

Less oil in refinery effluents

A CONCAWE survey of European refineries has shown big reductions in the amount of oil discharged.

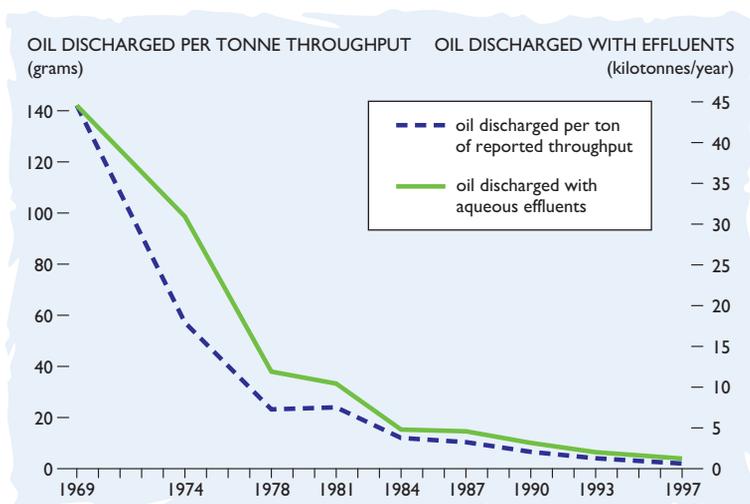
CONCAWE first started collecting data on refinery effluents as long ago as 1969. In those days, environmental awareness was in its infancy and this was reflected in the quantity of oil discharged in these effluents, which amounted to 44 000 tonnes from 80 refineries. This survey has been repeated at three- to five-year intervals since then and the most recent survey has just been completed for the year 1997.

The quantity of oil discharged has decreased in every survey and this time was no exception. In 1997, it had fallen to 1455 tonnes from 104 refineries which represents a 43 per cent decrease over the last survey in 1993 (95 refineries). If only those refineries which reported in both surveys are considered, the decrease was even bigger at 50 per cent. If we compare the 1997 data with that from 1969, the reduction in oil discharged is a massive 97.4 per cent.

The European refinery population has changed considerably since 1969 and so too has the amount of oil processed. To take account of these changes, the ratio of oil discharged to oil processed has been calculated. In 1997, this ratio was 1.87 tonnes oil discharged per million tonnes oil processed (i.e. 1.87 ppm). This also represented a 43 per cent reduction since 1997 and a 98.7 per cent reduction since 1969.

The reductions in discharges over the last four years have arisen partly from small improvements at a large number of refineries in both preventing oil entering the effluent in the first place (source control) and in the treatment of the effluent. There have also been a number of cases where new effluent treatment systems have been installed leading to large reductions. One quarter of all refineries reported that they had improved their treatment systems and, as a result, 88 per cent of all refineries treat their effluent with some sort of biological treatment which is normally the most advanced type of treatment used.

Figure 1
Trends in oil discharged, 1969–97



For recent surveys, OSPARCOM (the intergovernmental body covering the North Sea and Atlantic Ocean) has carried out its survey at the same time and using the same questionnaire as CONCAWE. This time, OSPARCOM asked CONCAWE to collect all the data rather than asking each member state. The area involved contains 66 refineries and, despite being given a very tight time-scale, CONCAWE delivered all the data for these refineries on schedule.