

Revision of Regulation (EC) 1005/2009 on substances depleting the ozone layer

This briefing is one in a series of 'implementation appraisals', produced by the European Parliamentary Research Service (EPRS), on the operation of existing EU legislation in practice. Each briefing focuses on a specific EU law that is likely to be amended or reviewed, as envisaged in the European Commission's annual work programme. 'Implementation appraisals' aim at providing a succinct overview of publicly available material on the implementation, application and effectiveness to date of specific EU law, drawing on input from EU institutions and bodies, as well as external organisations. They are provided by the Ex-Post Evaluation Unit of EPRS, to assist parliamentary committees in their consideration of new European Commission proposals, once tabled.

SUMMARY

The depletion of the ozone layer affects both humans and the natural environment in a negative way. The process is provoked by chemicals known as 'ozone depleting substances', which are also potent greenhouse gases. These substances have been subject to legal regulation at international level for several decades. More specifically, they are addressed by the Vienna Convention and its Montreal Protocol, adopted in the second half of the 1980s under the auspices of the United Nations.

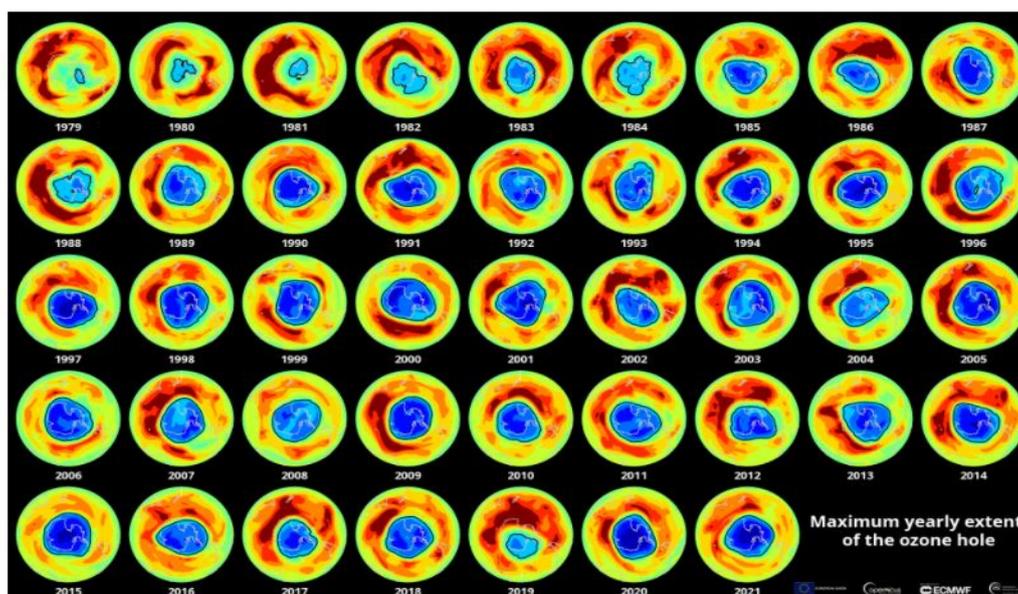
EU has spearheaded global efforts in the field of ozone depleting substances, adopting its first rules on these substances in the early 1980s and later addressing them specifically through Regulation (EC) 1005/2009. The ex-post evaluation of the implementation of the regulation published at the end of 2019 shows that overall performance matches expectations and that the regulation is thus fit for purpose, despite there being room for improvement. The Commission is expected to issue a proposal to revise the regulation in the spring of 2022. This implementation appraisal presents the findings of publicly accessible sources on the regulation's implementation.

Background

Our planet is surrounded by a layer of ozone, a molecule made up of three oxygen atoms (O₃). This layer is located between 15 km and 30 km above the Earth's surface, in the stratosphere. Stratospheric ozone¹ absorbs ultraviolet (UV) radiation from the Sun thus reducing the overall amount of radiation reaching the Earth's surface. The protective shield function of the ozone layer is crucial for life on our planet, because UV radiation has a potential to inflict damage on human, animal and plant DNA, while also causing sunburn, skin cancer, cataracts and other health issues.

It was in the 1970s when scientists first observed a thinning of the ozone layer, which they attributed to ozone-depleting substances (ODSs) – chemicals containing chlorine or bromine in their molecule – in the stratosphere. They discovered that the excessive build-up of ODSs had provoked an ozone hole over the Antarctic.² Figure 1 below shows how the ozone hole grew in size from 1979 to 2021. The current status of the ozone layer can be observed with the help of the [Copernicus Atmosphere](#)

Figure 1 – Maximum yearly ozone hole extent, 1979-2021



Note: These images of the total ozone column over the Antarctic were taken by the Copernicus Monitoring Service. Blue indicates the lowest ozone columns, while yellow and red indicate the higher ones. Ozone columns are commonly measured in Dobson Units. One Dobson Unit is the number of molecules of ozone required to create a layer of pure ozone 0.01 millimetres thick at a temperature of 0 degrees Celsius and a pressure of 1 atmosphere. 300 DU corresponds to 3 millimetres of ozone.

