UNDER PRESSURE

How our material consumption threatens the planet´s water resources

SUMMARY AND RECOMMENDATIONS TO POLICYMAKERS

Recently, an increasing number of studies have investigated global levels of material extraction, trade and consumption. Yet, so far, the connection between materials and other resources, such as water, tends to be less well understood.

This paper is a summary of our report *UNDER PRESSURE. How our material consumption threatens the planet's water resources*[i]**, the second in our natural resource consumption series, following the 2009 report** *Overconsumption? Our use of the world's natural resources.*[ii] **The report aims to raise awareness of the connections between material consumption and water use, and to contribute to the debate on resource use through various examples illustrating how water is consumed.**

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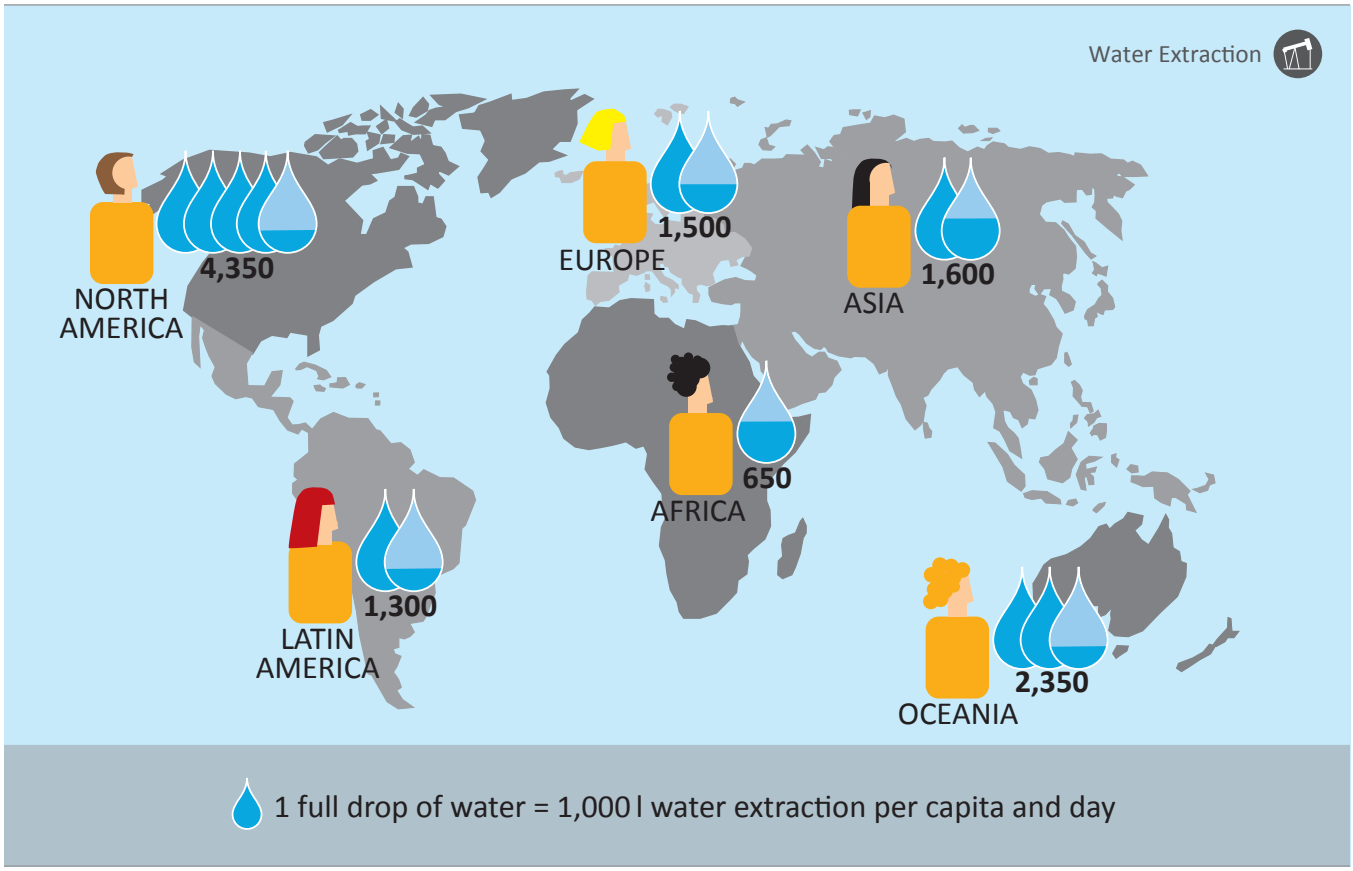
Water is required for almost every step of material flow. Around half of all renewable and accessible freshwater is used for growing food, providing drinking water and producing energy and other products. In Europe, almost half of all water abstracted is used for cooling processes by the energy sector. The rest is used for agriculture, public water supply and industry. However, this is just the European average. In Southern European countries as well as on the worldwide level agriculture is responsible for by far the highest water abstraction.

