



Changes in material flows, treatment efficiencies and shifting of environmental loads in the wastewater treatment sector. Part II: case study of Norway.

<https://arctichealth.org/en/permalink/ahliterature95332>

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Source: Environ Technol. 2009 Oct;30(11):1131-43

Date: Oct-2009

Language: English

Publication Type: Article

Abstract: In Part I, the wastewater treatment sector in the Netherlands was analyzed to determine how the degree of separation of COD (BOD), nitrogen, phosphorus and heavy metals from the wastewater increased over time, and how the proportions of these substances, separated out from the wastewater into the lithosphere and atmosphere, changed over time. This paper applies the same methodology, adopted in the first part, to Norway. Needless to say, the hydrosphere has benefited from a decline in eutrophication and marine/fresh water toxicity, owing to the favourable combination of higher degrees of separation over time and source control, especially in the industrial sector. However, this has been at the expense of damage to the atmosphere (global warming). Technologies have, of course, enabled some mitigation of the problems that have shifted to the atmosphere and lithosphere, though these are beyond the scope of this paper, which assumes a hypothetical worst-case scenario in this regard. Whereas, in Part I, the time period 1993-2005 was considered, this paper is handicapped by the lack of availability of data and is restricted to a much narrower time period: 2002-2006.

PubMed ID: 19947144 [View in PubMed](#) 