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An assessment of civilian outdoor rifle and pistol shooting ranges in Europe

**A report compiled by
the European Shooting Sports Forum (ESSF)**



1. Introduction

The European Chemicals Agency (ECHA) published its formal opinion for restricting lead in ammunition in March 2023. It proposed that the EU should restrict the use of lead ammunition in hunting and sport shooting. This will also affect EEA countries and Northern Ireland. Indoor shooting disciplines and non-civilian uses are excluded from the scope of the proposed restriction.¹

The following restrictions are proposed by ECHA:

- *Lead shot*: Ban placing lead shot on the market together with a ban on its use for hunting. A transitional period of 5 years. However, ECHA's committees (RAC and SEAC) consider the proposed 5 years too long and propose 18 months.
- *Centrefire lead ammunition for rifles*: Ban the use of lead bullets for hunting (seal hunting and full metal jackets excluded). A transitional period of 18 months.
- *Rimfire lead ammunition for rifles*: Lead rimfire bullets can be used for hunting for 5 years. This transitional period is combined with a review to consider whether good alternatives are available before the end of 5 years.
- *Lead shot in shooting ranges*: Ban on the use of lead shot for sport shooting, with a transitional period of 5 years. However, a very narrow use of lead shot can continue if shooting ranges have extensive risk management measures in place (for example, annual lead recovery of at least 90%).
- *Bullets in shooting ranges*: Ban the use of lead rifle and pistol ammunition for sports shooting. A transitional period of 5 years. The use of lead bullets can continue if ranges have specific risk management measures in place as defined by ECHA (*'the specific derogation conditions'*).

As regards the specific derogation conditions, ECHA has proposed that lead bullets can be used at civilian outdoor rifle and pistol shooting ranges provided that they are equipped with: EITHER (1) trap chambers;² OR (2) 'best practice' sand traps consisting of a sand berm

¹ The use of gunshots at wetlands has already been regulated by the EU; see *Commission Regulation (EU) 2021/57 of 25 January 2021 amending Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards lead in gunshot in or around wetlands*, OJ L 24, 26.1.2021.

² ECHA has defined a 'trap chamber' as "a fully enclosed structure that is isolated from the underlying ground, with the exception of an opening towards the firing point, that is used to capture and retain fired projectiles. Trap chambers can be constructed of various

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with (a) an impermeable barrier to soil; (b) an overhanging roof or a permanent cover; and (c) a water management system.³

The European Commission (EC) is presently assessing the ECHA's opinion. The EC may publish its legal proposal in the second half of 2024 to advance discussions in the EU REACH Committee (between Member States and the EC). These discussions could take several months before a vote is cast (depending on the level of debate). After the REACH Committee, the legal proposal will be subject to 3 months "scrutiny" in the European Parliament and the Council of the European Union.

If enacted, the proposed restriction would become effective five years after the Commission regulation is published and would cover both centrefire and rimfire ammunition.

Reason for the ESSF survey

Following concerns about the ability of outdoor rifle/pistol "bullet" shooting ranges to comply with ECHA's proposed derogation conditions and the lack of detailed information at hand for ECHA, the European Shooting Sports Forum (ESSF) decided to gather more information⁴. The survey questions are in Annex I⁵.

Specifically, ESSF believed this survey was necessary because ECHA highlighted many uncertainties/assumptions/sensitivities in its assessment. For example, ECHA states:

"Despite extensive efforts by the Dossier Submitter (including the conduct of a Member States authority survey in 2020), it was not possible to obtain a detailed overview of the presence of risk management measures (RMMs) already in place at shooting ranges in the EU".⁶

materials but are typically made of metal"; ECHA, Final Background Document, 2 December 2022, page 25.

³ ECHA, Final Background Document, 2 December 2022, pages 21-22. Water management systems must have "containment, monitoring and, where necessary, treatment of drainage water from projectile impact areas (including surface water run-off) to ensure compliance with the environmental quality standard (EQS) for lead specified under the Water Framework Directive"; see Opinion of the Committee for Risk Assessment (RAC) and the Committee for Socio-economic Analysis (SEAC) on an Annex XV dossier proposing restrictions on Lead and its compounds, 2 December 2022, page 2.

⁴ This forum comprises of the main shooting/hunting stakeholder organisations in Europe. The federations were asked to distribute the survey to their respective member association.

⁵ As indoor shooting disciplines are excluded from the scope of the proposed restriction, whenever "rifle and pistol" or "bullet" shooting ranges are mentioned in the present document, it is to be intended "outdoor rifle and pistol" or "outdoor bullet" shooting ranges.

⁶ ECHA, Final Background Document, 2 December 2022, page 455.

During ECHA's consultations, ESSF member organisations attempted to flag the complexities of shooting ranges in Europe and the already existing risk management methods and techniques, but those concerns were not properly assessed in the development of ECHA's opinion.