Source: [European Environment Agency](#) based on data from the Copernicus Atmosphere Monitoring Service.

Monitoring Service. The European Environment Agency (EEA) [notes](#) that overall, since 2000, the ozone hole has shown signs of healing, which could be predominantly attributed to the phasing out of ODSs under the Montreal Protocol, discussed in detail below. However, the dimensions of the ozone hole strongly depend on stratospheric temperature, with warmer temperatures leading to a smaller ozone hole, as in 2019. By contrast, in 2021, the ozone hole was one of the largest and deepest in recent years, which is due to a combination of stratospheric conditions over the Antarctic, namely colder-than-average temperatures and strong winds.

When ozone layer depletion was first observed in the 1970s, ODSs were used on a large scale globally, more particularly in industrial and consumer applications such as refrigeration, equipment for air conditioning, fire extinguishers, solvents, blowing agents for insulation foams and aerosol propellants. For example, the long-lived chlorofluorocarbons (CFCs) had been used in refrigerators and aerosol sprays since the 1930s. NASA's Earth observatory [notes](#) that, following scientific estimations, around 80 percent of the chlorine and bromine in the stratosphere over Antarctica today are anthropogenic, i.e. they have been released by human (rather than natural) sources.

Apart from having a high ozone depletion potential, several ODSs also have a high global warming potential and are thus potent greenhouse gases (GHGs) responsible – next to CO₂ and other GHGs – for climate change. Some ODSs are [up to 14 000 times more](#) potent GHGs than CO₂.

For the above reasons, ODSs are subject to policies at all levels of governance.

International legal framework

Since countries cannot manage the risks inherent to ODSs on their own, they need to join efforts in managing these risks. In the 1980s, countries worldwide agreed to stop the use of ODSs. Two international legal acts have regulated ODSs since the mid-1980s – the Vienna [Convention](#) for the protection of the ozone layer (the Vienna Convention) signed in 1985 (and in force since 1988) and its Montreal [Protocol](#) on ozone-depleting substances (the Montreal Protocol) signed in 1987 (and in force since 1989).

The Vienna Convention is aimed at promoting cooperation via systematic observations, research and information exchange on the effects of human activities on the ozone layer and at adopting relevant legislative or administrative measures. The Montreal Protocol to the Vienna Convention phases out the production and consumption of what are called 'controlled' substances. The aim is to reduce the emissions of substances such as, for example, CFCs, hydrochlorofluorocarbons (HCFCs), halons, carbon tetrachloride (CTC), hydrobromofluorocarbons (HBFCs), bromochloromethane (BCM) and methyl bromide. Each ODS under the protocol has a defined ozone depletion potential (ODP), i.e. the damage caused by the substance to the ozone layer. More specifically, the protocol envisages:

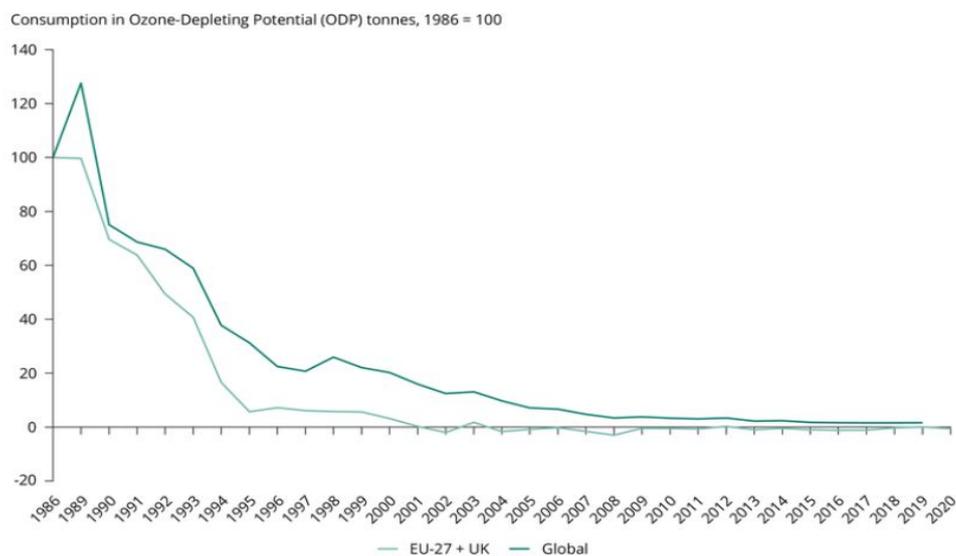
- a gradual phase-out of the production and consumption of controlled substances according to specified time schedules; 'consumption' is the key metric under the Montreal Protocol and can be roughly expressed by the following equation:

$$\text{consumption} = \text{production PLUS import MINUS export MINUS destruction}$$

- reporting data on the production, use, import and export of 'controlled' substances to the Secretariat managing the convention and the protocol (the Ozone Secretariat);
- the establishment of a licensing system for the imports and exports of 'controlled' substances. The protocol has undergone several amendments allowing for new chemicals to be put under control.

