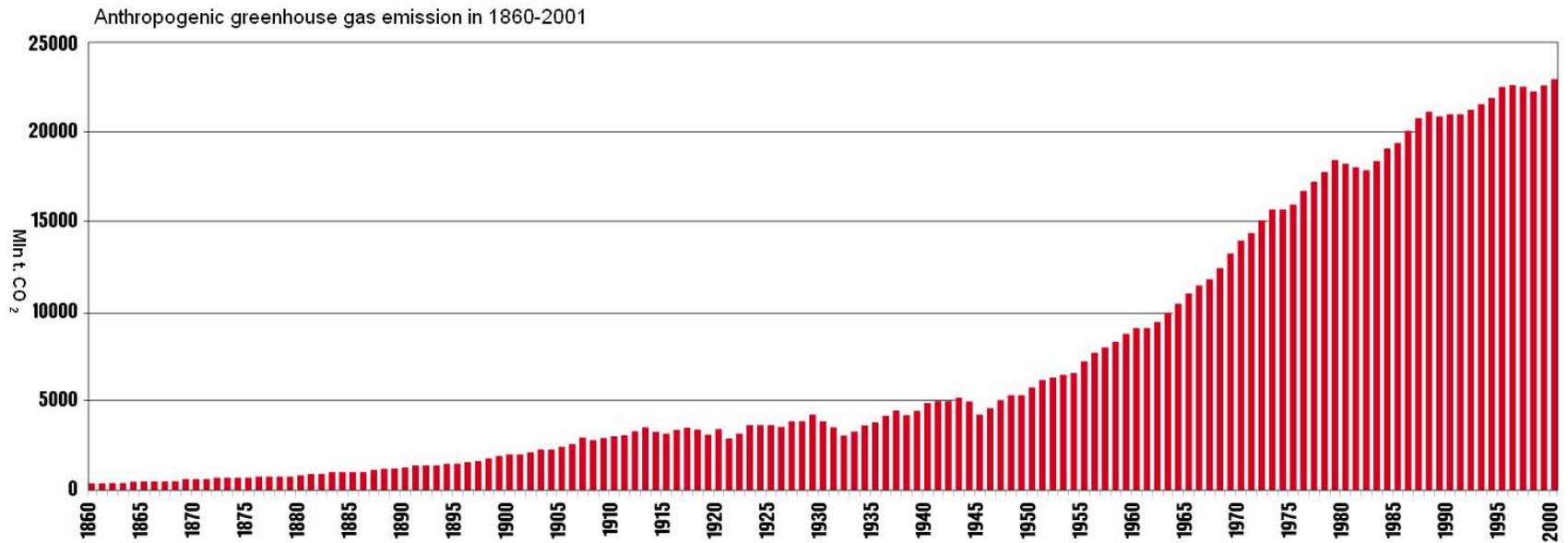
- Intergovernmental Panel on Climate Change (IPCC) concluded that the global warming is caused by the human activity for **90%**.
- The situation will turn even more dramatic unless the greenhouse gas emissions are first stabilized and then reduced - forecast of the IPCC.
- How to stop the global warming – one of the main issues for governments and global majors.



# GREENHOUSE GAS EMISSIONS – MAJOR CAUSE OF CLIMATE CHANGE



For the last **40 years** greenhouse emissions have increased by **120%**



Sources: Carbon Dioxide Information Analysis Center, International Energy Agency.

# CONSEQUENCES OF THE CLIMATE CHANGE



- The number of hurricanes of 4 and 5 categories pounced on the Earth for the last **30** years has increased **2** times
- The intensity of the glacier ice shrinking in Greenland for the last **10** years has increased **2** times

This tendency will lead to:

- Double increase of mortality in **25** years that is **300 000** people a year
- Sea level uplift over **6** meters, loss of the ice shelves in Greenland and Antarctic
- Disappearance of ice in the Arctic ocean by **2050**
- Extinction of more than million animal species all over the world by **2050**



## OUR CONCERN

Leadership means responsibility

- for the environment in the regions we operate in
- for high standards in environmental and industrial safety
- for those who are around us



## THE GOAL OF OUR INITIATIVE

- To reduce direct greenhouse gas emissions by the company's existing smelters by **50%** overall **(2 times)** by **2015**
- To be **carbon neutral** over the long term as part of the full life-cycle use of our aluminium products
- To encourage Russian business jointly address the issue of climate change



# CARBON NEUTRALITY

- **Carbon neutrality** is a position of zero net GHG emissions from any given activities
- Net position is calculated by taking total carbon emissions less reductions from action to reduce direct and indirect emissions less offsets.

**Carbon neutrality** is achieved by:

- reducing emissions by increasing energy efficiency
- using renewable energy, such as hydro-electricity
- using as offsets credits derived from emission abatement projects implemented under mandatory or voluntary emissions reduction schemes.



# CLIMATE NEUTRALITY

Key strategic areas in **climate neutrality**:

- direct greenhouse gas emission reductions;
- lower energy consumption (with consequent improvement in indirect emissions from the production of non-hydro electricity)
- Increased recycling of metal
- “lightweighting” in transport applications – i.e. substitution of aluminium for steel and other heavier materials



## XXI CENTURY – THE CENTURY OF ALUMINIUM



- **Aluminium is one of the most environmentally friendly metals**
- **Aluminium is easy to recycle and can be used over and over again**
- **The production of aluminium is one of the most safe in the metallurgy**



# OUR APPROACH TO THE ENVIRONMENT



- **80%** of our aluminium is produced using hydropower, the most environmentally safe and renewable energy
- The use of hydropower means zero indirect emissions from the energy source
- Since 2000, **over \$1 bln** has been invested into environment protection activities
- In 2007-2013, over **\$1.4 bln** is planned for modernization programs aiming at environmental protection
- The amount of investments will be reconsidered after the end of technological audit of SUAL plants
- Expected result – emissions reduction by almost **1.5** times by 2015.
- **80%** of UC RUSAL's plants including Krasnoyarsk, Bratsk and Sayanogorsk aluminium smelters are certified in accordance with ISO 14001 environmental management standard.

## NEXT STEPS

- Creation of our own energy base including the development additional hydropower sources
- By 2013 UC RUSAL plans to produce **140 bln kWh** of power at its own generating facilities with hydropower projects as the basis of our strategy
- Active R&D to increase the aluminium production efficiency and reduce carbon dioxide emissions per tonne of aluminium produced
- Upgrading the current intensity of the production technology at Khakas, Boguchansk and Taishet Aluminium Smelters will ensure the reduction of GHG emission by **20%** per tonne
- By 2012 we plan to develop an inert anode to minimize power consumption
- Annual R&D investment volume is over **\$100 bln**

## NEXT STEPS

- Improvement of alumina production technology to reduce hazardous emissions
- Modernization of Soderberg technology to achieve GHG emission reduction by **28%**
- The leading position in consolidating the aluminium metal recycling industry
- Recycled aluminium uses 10% of the processing energy that primary aluminium requires
- The company expects to build market share in secondary aluminium production up to **50%** by 2013

## CALL FOR ACTION

- **To withstand the threat of climate changes we need to join forces.**
- **UC RUSAL is working with the aluminium industry globally to achieve the 12 voluntary sustainability objectives developed by International Aluminium Institute under its Aluminium for Future Generations initiative.**
- **We are the first company in Russia signing a Memorandum of Understanding with the UN Development Programme regarding a preparatory projects towards the development of GHG emission reductions.**
- **We call Russian companies to join our initiative and press towards the minimization of climate changes threat.**

## JOIN OUR INITIATIVE



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