Climate change in Wonderland

By: Irene Boers

In the theme of 'sense and nonsense' RUW organized an unorthodox climate change debate, with 'weather man' Gerrit Hiemstra – as introduced by the special African chairman of the evening - Hans Labohm, infamous climate skeptic, and the opposing environmental systems analysis specialist Rik Leemans. Climate change may only be happening in Wonderland. But perhaps Alice was not dreaming.

By talking about 'beliefs' of sense and nonsense in climate change, the organizers hope to keep the debate light and easy. This seemed to pay off, as even though the fire was up in the course of the debate, the atmosphere was good.

Meteorologist Gerrit Hiemstra kicked the evening off by teaching us the basics of the system we are talking about. First he pointed out that weather (short term processes) is something different than climate (long term patterns). Yearly variations are part of weather and say nothing about our climate. We learned that the atmosphere, so vital for us, is actually a very thin layer. Greenhouses gasses, making up less than 0,05% of this atmosphere, have a huge warming effect of 33C, by affecting the earth's radiation balance. The balance is reflected in the temperature: a change in the balance means a change in the temperature. Thus, adding greenhouse gasses will probably change the temperature. This effect is to be expected as the CO_2 concentration in the air is increased by 35% since 1800, caused by human emissions. Earlier CO_2 increases were brought about in a longer period of time, giving the Earth more time to adapt. Not only has CO_2 increased in the air since 1800, but also in the oceans. Hiemstra: *"according to my opinion, climate change is not an opinion."* Even though there is uncertainty, theory is well established in science, opposing to the informal climate debate. Here, language is a problem, and there isn't always a clear distinction between good science and rubbish, all sources are used. For us the task to look at science and use our brains to distinguish sense and nonsense in talking and thinking about climate change.

Economist Hans Labohm followed with a flashy power point. According to him, climate change is a fairy tale, nothing more than Alice in Wonderland. CO_2 may have an effect on climate, but this is negligible, so an anthropogenic caused climate change is nonsense. Science is not settled, theory is a little bit more than a hypothesis and climate change experts form a minority of 33%. Climate change is exaggerated and Al Gore is fraudulent, were other exclamations. Labohm complained of not getting a fair part of the pie, as skeptics do not get subsidized, where all climate change experts are. However, he is pleased by being asked as expert reviewer by the IPCC (Intergovernmental Panel on Climate Change). Evidence for his 'belief' were a lacking correlation between CO_2 and the temperature and the proceeding of temperature of the CO_2 concentration. Leemans interrupted by saying he was not showing the whole truth. Problematic here is that CO_2 is not the only factor influencing temperature changes. We are talking about a complicated system. Some pictures and

graphics seem convincing, but their source, date, place, time and validity are not always clear. Some graphics are of a sort term time scale, which are not relevant from a climatic point of view. All in all, it is hard to judge Labohms beliefs. However, he succeeded in confusing the audience.

Rik Leemans continues with a high information dense power point. First he explains that climate change does not stand alone in affecting society: Sweden's climate may become more suitable for agriculture, but sowing a rocky soil could be hard. Leemans explains that evidence is clearly pointing in the direction of climate change. There is for instance a higher chance of someone winning the lottery than the occurrence of a natural heat wave as the one we've seen in Australia. Here, the evaporation of water causes a positive feedback to warming; an example of how climate change affects the whole system. But different information and uncertainties confuse policy makers. It is however important to communicate about uncertainty in climate predictions and different perceptions in this issue, because political decisions following climate change science should be left to politicians. In order to bridge the gap between 'objective' science and policy makers wanting a clear advice, the Intergovernmental Panel on Climate Change (IPCC) uses broad consensus building to assess and judge the science base. The aim of the IPCC is to ensure a stabilization of the CO_2 emissions, to prevent dangerous anthropogenic effects, to allow ecosystems to adapt timely and to safeguard food production. A 60% reduction of CO_2 emissions stabilizes the atmospheric concentration. This is technically and economically feasible. Also the economical costs of reducing emissions are minuscule compared to costs of potential climate impacts, which can hit the poorest countries, barely attributing to climate change, hardest.

Leemans closes inspirational: *We can, should, and will fight climate change.*

Yes, we can.