Memo

DSM Corporate Operations & Responsibel Care

Het Overloon 1
6411 TE Heerlen
P.O. Box 6500
6401 JH Heerlen
Netherlands

www.dsm.com

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From
Patrick Van Bael

To

cc

COP CEO Water Mandate 2011

1. Direct Operations

Water conservation and waste water treatment in our own Manufacturing activities

'With our commitment to sustainability, our core value, at DSM we are driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders.
It is increasingly clear that lack of access to clean water and sanitation in many parts of the world causes great suffering in humanitarian, social, environmental and economic terms, and seriously undermines development goals. That is why we aim to achieve sustainable water management, i.e. to manage water resources taking into account the needs of present and future users and applying practices aimed as safeguarding this vital resource. We continue to develop water risk assessments to mitigate operational, regulatory, reputation and financial risks and opportunities, and addressing political, economical, social, technological and environmental considerations, in our continued commitment to the UN Global Compact's CEO Water Mandate.' Feike Sijbesma, CEO Royal DSM.

We aim to achieve Sustainable Water Management (SWM) at DSM, i.e. to manage our water resources while taking into account the needs of present and future users and the various sectors affecting water use, including political, economic, social, technological and environmental considerations (United Nations). This means that DSM activities do not have any adverse effect on the availability and quality of ground water or surface water in the region where we operate. As a consequence, DSM uses water (-scarcity) considerations as an integral part of its decision-making to select new plant construction locations, and supplier selections, alongside considerations such as raw-material supply, proximity to customers and infrastructure.

Already many years DSM monitors its water consumption and water discharge quality of all direct production sites. Any new acquired production sites are integrated in DSM's environmental monitoring program. Continuous efforts and improvement targets have propagated global and local improvements on consumption and effluent quality. Performance parameters (consumption and water quality) are yearly communicated in DSM's Triple P reports, Integrated Annual Report (as of 2010) and on our sustainability website: (http://www.dsm.com/en_US/html/sustainability/sustainability_home.htm.)

The environmental (water) targets are based on the principle that all DSM sites in the world should as a minimum meet the standards as applied in the European Union or the United States. New plants and major plant modifications should meet this requirement right from the start, whereas existing plants should meet it within five years. For the next period 2010-2015, DSM has set a global water consumption reduction target of 15% (preliminary target as it will be revised in 2012 based on outcomes of water scarcity risk assessments), and COD reduction target of 20%. As of 2011, a twice-yearly monitoring and reporting of the target performance will enhance the timely and effective execution to achieve the targets.

DSM has made a thorough assessment of its water consumption and related risks. In 2010 and 2011 In-depth water risk assessments are being carried out on the sites located in (extreme) water scarcity regions, and mitigating strategies will be defined and completed in 2012. We have worked with renowned external consultants and built upon this experience in developing an in-house tool for performing water risk assessments on relatively small sites.
We continue to develop water risk assessments to mitigate operational, regulatory, reputation and financial risks and opportunities, and addressing political, economical, social, technological and environmental considerations. The preliminary water consumption reduction target and deadlines for implementation of mitigation measures may be adjusted in 2012 based on results of the specific site risk assessments.

The first pilot water Risk Assessment has been finished at our production facility in Zhangjiakou (China). A more elaborate Water Risk Assessment was executed at Xinghuo (China) at the end of 2010-begin 2011. Recently a water risk assessment was finalized at our DAI-facility in Sta Perpetua de Mogoda (Spain). In none of the cases major risks were identified.

Continuous improvements and use of improved technologies is encouraged and financed to achieve the targets: In 2010, DSM withdrew 139 million m^3 of water – a decrease of more then 45% compared to 2005.

Globally our wastewater treatment facilities are being expanded to meet the most stringent discharge limits, even in locations where local limits are less strict. In 2010 our total COD discharge was 7200 tons. Some successful examples in 2010: in China a waste water treatment plant was optimized for total discharge, making economic growth without increased discharge possible; in India a zero discharge facility became operational and became an example in the local area; and in Belgium the waste water quality was optimized to be able to discharge it together with rainwater into the local canal.