It is worth noting that the Vienna Convention and the Montreal Protocol are the first cases when international legal documents adopted under UN auspices achieved (already as per 2009) global

Figure 2 – Consumption of controlled ozone depleting substances in ozone depleting potential (in tonnes; 1986=100)



Source: European Environment Agency.

ratification, signalling the international community's commitment to tackling the ODSs issue. Furthermore, the Montreal Protocol is often referred to as one of the most successful examples of international environmental cooperation, as evidenced by the sharp decrease in EU and global consumption of controlled ODSs under the protocol, as illustrated by Figure 2.

The European Commission [notes](#) that global ODSs consumption has been reduced by some 98 % since action was taken under the Montreal Protocol. As a result, the atmospheric concentration of the most aggressive types of ODSs is falling and the ozone layer is showing the first signs of recovery. However, as the existing ODSs will remain in the atmosphere for several years, they will continue to cause damage. Therefore, the Commission warns that despite progress made as a result of the efforts taken at international level, it is unlikely that the ozone layer will recover fully before the

second half of the 21st century, which means that further efforts are needed to ensure its continued recovery.

EU legal framework

At EU level, ODSs were first regulated in the 1980s, prior to the adoption of the Vienna Convention and its Montreal Protocol. The EU legislation – two Council decisions from 1980 and 1982 and one Council regulation from 1988 – concerned certain CFCs and halons. In 2000, [Regulation \(EC\) 2037/2000](#)³ was adopted to ensure EU compliance with the Montreal Protocol, including with the production phase-out schedules for various controlled ODSs. Some of the obligations it imposed were more stringent than those of the Montreal Protocol; in particular, the EU rules envisaged stricter and faster phase-outs and sought to stimulate effective enforcement. This stringency reflected the EU's ambition to lead by example in the implementation of the Montreal Protocol, thereby encouraging compliance, including by third countries, and ultimately contributing to the effective implementation of the international legal framework.

Regulation (EC) 2037/2000 was partially reviewed in 2008. A year later, the European Parliament and the Council of the EU adopted [Regulation \(EC\) 1005/2009](#)⁴ (the ODS Regulation or simply 'the regulation'), which is the focus of this briefing. The review sought to: simplify the rules to reduce the administrative burden; ensure compliance with the HCFC production total phase-out schedule (by 2020) agreed under the Montreal Protocol in 2007; and ensure that the EU is fit for addressing future challenges in the field.

Just like its predecessors, Regulation (EC) 1005/2009 set itself the goal to contribute to stratospheric ozone layer recovery as a way to reduce the negative influence that ODSs have on human and ecosystems health and on sustainable development, and curb their strong climate-warming effect. Therefore, the two **general objectives** of the ODS Regulation are to ensure EU compliance with the international agreements on the protection of the ozone layer, and to set a high level of ambition for protecting the ozone layer and avoiding climate change. Based on these general objectives, the following **specific objectives** were set:⁵

- to ensure EU compliance with the phase-out schedules, trade licences and reporting obligations under the Montreal Protocol;
- to ensure that the progress achieved on phasing out ODSs is sustained;
- to ensure further elimination of ODS uses where technically and economically feasible alternatives exist, and to incentivise the development and take-up of ODS alternatives;
- to reduce and prevent emissions from ODSs and from products containing ODSs where they are produced, used and disposed of;
- to identify future threats from ODSs;
- to lead by example in facilitating global progress on eliminating ODSs;
- to prevent and detect illegal activities related to ODSs.

The above general and specific objectives would be achieved through the **implementation of the following activities (measures)**:

- general prohibitions on the production, placement on the market, import or export of ODSs – including in equipment – as well as a prohibition on the use of methyl bromide for quarantine and pre-shipment treatment of goods;
- exemptions allowing the use of ODSs as feedstock⁶ or as a process agent⁷ in specified processes by certain companies and in essential laboratory and analytical processes, as well as temporary exemptions for critical uses of halons in certain equipment;
- allocation of quota to importers and producers;
- licensing of imports and exports;

Ozone Protection Award

The success of the EU's enforcement efforts is exemplified by the fact that the European Commission team working on ozone layer protection [has won](#) the Ozone Protection Award several times since 2010 for their efforts in fighting illegal trade in ODSs. The award has been given by the UN Environment Programme's Regional Ozone Network for Europe and Central Asia.

Source: [European Commission](#).

- registration for essential laboratory and analytical uses;
- labelling requirements for containers and equipment with ODSs;
- technical requirements during reclamation and destruction of ODSs;
- control of leakages and emissions when using ODSs;
- annual reporting by national authorities;
- annual reporting by undertakings, including on new substances;⁸
- requirements on the performance of national inspections, and the imposition of penalties when needed.

The next sections of this briefing present the findings of publicly accessible sources on the implementation of the regulation.

European Commission

Ex-post evaluation of Regulation (EC) 1005/2009

At the end of 2019, the European Commission published an [ex-post evaluation](#)⁹ of the regulation's implementation. The evaluation, launched in 2017 at the Commission's own initiative, sought to establish if the regulation was fit for purpose, in line with the Regulatory Fitness and Performance (REFIT) programme. Its findings would serve to inform future policy-making in the field.

