

# Science for Environment Policy

## EU's eco-management scheme shows positive long-term impacts

**Standards for environmental management**, such as EMAS and ISO 14001, aim to help organisations become more sustainable, but they have received little evaluation. A new Italian study is the first to quantitatively compare the impacts of these two standards. Its results suggest that EMAS's stipulation that organisations must report their ongoing performance may bring sustained environmental benefits in the longer term.

**There has been a rise in the use of environmental management systems** to assess, manage and improve [organisations' environmental performance](#). There are two main reference standards for such systems: the International Organisation for Standardisation's 14001 (ISO-14001)<sup>1</sup> and the EU's Eco-Management and Audit Scheme (EMAS)<sup>2</sup>.

Both schemes are voluntary and can be used by any organisation; however, there are important differences. ISO 14001 is designed by a private body and certification is issued by private companies. EMAS is designed by a public body and organisations must provide annual, publicly-available updates of their environmental performance. EMAS also provides additional guidance on how to manage specific issues, such as legal compliance, employee involvement and performance monitoring.

This study focused on the impact of these two schemes on environmental performance, measured by [CO<sub>2</sub> emissions](#), of energy-intensive industries (mainly cement production and energy generation) in Italy. The researchers considered 229 facilities and collected data on their size, economic performance, EMAS and ISO 14001 certification and the length of time they had been registered with either scheme. The researchers analysed trends in CO<sub>2</sub> emissions between 2007-2010.

In the first year of adoption (2007), ISO 14001 had a bigger positive impact on reducing an organisation's CO<sub>2</sub> emissions than EMAS. ISO 14001-registered organisations were roughly three and a half times more likely to substantially reduce their CO<sub>2</sub> emissions (by 75% or more) in 2007 than they were to increase their emissions.

However, in the same year, the opposite pattern could be seen for EMAS-registered organisations. These were roughly five times *less* likely to substantially reduce their CO<sub>2</sub> emissions than they were to either reduce emissions by only a small amount (25% or less) or increase their emissions.

These weaker short-term benefits of EMAS registration might be explained by its more rigorous requirements. The tighter collection of data required could initially produce a seemingly bad performance since, previously, data were collected less rigorously by the companies or, for example, did not consider all sources or monitor all emissions.

In the longer term, from 2007 to 2010, the situation was reversed, in that EMAS had a bigger positive impact on reducing an organisation's CO<sub>2</sub> emissions than ISO 14001. Companies which had been EMAS-registered for the full four years were roughly 1.3 times more likely to show decreases in CO<sub>2</sub> emissions of 75% or more than they were to show minimal reductions of 25% or less, or increased CO<sub>2</sub> emissions. Conversely, organisations that had been ISO 14001-registered for longer periods were about 1.2 times more likely to demonstrate *minimal* emission reductions or even show increased emissions than they were to reduce their CO<sub>2</sub> emissions by 75% or more.

The researchers suggest that the stronger long-term impacts of the EMAS scheme could be explained by several essential elements of the EMAS scheme. These elements include structured relations with authorities, and stronger measuring and monitoring requirements as part of the obligation to publicly disclose information on a detailed set of key environmental performance indicators.



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1..See <http://www.iso.org/iso/iso14000>

2..See [http://ec.europa.eu/environment/emas/index\\_en.htm](http://ec.europa.eu/environment/emas/index_en.htm)