The volume of global trade has dramatically increased in recent decades. As the emerging economies have increased their share of global trade, the share of the industrialised European countries has declined. Industrialised countries and, more recently, emerging economies have increased their net imports of resources, with growing amounts of resources being provided by developing countries.

With increasing worldwide trade the amount of embedded or "virtual" water used is steadily rising, as many goods require water for their production. Importing water-intensive products can significantly increase a country's water consumption. Importing water-intensive goods from water scarce countries can increase the pressure on the local water resources.

Figure 1: Water extraction in different world regions in 2000, in litres per capita per day



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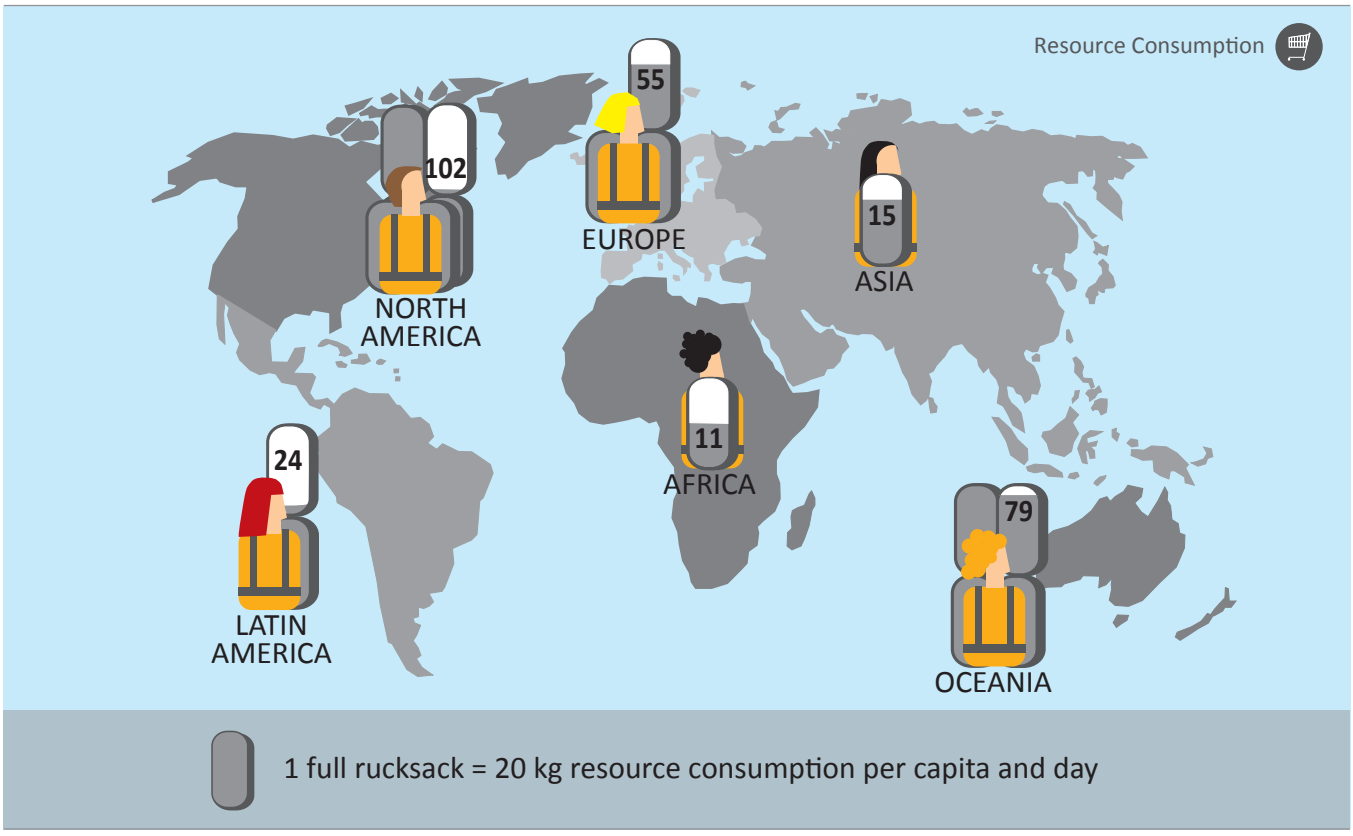
There are vast regional differences in final material and water consumption. Materials extracted and products produced in one country are traded around the globe leading to a geographical shift of resource extraction to consumption. For example, the average North American citizen consumes the largest amount of water (7,700l per day) and materials (100kg per day) in the world. In comparison, the average African citizen consumes the least – 3,500l of water and 11kg of materials per day.