Overall, the ex-post evaluation covered the implementation of the ODS Regulation from 2010 (when it entered into force) to 2017 (when the ex-post evaluation was launched), but for comparison reasons it also reviewed how (now obsolete) EU legislation on ODSs had been implemented over several decades. Additional rules on specific ODS uses established by the Commission¹⁰ were also included in the scope of the evaluation.

The analysis followed the standard set of criteria for ex-post evaluations prescribed by the [EU Better Regulation Guidelines](#): relevance, effectiveness, efficiency, coherence and EU added value. The results of the ex-post evaluation are largely based on the results of an external [study](#)¹¹ done on the Commission's request to provide support to the work on the evaluation, and completed in 2019. The main findings of the Commission's ex-post evaluation are summarised below.

The overall evaluation of the Commission is that the regulation is fit for purpose.

Under the **relevance** criterion, the evaluation explored whether the objectives and requirements of the regulation were adequate with regard to current needs. The evaluation found that the regulation is 'highly' relevant because it ensures continued EU compliance with the Montreal Protocol. In particular, the regulation ensures continued EU control over the remaining uses of ODSs, as required by the protocol, and sustains the results achieved in previous decades. The regulation is also relevant in terms of stimulating innovation and the development of alternatives to ODSs. The Commission also noted that the regulation is aligned with technological and scientific development. In addition, the regulation is relevant to other non-EU regions because it contains measures aimed at preventing illegal trade and supporting the efforts of developing countries. Last but not least, the regulation is relevant to climate action policies (climate mitigation in particular) because it ensures a contribution of the EU to meeting the goal of the Paris Agreement in terms of limiting global warming.

Under the **effectiveness** criterion, the ex-post evaluation explored whether the objectives of the regulation were being met (or progress was being achieved) as a result of its implementation. It concluded that 'the overall performance matches expectations'. In particular, the general objectives had been 'effectively achieved' and the specific objectives 'generally reached' as a result of the implementation of the ODS Regulation.

As regards the achievement of the general objectives more specifically, it is noted that the EU fully complies with its core international obligations under the Montreal Protocol. In particular, the EU ensures compliance by phasing out the production and consumption of ODSs and by reporting on production and consumption to the Ozone Secretariat on a yearly basis. Furthermore, between 2010 and 2017, the control body established under the Montreal Protocol (Implementation Committee)

did not detect any cases of non-compliance by the EU or its Member States. In terms of climate action, the Commission found that the implementation of the ODS Regulation continuously supports the EU climate change mitigation policies, and in particular the EU's commitment to the goals of the Paris Agreement, by significantly reducing the emissions of certain ODSs, which, as mentioned, are very potent GHGs.

As far as the specific objectives of the regulation are concerned, the following implementation achievements are worth noting:

- **Sustaining the progress achieved in reducing ODSs production and ensuring further reductions:** since 2010, the EU has had negative consumption levels (as per the Montreal Protocol); as a result of the production phase-out schedule and the linked prohibitions on use of and trade in ODSs, the production of ODSs in the EU for uses other than feedstock¹² (which are exempted under the Montreal Protocol) has been significantly reduced as compared to pre-2010; following the prohibition of methyl bromide in 2010, the EU completely phased out its use for pre-shipment and quarantine purposes (except for possible derogations in emergency cases, which had not been used as of 2019); the use of HCFC in refrigerators was eliminated.
- **Development and uptake of alternatives to further limit the use of ODSs:** the quantities of process agents in use have been cut by two-thirds since 2010; the search for alternatives to halons has been encouraged; there has been 'steady progress' in the development of alternatives to ODSs used for laboratory purposes; the development of alternatives to ODSs used in feedstock is progressing, although their number remains limited.
- **Emissions prevention and management of stocks:** overall, the levels of ODS emissions from remaining uses are kept low; there are signs of improved emissions control by the chemical industry in the production process; there is a reduction in the remaining banks of ODSs used in refrigeration and air conditioning, and there is a stabilisation of the emissions from foam banks resulting from their long lifetimes.
- **Identifying new threats** posed by ODS uses not covered by phase-out obligations under the Montreal Protocol, as well as new substances. The evaluation notes that monitoring has allowed for new threats to be identified. In particular, referring to an EEA annual topical [report](#)¹³ (covering 2006-2018 data, as per 2019), the evaluation suggests that important quantities of ODSs that do not fall under phase-out obligations are still traded and produced in the EU, which reconfirms the importance of control activities; as far as new ODSs are concerned, EEA data shows that they are predominantly produced in the EU, 'at stable but relevant levels', and used almost entirely as feedstock, where the emissions rates are very low. Additional data (from 2020, this being the most recent period) on the consumption of controlled substances contained in the annual EEA report is presented in the next section.
- **EU leading by example:** in trade agreements with third countries, the EU promotes the inclusion of references to international rules on ODSs, which encourages the implementation of the Vienna Convention and the Montreal Protocol at global level; the EU exports its best practices – such as obligatory leakage checks and trainings for professionals – developed as part of implementing the ODS Regulation on EU territory.
- **Preventing and detecting illegal trade:** the evaluation notes that the licensing system under the ODS Regulation is instrumental for the efficient exchange of information (in the framework of the licensing process) with other countries, and has helped prevent cases of illegal trade; illegal trade activities claimed as exempted uses do not 'appear' to result in significant circumvention of the ODS Regulation.