2. Supply Chain and Watershed Management
Recognizing our role in the supply chain to encourage water conservation

DSM is engaged in an ongoing dialogue with suppliers, customers and industry peers to create sustainable value chains, enhancing the eco-footprint of sourced products and own processes and products. The water footprint is one of the elements in our life cycle assessments to quantify our eco-footprint. Specific assessment systems, like Sourcing sustainability assessments and subsequent audits, DSM water scarcity risk assessments and LCA water-footprint analyses contributes to the awareness and control measures which are needed to achieve sustainable water management in the supply chain. These practices and systems have so far acknowledged that within our supply chain DSM has no known water related risk exposures within its supply chains, has no significant effects on water withdrawal sources and has no significant effect on water bodies or related habitats due to water discharges.

DSM Sourcing is continuously challenging, improving and verifying the sustainability of suppliers by requiring our suppliers to meet our sustainability standards and to minimize their eco-footprint. During the supplier sustainability audits, we also focus on providing solutions that enable our customers, and their customers – and ultimately consumers – to improve their eco-footprint as well. The global sustainability auditing program uses a 3-step approach consisting of the Supplier Code of Business Conduct, supplier self-assessment questionnaires and supplier audits with clear, measurable targets on these three deliverables. A risk matrix with business/operational criteria is used to identify the suppliers risk position. In the coming years we will encourage them to increasingly contribute to sustainable water management, and reduce their water footprint, a.o. reduce water consumption and pollution.

Within our own DSM operations we continue to build upon our developed water risk assessment, which is assessing water scarcity, water source depletion, water discharge impact. In the future we aim that suppliers commit themselves to similar targets and assessments to achieve a sustainable water management in the supply chain and in shared watershed areas.

Within DSM we aim to manufacture ECO+ solutions – products with more value and less environmental impact. These DSM products and services offer clear ecological benefits compared to the mainstream solutions they compete with. ECO+ benefits can be created at any stage of the product life cycle, from raw materials through manufacturing and use to potential re-use and end-of-life disposal. Life cycle assessments are therefore an important way to validate the ECO+ scores of our products. Approximately 89% of the innovations that we launched in 2010 had an ECO+ qualification. Continued collaboration with stakeholders (NGO's and companies) addresses the challenges to create ECO+ products, which among other topics will aspire for improved water foot printing in the supply chain.
To improve the methodology of water foot printing, assessment and awareness, DSM is participating and collaborating in associations and partnerships which address the water sustainability topic (e.g. WBCSD water leadership group).

A few examples which contribute to sustainable water management in the supply chain are:

DSM plants are continuously focusing on decreasing water consumption and pollution. For instance in one of our Asian sites a project realized reduction of water discharge by 50%, hereby contributing to an overall water pollution reduction of the watershed used.
Our product portfolio has products which actually reduce the water consumption at production facilities. One of the products is a wine stabilizer product Claristar, it reduces water usage at our customers in the wine industry by 25 to 50%
Changes in technology of production processes contribute to our own water footprint. The changeover from chemical to enzymatic production processes is an example. Already started in 2009, DSM introduced an enzymatic process (based on its patented Green Technology) for the production of anti-infectives. In contrast to the traditional chemical process, DSM's Green Technology provides a solution using less energy, less wastewater and lower emissions. Moreover, the enzymatically produced product is purer, with fewer residual solvents. Emissions have been reduced as well as groundwater consumption, up to about 15%.
Within our supplier auditing program, solutions for improved management are developed. In the caustic soda supply chain, a pilot project is in development and contributes to water and carbon savings in the supply chain.

3. Collective Action

Collective efforts – across sectors and societal spheres – to address the water challenge

DSM endorsed not only the CEO Water Mandate, but also engaged or renewed commitment to other initiatives, amongst which:

- United Nations World Food Program;
- Membership to (Young) Leaders for Nature;
- Pledging support to the Prince of Wales' Rainforest Initiative.