The water footprint from our consumption habits is significantly greater than that from our direct water use. Significant amounts of goods consumed in Europe, such as food and other agricultural products, are grown and produced elsewhere. Paradoxically, many countries with low levels of fresh water use a large part of their water supply for the production of exports to water rich countries. For example, the production of one cotton t-shirt requires 2,700 litres of water. Monocultivation of cotton also leads to enormous environmental problems, as has occurred in the area of the Aral Lake in Central Asia. Once the fourth-largest interior lake on earth, since 1960 it has lost 70 per cent of its water due to irrigation of cotton fields. Increasing salinity of the water led to massive declines in fish stocks, and therefore the loss of food and income for local people.

In most cases, the most material-efficient countries also have the highest consumption levels. Although on a worldwide level economic growth has been relatively decoupled from resource use, resource efficiency improvements alone have so far been insufficient in achieving absolute reductions in resource use. However, the environmental, economic and social problems inherent in the overconsumption of the world's resources make an absolute reduction the only viable option. Also, as water resources are becoming increasingly scarce in many regions of the world, it is critical that we use them more efficiently and economically at every level – in industry and agriculture, at home and in water supply systems.

Figure 2: Consumption of resources per capita per day, 2004



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In a world of finite resources, we must address the link between resource use, economic growth and prosperity in our societies. Our model of growth depends on high levels of continuous consumption. However, this system is characterised by growing inequalities across the world and by alarming levels of resource use by a small minority of the global population.

Urgent and fundamental changes are required to the way our economies manage natural resources and the services these provide. It is therefore essential that decision-makers create a policy framework that penalises unsustainable practices and rewards resource-efficient behaviour, making a decrease in resource use both economically and politically more attractive.

We believe that one key tool to help achieve this in Europe and around the globe is to measure the input of natural resources along the whole production chain of goods and services consumed, i.e. the "footprint". It is essential to do such assessments for all the main resource categories – renewable and non-renewable materials, water, land and carbon – and to do so on the macro-economic level as well as on the company and product level. We also believe that the impact of new policies on these footprints must be evaluated.

(i) Sustainable Europe Research Institute, GLOBAL 2000 and Friends of the Earth Europe, 2011, *Under pressure – How our material consumption threatens the planet's water resources,* **http://www.foeeurope.org/publications/publications.htm**

(ii) Sustainable Europe Research Institute, GLOBAL 2000 and Friends of the Earth Europe, 2009, *Overconsumption – Our use of the world's natural resources,* **http://www.foeeurope.org/publications/2009/Overconsumption_Sep09.pdf**

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