In terms of **efficiency**, the ex-post evaluation found it an 'indisputable' fact that the regulation ensures major environmental and climate benefits without creating disproportionate costs for companies over the 2010-2017 period. Some 'very significant benefits' for the environment and human health¹⁴ include: partial closing of the ozone hole; co-benefits for climate; and the avoidance of catastrophic effects for human health.¹⁵ Avoiding the negative effects of UV radiation on the

health of ecosystems, plants and animals, but also on air quality and food security, has also brought benefits for the economy. Costs include: compliance costs and administrative costs for companies; costs incurred by Member States to ensure implementation, enforcement and administration at national level; implementation, enforcement and administrative costs of relevant EU institutions (e.g. Commission) and agencies (e.g. the European Environment Agency). The implementation of the ODS Regulation has resulted in cost savings worth nearly €2 million for companies and €0.9 million savings from diminished Member States' reporting obligations.

However, the evaluation also notes some efficiency shortages. In particular, contrary to what had been planned, costs incurred at the EU level turned out to be 'much more significant'. In particular, it appears that the ex-ante impact assessment accompanying the proposal for the ODS Regulation, underestimated the costs associated with extending the scope of the licensing system and setting up and running the electronic reporting scheme, both of which brought on significant additional costs. Therefore, the evaluation notes that there is room for optimising certain costs and ensuring that results are achieved through less resource-intensive activities.

Several EU policy areas and pieces of legislation are directly related to the regulation, and therefore **coherence** – i.e. alignment between the regulation and other relevant EU policies and laws – is key for its performance. In the Commission's opinion, the regulation is 'generally well aligned' with relevant international and EU law, owing to the fact that the EU has accumulated significant experience over the past three decades and the regulation has thus 'grown organically alongside other legislation in related areas'. In particular, there are no major inconsistencies with international and EU policies and legislation on chemicals, customs, transport, waste, air quality and research.

However, the evaluation also states that certain improvements as regards coherence are needed. Based on stakeholder feedback, the ex-post evaluation notes that the provisions on definitions of customs-related activities (e.g. import) and procedural details (e.g. maximum duration of transit or repackaging activities) need updating, as do several other provisions, the updating of which would ensure that the regulation is internally coherent in terms of structure and content.

The ex-post evaluation confirmed the **EU added value** of the implementation of the ODS Regulation. In particular, the 'common harmonised EU approach' established by the regulation ensures that the EU meets its obligation under the Vienna Convention and the Montreal Protocol as well as ensuring respect for the EU internal market rules.

Stakeholder consultations

As part of its ex-post evaluation, in 2018 the Commission ran several consultations aimed at collecting stakeholders' views. These included: i) two separate surveys among undertakings and national competent authorities exploring the effectiveness, costs and quality of the regulation as well as its EU added value; ii) an open public consultation exploring the effectiveness and quality of the regulation as well as its EU added value; iii) additional targeted consultations with undertakings, competent authorities and the European Aviation Safety Agency, held to further explore costs and other relevant issues. The ex-post evaluation extensively incorporated the stakeholders' feedback in the analysis it made, attributing the views expressed, in a very clear manner, to the relevant categories of stakeholders. Summaries of the feedback received are presented in Annex II to the ex-post evaluation.

Scope of the revision of the ODS Regulation

According to the Commission's work programme for 2021, a proposal to revise the ODS Regulation would be submitted in the fourth quarter of the same year, but this plan was eventually postponed till the spring of 2022. The proposal would thus be part of the 'emissions and pollutants' package under the European Green Deal priority of the von der Leyen Commission.

Following the [inception impact assessment](#), the revision of the regulation was launched in March 2020, its main aims being achieving enhanced efficiency, coherence and clarity to increase compliance and reduce the administrative burden. In particular, the revision aims to simplify the

