

WELLE – Corporate Water Footprint to Help Mitigate Water Scarcity at Local Level

Water as a Global Resource (GRoW)

Companies tend to measure and manage their water consumption at their production sites. Often more relevant, however, is the water consumption of suppliers or along energy and material supply chains. What is more, not all water consumption has the same impact everywhere: while regions that are rich in water will not suffer too greatly if some of it is removed, in areas where water is in scarce supply, removing it will further aggravate the situation. The goal of the joint research project WELLE is to determine the overall water footprint of a company and introduce practical measures to reduce water scarcity at local hot spots in global value chains.

Corporate Water Footprints – Local and Global

A single person in Germany consumes around 130 litres of water a day. This figure, however, only covers direct water needs for everyday activities such as showering, cooking or doing laundry. If the water consumed in the production of our food, clothing and other everyday items is factored in to the equation, per-capita water consumption would be as much as some 3000 litres a day.

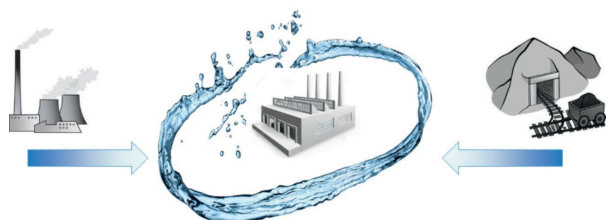
With the majority of products being manufactured in cross-border value chains, much of our water consumption actually takes place outside of Germany. Often the water used in the production of such import goods comes from parts of the world where water is in short supply: cotton from Central Asia, for example, or grain from North Africa or ore from desert regions. At the same time, companies measure and manage their water consumption primarily at their production sites, despite the fact that the water consumption in the energy and material supply chains is far more significant. Thus, beyond the factory gates, the local impact of water scarcity cannot even be identified, let alone mitigated.

New Methodology and Practical Applications

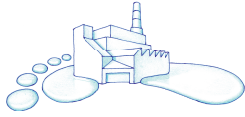
As part of the WELLE project, in order to identify local environmental impacts within global value chains, the first step is to develop a method of calculating corporate water footprints. This approach factors in both direct water

consumption at production sites and indirect consumption in energy and material supply chains, enabling a company's global water risk to be analyzed and measures for water footprint reduction to be initiated.

Besides developing a new methodology, the researchers are also focusing on improving existing water consumption data on technical processes. This task involves the creation of a water inventory database showing where the water used in global value chains has actually been taken from. Using four case studies, the industry project partners also test and optimize both methodology and data. Building on this, a calculation tool is developed with which other companies can easily calculate their global corporate water footprints. The WELLE project takes an innovative approach, where an existing, well established method of determining company-wide environmental impacts is combined with a dedicated method of determining local impacts on water scarcity.



Corporate water footprint factors in the entire production supply chain (purchased products and materials) as well as product use and disposal



Reducing Local Water Scarcity

In the second half of the project, the industry partners introduce what are known as water stewardship processes at the hot spots along their supply chains. The term 'water stewardship' refers to the notion that every user of water is responsible for the impact their consumption has on this shared resource and that everyone strives to achieve the common goal of sustainable resource management. In the WELLE project water stewardship processes are manifested in dedicated measures to reduce local water scarcity. These measures are implemented in cooperation with local stakeholders such as suppliers, local authorities, NGOs as well as other local companies. The concrete measures give the water footprint, which is a global indicator, a local dimension. Further, it is hoped that industry-specific recommendations will encourage other companies to acknowledge their global water risks and address them at the local level.



With the help of dedicated measures at local level, companies are hoping to reduce water scarcity at the environmental hot spots in their supply chains

Funding Measure

Water as a Global Resource (GRoW)

Project Title

Water Footprint for Companies - Local Measures in Global Value Chains (WELLE)

Grant Number

02WGR1429A

Duration

April 1, 2017 – March 31, 2020

Funding Volume

EUR 717,389

Contact

Technische Universität Berlin, Institut für Technischen Umweltschutz
Fachgebiet Sustainable Engineering
Prof. Dr. Matthias Finkbeiner
Straße des 17. Juni 135
10623 Berlin
Phone: +49 (0) 30 314-24341
E-mail: matthias.finkbeiner@tu-berlin.de

Project Partners

Deutsches Kupferinstitut e.V., Düsseldorf
Evonik Nutrition & Care GmbH, Essen
Neoperl GmbH, Müllheim
Technische Universität Berlin, Berlin
Thinkstep AG, Leinfelden-Echterdingen
Volkswagen AG, Wolfsburg

Website

www.see.tu-berlin.de/welle/

Publisher

Federal Ministry of Education and Research (BMBF)
Department of Resources, Circular Economy; Geosciences,
53170 Bonn

Editorial Work and Design

Project Management Agency Karlsruhe (PTKA)

Print

BMBF

Photo Credits

Front page: Technische Universität Berlin, Institut für Technischen Umweltschutz, Fachgebiet Sustainable Engineering
Back page: PublicDomainPictures, Creative Commons CC0

Version of

January 2019

www.bmbf.de