Although these initiatives are not primarily focusing on sustainable water management, they have close links with water conservation and/or sustainable water supply.

DSM contributes to the World Business Council of Sustainable Development by participating in network meetings and sharing water initiatives and challenges, specifically in the WBCSD Water Leadership Group. As a part of this we actively supported and used the Global Water Tool to indicate potential impact of DSM in locations of scarcity.
Next to this DSM actively participates in UN Global Compact country networks e.g. Dutch network and the NAP (Dutch initiated Process Industry Competence Network) to stimulate innovations in the process industry including intensification of processes or other technologies stimulating the reuse of water.
DSM is also contributing to the development of the ISO 14046 water footprint standard. Local initiatives to communicate and collaborate with local stakeholders around water are growing. In 2010, a site in Mexico has contributed to the World Water Day. This contribution initiated relations with local authorities and communities and proposed projects to improve water access to well water for local communities. Results of our specific water risk assessment, executed at a Chinese and Spanish site, both addressed actions to strengthen and increase communication with local stakeholders.

4. Public Policy

Embedding water governance with governments and NGO's

DSM is constructing a new production facility in the Jilin province, China. It goes without saying that DSM is constructing an extensive multi-stage wastewater treatment plant to meet the local stringent discharge limits, as part of the new manufacturing facility. Moreover DSM is supporting the local Jilin government in designing a waste water treatment plant for the entire industrial development zone, thus contributing to protect the local watershed.

In Zibo and the above mentioned Jilin plant, both in China, we (will) send daily effluent monitoring data to the local government in a joint effort to maximize the efficiency of treatment and minimize impact on downstream public wastewater treatment and the river.

The World Water Day, an initiative of the UN Conference on Environment and Development (UNCED) and organized since 1992, is used to create awareness on water.

DSM Anti-Infectives increased awareness on water scarcity and water quality issues by putting up posters on the site and distributing flyers on the streets in Zhangzjiakou, China with information on water scarcity and tips on how to save water in daily life.

5. Community Engagement

Actively engaging with communities to understand and support water and sanitation challenges

DSM's objective is to deliver measurably better solutions to meet human needs and improve lives. To do so, DSM commits to: developing internationally-recognized measures of its business and social impact backed by effective tools and systems; engage with communities, governments and societies around the world to better understand needs in areas such as health, nutrition and product performance; and invest in innovation to address basic human needs, such as hidden hunger.

Our Climate Change Induced Innovation (CCII) platform within DSM Innovation is seeking to support initiatives to generate biogas from waste, wastewater and manure from rural communities in developing countries as part of Base of Pyramid thinking.
This will not only provide energy to small local communities, providing them means for cooking, but also prevents often already scarce water supplies in these poor regions to become contaminated with human and animal waste and excrements.

As part of the partnership with the World Food Program (WFP), DSM supports the health and nutrition education campaign in community schools in Zambia. DSM Purchasing has a special partnership with the World of Life community school in Lusaka. Two employees from DSM Sourcing visited this school on their WFP assignments and raised funds for a highly needed water pump to have water supply also during drought periods.

Community Engagement will be integral part of the Water Risk Assessments that will be carried out at the sites in (extreme) water scarcity areas. This will provide the basis for embedding Community Engagement (related to water) in our DSM organization.

6. Transparency

Report on and being accountable for our approach to water management

Already many years DSM monitors its water consumption and water discharge quality of all direct production sites. Continuous efforts and improvement targets have propagated global and local improvements on consumption and effluent quality. Performance parameters (consumption and water quality) are yearly communicated in DSM's Triple P reports and on our sustainability website:

(http://www.dsm.com/en_US/html/sustainability/sustainability_home.htm.) As of 2010, DSM has an integrated annual report, including water topics (p. 44-45-62)

Next to our (COP) CEO Water Mandate reporting, DSM promotes full transparency by providing location reports of all DSM sites worldwide giving detailed local insight to external stakeholders and alike, see:
http://www.dsm.com/en_US/html/sustainability/location_reports.htm

Kind regards

Patrcik Van Bael
Senior Advisor Sustainability