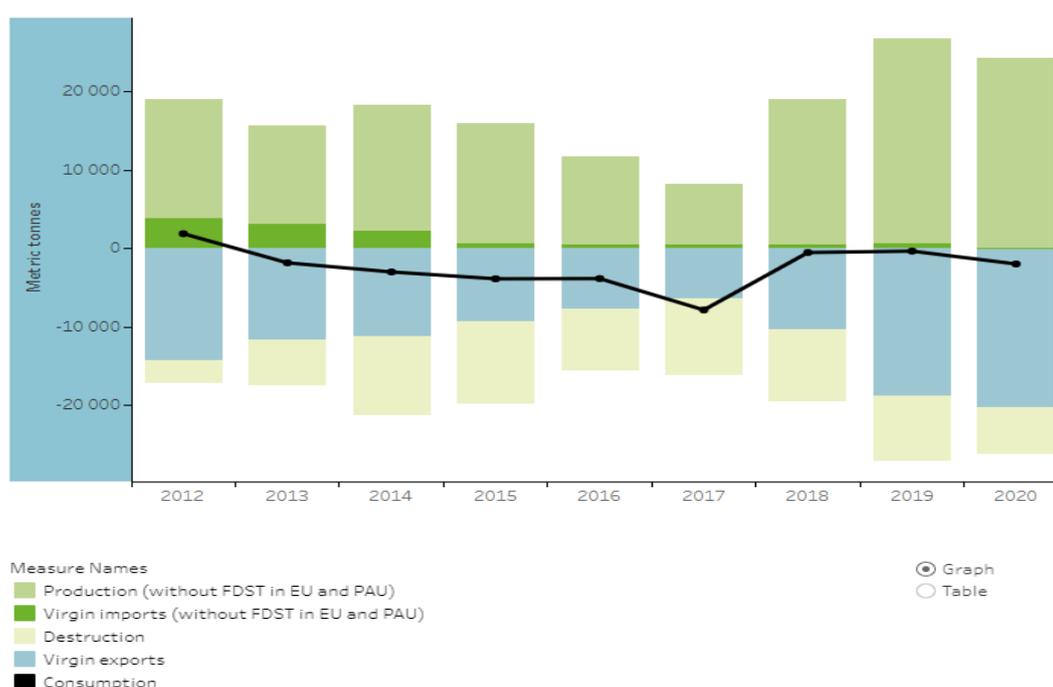
licencing and quota system for companies importing, exporting and producing ODSs as well as the registration system for laboratories using very small quantities of ODSs; to improve coherence with other pieces of EU law, and especially with the latest EU rules on customs that are relevant for the inclusion of provisions on ODSs in the future Single Window for Customs, thus making it possible to better fight illegal trade; and to introduce greater clarity, including by deleting obsolete provisions and improving the structure of the regulation. In addition, there is scope for: inclusion of (relatively) recently identified ODSs in the established monitoring system; and better management of the emissions from exempted uses, of emissions from the use of newly identified ODSs (Annex II of the regulation), and of emissions from ODSs inside existing equipment and products, including after disposal, to ensure that such emissions are avoided to the extent that it is technically feasible at a reasonable cost, thus contributing to the 2050 climate neutrality objective of the EU. The revision will be accompanied by a full-fledged ex-ante impact assessment.

European Environment Agency

The ODS Regulation requires companies producing controlled substances (i.e. those included in Annex I to the ODS Regulation) and/or importing/exporting them into/from the EU, but also feedstock users, process agent users and destruction facilities to annually report on their activities on controlled substances. The EEA collects, archives, checks and aggregates data contained in the reports submitted by companies. The reported data on production, imports and exports are presented to the parties to the Montreal Protocol so that they could monitor progress in the phasing-out of ODSs in compliance with the protocol. The data collected also serves as a basis for an [online data viewer](#) updated annually by the EEA (also referred to above in the context of 'identifying new threats'), which gives an overview of consumption, imports, exports, production, destruction, feedstock use and agent process use of controlled substances. The latest available data is for the year 2020.

Figure 3, below, presents the trend in the consumption of controlled substances in the EU between 2012 and 2020, based on the metric 'consumption = production PLUS import MINUS export MINUS destruction'.¹⁶

Figure 3 – Trend in the consumption of controlled substances by activity, 2012-2020



Source: Ozone-depleting substances ([on-line data viewer](#)), European Environment Agency, 2021. Note: 'FDST in EU' means production for feedstock in the EU, and 'PAU' means 'process agent use'.

More specifically, Figure 3 shows that the consumption of controlled substances, when expressed in metric tonnes, has been negative for every calendar year since 2012. In 2020, the consumption of controlled substances amounted to -2 023 metric tonnes, down from -387 metric tonnes in 2019. When expressed in ODP tonnes, consumption in 2020 amounted to -2 043 ODP tonnes, down from 61 ODP tonnes in 2019. The EEA notes further that in recent years, the consumption of controlled substances in the EU has largely been driven by CFC, HCFCs, and CTC consumption.

European Parliament

Written questions by Members of the European Parliament

Since the entry into force of the ODS Regulation in the beginning of 2010, Members of the European Parliament (MEPs) have addressed several written questions on the depletion of the ozone layer to the Commission. A search performed on the [European Parliament data base](#)¹⁷ shows that the big majority of written questions on ozone layer depletion and individual ODSs are not strictly related to the ODS Regulation and its implementation but to other EU policies and legislation, such as air quality, fluorinated greenhouse gases (F-gases), plant health and plant protection, waste management, etc. Even if not very recent, these written questions are directly relevant to the ODS Regulation and its implementation. Three such questions and the Commission answers to them are presented below.

