

Part of From disclosure to engagement: A guide to the SPOTT indicator framework for assessing palm oil producers and traders

10. Water

SPOTT indicators: Does the company disclose...

- 65) Time-bound commitment to improve water use?
- 66) Time-bound commitment to improve water quality?
- 67) Progress towards commitment on water use?
- 68) Progress towards commitment on water quality?
- 69) Protection of natural waterways through buffer zones?
- 70) Evidence of treating palm oil mill effluent (POME)?



Context

According to the Organisation for Economic Co-operation and Development (OECD), agriculture is currently responsible for 70% of water withdrawal globally.¹ Besides the water consumed for cultivation, the palm oil industry relies on water for processing activities. To produce one metric tonne of palm oil, mills also produce 2.5 metric tonnes of effluent,² which is the leading source of water pollution from palm oil operations. If discharged into waterways, untreated palm oil mill effluent (POME) can contaminate drinking water and damage aquatic ecosystems.

Additionally, POME treatment usually involves storage in open-air ponds where it can contaminate soil and ground water. This storage practice generates bio-methane, which has 21 times the Global Warming Potential (GWP) of other greenhouse gases³ [for more details see factsheet 9 on greenhouse gases].

It is crucial that companies have adequate policies and processes in place to use water efficiently and treat and dispose of their palm oil by-products safely and effectively.

Obligations and expectations

In 2010, United Nations (UN) adopted Resolution 64/292 which recognises the human right to water and the Committee on Economic, Social and Cultural Rights (the Treaty Body to the corresponding Covenant) elaborated in its General Comment No. 15 (2002) that the right to water emanates from articles 11 and 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR). From an environmental perspective, water extraction and pollution of water is dealt with by national laws such as the Malaysian Environmental Quality Act (127 of 1974). Moreover, many financial institutions' and buyers' policies stipulate water use and quality requirements for producers of palm oil.

Glossary

Palm oil mill effluent (POME)

Palm oil mill effluent (POME) is a hot, acidic by-product of the milling process that contains oil, plant debris, and nutrients. The release of POME can lead to the eutrophication of aquatic ecosystems through excessive algae growth which in turn reduce the amount of oxygen that animal life needs to strive. This process can be measured in terms of Biochemical oxygen demand (BOD) levels.

²'Industries - Palm oil', WWF. [Accessed 10 August 2017]. Available from: worldwildlife.org/industries/palm-oil

¹'Water use in agriculture', OECD. [Accessed 10 August 2017]. Available from: oecd.org/agriculture/water-use-in-agriculture.htm

³'Direct Global Warming Potentials'. IPCC. [Accessed 10 August 2017]. Available from: ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html

Actiam: Water management is key for responsible land use

"Within palm oil production, responsible water management is key for responsible land use and plays an especially important role within peat soil cultivation to prevent forest fires and carbon emissions. At the same time natural forest ecosystems safeguard clean water supply, wildlife and increase landscape resilience to water-related hazards.

"Therefore, for ACTIAM, palm oil production is linked to all of our responsible investment focus themes: land, water and climate. Through dialogues with palm oil producers each of these themes will be looked upon in their interconnectivity. Additionally, by measuring the water footprint of our portfolio we made the first step towards providing transparency on the impact we, as an investor, can have on one of the largest global problems of our times and expect companies to be transparent about their water related risks and impacts as well."

> Sylvia Giezeman, Responsible Investment Officer ACTIAM

Challenges

- Best management practices for water are diverse: ranging from basic land use planning to avoid sensitive areas, to landscaping in order to facilitate environmentally sound flow, and complex machinery and infrastructure. Associated technical challenges may call for the intervention of experts.
- The infrastructure needed to treat waste water efficiently and make the best of water treatment by-products can represent substantial initial and maintenance costs for companies.
- While some companies already implement best practice and use state of the art technology, the effective treatment of POME remains a significant challenge for the palm oil industry as a whole.



Best practice for water treatment, use and protection

There are several steps that a palm oil grower should follow to implement best practice in water management:

- First and foremost, a company should identify and establish buffer zones around riparian areas to prevent pollution of waterways.
- The health of these areas and other aquatic environments surrounding a company's operations should be regularly monitored.
- Water levels across the concessions should be kept optimal to balance variations in rainfall and to mitigate fire risks (which are higher when soils are dry).
- If a company owns mills, the quality and quantity of water used should be monitored and checked regularly to ensure the effective treatment of POME.
- Many new technologies enable companies to treat POME, generate energy from POME, and reduce GHG emissions and energy costs. These technologies include biological sequencing batch reactors, bio-filtration systems, high aeration rate systems, decanters, activated sludge plants with aerobic reactors, bio-flow polishing plants, and membrane bioreactors.
- Solid mill by-products and POME can also be used to enrich compost (sometimes made with empty palm oil fresh fruit bunches) with high amounts of plant nutrients and microbes which can then be used as a soil amendment, substituting chemical use.

Other SPOTT indicator framework factsheets in the series

This document is part of a series of factsheets in the publication: From disclosure to engagement: A guide to the SPOTT indicator framework for assessing palm oil producers and traders. Below is a full list of the factsheets:

- Factsheet 1: Sustainability policy and leadership •
- Factsheet 2: Landbank and maps .
- Factsheet 3: Traceability
- Factsheet 4: Deforestation
- Factsheet 5: Biodiversity
- Factsheet 6: HCV, HCS and impact assessment
- Factsheet 7: Peat
- Factsheet 8: Fire
- Factsheet 9: Greenhouse gas emissions .
- Factsheet 10: Water
- Factsheet 11: Chemical and pest management .
- Factsheet 12: Community and land rights .
- Factsheet 13: Labour rights
- Factsheet 14: Palm oil certification
- Factsheet 15: Smallholder support
- Factsheet 16: Supplier selection .
- Factsheet 17: Governance and grievances

About SPOTT

SPOTT is an online platform promoting transparency and accountability to drive implementation of environmental and social best practice for the sustainable production and trade of global commodities. SPOTT assessments score some of the largest palm oil producers and traders on the public availability of corporate information relating to environmental, social and governance (ESG) issues.

Reframed as the Sustainability Policy Transparency Toolkit in 2017, SPOTT now supports transparency for other industries that pose some of the greatest risks to the environment, with SPOTT assessments of timber, pulp and paper companies launched in November 2017.

For more information, visit SPOTT.org or contact SPOTT@ZSL.org.

About ZSL

Founded in 1826, the Zoological Society of London (ZSL) is an international scientific, conservation and educational charity whose mission is to promote and achieve the worldwide conservation of animals and their habitats.

Our mission is realised through our groundbreaking science, our active conservation projects in more than 50 countries and our two Zoos, ZSL London Zoo and ZSL Whipsnade Zoo.

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