Written question on the implementation of the ODS Regulation by Dan Jørgensen MEP, 28 September 2010

The MEP describes the context of his [written question](#) as follows: the ODS Regulation is the EU legislative instrument for phasing out ODSs. The regulation includes controls on production, transboundary trade, placing on the market, use, emissions controls and disposal of controlled substances. It also establishes licensing and reporting procedures for all ODSs. The EU introduced the ODS Regulation to prohibit production, import, export, placing on the market, use, recovery, recycling, reclamation and destruction of ODSs, such as HCFCs. The MEP assessed the monitoring and enforcement of the phasing out of ODSs contained in stationary items, such as fridges, as successful, yet argued that the enforcement of the ODS Regulation appeared to be challenged by equipment that crosses Member States' borders (for instance, refrigerated containers that 'constantly enter new Member States', with enforcement in this regard being handled by the local police). Therefore, despite the regulation, this results in disparate enforcement practices across the EU. The MEP further notes that by the day on which his question was submitted, the ODS Regulation was not being enforced, which posed a serious threat to the ozone layer and the environment. In addition, this lack of enforcement is damaging for companies that have made significant investments in technology to ensure compliance with the rules. Furthermore, the current situation implies that there are no incentives to ensure that EU rules result in a change of manufacturing processes, and, as a result, in a cleaner environment. Against this backdrop, the following questions were asked: What will the Commission do to ensure that Member States enforce the regulation and protect European citizens from ODSs? Does the Commission intend to look specifically at the challenges of equipment that regularly crosses national borders within the EU?

Answer given by Connie Hedegaard on behalf of the European Commission, 4 November 2010

In its [answer](#), the Commission underlined that the adoption of the ODS Regulation had significantly strengthened the requirements for trade in products and equipment containing or relying on ODSs. However, the Commission noted that, as regards the movement of refrigerated containers within the EU, the regulation does not ban either continued operation or movements between Member States of equipment that has been lawfully manufactured and placed on the market in the EU. The Commission noted further that it did not have 'indications' that the new regulation has not been enforced, as suggested by the MEP having submitted the written question, and hence, further information would be needed to raise any potential issues with the Member States concerned.

Written question on cryogenic R 12 (a chlorofluorocarbon) gas submitted by Nuno Melo MEP, 11 November 2010

The [question](#) was asked in the following context: the EU considers the cryogenic gas R 12 (dichlorodifluoromethane) to be a hazard to the environment and to the ozone layer in particular. Under Regulation (EC) No 2307/2000 (preceding the ODS Regulation (1005/2009) currently in force), R 12 gas may not be produced, used, or sold on the market in Europe, barring rare exceptions. The United States and other countries have also prohibited its use, thus complying with the Montreal Protocol. However, the European Citizenship Association (APCE) points out that the R 12 gas, mostly imported from China, is still being used within the Community. In this context, the following specific questions were asked: Can the Commission confirm whether R 12 gas is still being used within the Community? If so, in what cases? What form of certification is required in cases where products from China entering the EU might contain R 12 gas?

Answer given by Connie Hedegaard on behalf of the European Commission, 4 January 2011

The Commission [specified](#) that Regulation (EC) No 2037/2000 prohibited the use of CFCs, which include R 12 (i.e. CFC-12), as a refrigerant. Under this regulation, 'use' was defined as the utilisation in the production and maintenance of equipment and did not preclude the further operation of such equipment, as long as no re-filling was needed. The ODS Regulation kept this status quo. The Commission added that under the ODS Regulation, the import and use of CFC-12 as a refrigerant is illegal and the import of equipment and products containing or relying on this substance is prohibited. The Commission explained that it did not have substantiated evidence that illegal import and use were taking place. The Commission noted, however, that the import, placing on the market and use of CFC-12 is permitted for specific, non-emissive uses, such as use as a feedstock or a process agent in a chemical process, or for laboratory and analytical purposes. Hence, in such cases, CFC-12 can still be used within the EU. However, such uses are subject to further conditions, notably labelling of containers, a licensing scheme for imports and production, managed by the Commission, and, in the case of a process agent, laboratory and analytical uses, within an overall quantitative limit set out in the regulation.

Written question on alternatives to the use of HCFCs submitted by Doru-Claudian Frunzulică MEP, 14 April 2015

According to the MEP having posed the [written question](#), a sector-by-sector analysis shows that climate-friendly alternatives to current and future uses of HCFCs are possible in most cases. Against this backdrop, the MEP asked the following specific question: What is the EU doing to effectively support the development and use of alternatives to HCFCs, which is fundamental for protecting both the ozone layer and the climate in developing countries?

Answer given by Arias Cañete on behalf of the European Commission, 9 June 2015

In its [answer](#), the Commission confirmed that since the adoption of the ODS Regulation, the use of HCFCs in the EU has been strictly limited. Subsequently, [Regulation No 517/2014](#) on F-gases (such as hydrofluorocarbons (HFCs)), in force since 1 January 2015, has given a strong policy signal for the increased use of climate-friendly alternatives to HFCs (which have replaced HCFCs) as the regulation required a reduction in the use of HFCs by 80% by 2030, measured in terms of their climate impact. The answer stressed further that internationally, the Commission gives financial support to developing countries in Africa and the Pacific islands to help them shift from HCFCs to climate-friendly alternatives. Moreover, Member States support the transfer of know-how and technology to developing countries through payments to the Multilateral Fund of the Montreal Protocol. The Commission also stressed that the EU promotes a global HFC 'phase-down' under the Montreal Protocol as the most effective mechanism for moving to climate-friendly alternatives to HCFCs. In order to facilitate reaching a global consensus, the EU submitted a proposal for an amendment in April 2015 to 'phase down' the production and consumption of HFCs under the Montreal Protocol.

European Court of Auditors

A 2021 [review](#) by the European Court of Auditors on EU actions and existing challenges of electronic waste reports on a case of alleged mismanagement of waste electrical and electronic equipment (WEEE) involving ODSs. In particular, in July 2020, five high-ranking officials of a WEEE recycling

company were arrested by the police in Seville (Spain) on claims that the company 'was not treating hazardous wastes it received' and that it was hoarding waste (such as refrigerators, air conditioners and electric water heaters) in Andalucía. The insulation materials used in such electric waste appliances contain refrigerating gases that deplete the ozone layer.

ENDNOTES

- ¹ Stratospheric ozone should not be confused with the ozone that is found in the troposphere (the layer of the atmosphere next to the Earth's surface). Tropospheric (or 'ground-layer') ozone is a harmful air pollutant subject to regulation under [Directive 2008/50/EC](#) of the European Parliament and of the Council on ambient air quality and cleaner air for Europe.
- ² Ozone layer depletion occurs over both hemispheres. The EEA [notes](#) though that the depletion is significantly more severe in Antarctica than in the Arctic, due to the fact that year-to-year meteorological variability is larger over the Arctic than over the Antarctic. In addition, stratospheric temperatures over the Antarctic remain low for a long time, while over the Arctic they do not.
- ³ [Regulation \(EC\) No 2037/2000](#) of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer (No longer in force since 31 December 2009).
- ⁴ [Regulation \(EC\) No 1005/2009](#) of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer (in force since 1 January 2010).
- ⁵ Defining the objectives of the ODS Regulation as 'general' and 'specific' is done to facilitate the reading of this briefing. In particular, this division helps present the findings of the Commission's 2019 [ex-post evaluation](#) of the implementation of the ODS Regulation, and especially its findings under the 'effectiveness' criterion, focused on establishing whether the objectives of the regulation are being met as a result of its implementation.
- ⁶ Following the definition given in Article 3(11) of the ODS Regulation, 'feedstock' means any controlled substance or new substance that undergoes chemical transformation in a process in which it is entirely converted from its original composition and whose emissions are insignificant.
- ⁷ Following the definition given in Article 3(12) of the ODS Regulation, 'process agents' means controlled substances used as chemical process agents in the applications listed in Annex III to the regulation.
- ⁸ The ODS Regulation applies to five substances not covered by the Montreal Protocol, namely: halon 1202, methyl chloride, ethyl bromide, trifluoriodomethane and n-propyl bromide, which are listed in Annex II to the ODS Regulation as 'new' ones.
- ⁹ Evaluation of Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer, [SWD\(2019\)407 final](#), European Commission, 2019.
- ¹⁰ The rules concerned are established by: [Commission Regulation \(EU\) 537/2011](#) on the mechanism for the allocation of quantities of controlled substances allowed for laboratory and analytical uses in the EU, [Commission Regulation \(EU\) No 291/2011](#) on essential uses of controlled substances other than hydrochlorofluorocarbons for laboratory and analytical purposes in the EU, [Commission Decision 2010/372/EU](#) on the use of controlled substances as process agents under Article 8(4) of Regulation (EC) No 1005/2009, and [Commission Regulation \(EU\) No 744/2010](#) as regards the critical uses of halons.
- ¹¹ Support study for the evaluation of Regulation (EC) 1005/2009 on substances that deplete the ozone layer, [Final report](#), 2019.
- ¹² Some ODSs are allowed for use as feedstock for the manufacture of products such as refrigerants, polymers, foam blowing agents, pharmaceuticals and agricultural chemicals.
- ¹³ Ozone depleting substances – aggregated data reported by companies on the import, export, production, destruction, consumption, feedstock and process agent use of ozone depleting substances in the European Union, 2006-2018, [annual report](#), European Environment Agency, 2019.
- ¹⁴ It should be noted though that the isolated effects of the implementation of EU legislation could not be easily distinguished from the effects of the efforts made in other regions across the globe.
- ¹⁵ This assessment is based on modelling studies.
- ¹⁶ The EEA clarifies the metric as follows: 'Consumption integrates the statistics on imports, exports, production and destruction of controlled substances into one single metric, excluding non-virgin imports and exports. Amounts that are produced and imported for feedstock use within the EU and process agent use are not included in consumption figures, in line with calculations applied under the Montreal Protocol. New substances listed in Annex II to the ODS Regulation are also excluded from consumption data'.
- ¹⁷ The EP 'written questions' database was searched on 19 January 2022. It covered three EP legislatures, namely the seventh (2009-2014), eighth (2014-2019) and ninth (2019-2024). The following key words were used: 'ozone', 'ozone layer', 'depletion', 'ozone layer depletion', 'depletion of the ozone layer', 'substance(s) depleting the ozone layer', 'ozone depleting substances', the name and number of the regulation and the full names and abbreviations of the individual ODS mentioned in the previous sections of this briefing.

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