The survey, with 29 responses from EEA countries and the UK, was designed to gather data on the socio-economic impact of ECHA's proposal (Annex I).⁷ The survey aims, amongst other things, to gather information on the percentage of "bullet" shooting ranges in which the ECHA's proposed derogation conditions are in place.

The results show that a very low number of shooting ranges (**less than 6%** outside Germany, Luxembourg and the Netherlands) are already complying with the proposed derogation conditions.

Hence, the survey results raise serious concerns about ECHA's derogation conditions for the continued use of lead ammunition at bullet shooting ranges. More specifically, the results show that the current proposals from ECHA would have a detrimental effect on European civilian outdoor rifle and pistol shooting ranges and shooters. In this context, we foresee that the survey results will be very helpful for the EC, which is currently assessing ECHA's opinion.

The following sections provide updated information and cost estimates based on the information gathered from the member representatives of ESSF.

2. Common features of rifle and pistol shooting ranges

Civilian outdoor rifle and pistol shooting ranges, which vary considerably in size and type, typically consist of various firing lines and targets, backstops (to contain bullets and fragments), side berms (to contain ricochets), and noise absorbers. Targets are placed in front of either soil/sand walls or trap chambers to catch the bullets safely.

⁷ As there are 30 EEA States (27 EU Member States and the three EFTA States Iceland, Liechtenstein and Norway) plus the UK, the received 29 replies represent the total population to which valid inferences could be made. In addition, there are two supplementary replies from France (Fédération Française de Tir and La Fédération française de ball-trap), one from Norway (Norwegian Shooting Sport Federation) and one from Greece (Hellenic Hunters Confederation). Those supplementary replies have been carefully considered, although no figures in the calculations, like the number of shooting ranges in a specific country, are counted more than once.

Shooting ranges are complex structures consisting of various individual disciplines, like 30 metres wide running moose/boar/deer; 10, 25 and 50 m pistol ranges; 50-1000 m rifle ranges; and ranges for practical shooting (dynamic shooting or action shooting). The actual number of shooting disciplines and stands is typically significantly higher than the number of shooting ranges as such.

For those multiple discipline shooting ranges, which the majority of those are, their modification to the ECHA's derogation conditions would, therefore, entail the cumulation of various updating and reconstruction costs. For example, most existing shooting ranges in France are based on sand traps without running water management.⁸

All in all, civilian outdoor rifle and pistol shooting ranges have different constructions and designs, use and climatic conditions in various parts of Europe, meaning that different solutions are applied in terms of safety, maintenance and the environment. As an example, the number of best practice sand traps with roofs, as proposed by ECHA, is low in the Nordic countries due to the climate and magnitude of snowfall during winter. In fact, the overwhelming reason why structures proposed by ECHA have not been installed in many countries is that they are not necessarily suitable and that there are more efficient and cost-effective ways to manage risks at shooting ranges.

Considering the above, the best solution for a specific shooting range against environmental risk will vary greatly from one situation to another in terms of safety, need for maintenance, environmental factors and climatic conditions and, not least, finances.

3. Survey results

3.1 Number of shooting ranges

According to the survey results from 29 responding European countries, there are at minimum **19 514** civilian outdoor rifle and pistol shooting ranges varying from 1 in Liechtenstein to 10 000 in Germany (Annex II).⁹

As stated, shooting ranges are complex and normally provide a combination of various shooting disciplines, such as a 30 m running moose/boar/deer track; 10, 25, and 50 m pistol ranges; 50-1000 m rifle shooting ranges; and ranges for practical shooting.

⁸ Reply from the French Shooting Federation (French Fédération Française de Tir).

⁹ ECHA has estimated that there are around 16,000 shooting ranges (rifle and pistol ranges) in the EU; see ECHA, Final Background Document, 2 December 2022, pages 84 and 86.

Consequently, those **19 514** shooting ranges have more than **32 000** rifle (18 410) and pistol (13 924) shooting stands (Annex II).

3.2 Shooting ranges fulfilling the derogation conditions

The number of outdoor civilian rifle and pistol shooting ranges already fulfilling the proposed derogation conditions is low (Annex III).

However, some countries (Germany, Luxembourg, and the Netherlands) have indicated that 75-100% of their ranges fulfil the proposed trap chamber and/or the best practice sand trap requirements.

For decades, Germany has applied strict regulations on new and established shooting ranges. Ranges are, from the outset, individually planned, budgeted and implemented due to the existing regulations (German Shooting Range Guidelines based on the German Weapon Law).¹⁰ This process has taken decades, which is a relevant point in terms of the timelines proposed by ECHA.

Luxembourg does not have traditional outdoor civilian shooting ranges, and all ranges are "semi-outdoor" with covered trap chambers and firing points. Those installations are a requirement for the opening and continuation of a shooting range.¹¹

As regards the Netherlands, the proposed derogation conditions have been applicable for a long time, and the number of outdoor ranges is very limited, as almost all rifle and pistol shooting ranges are indoors.¹²

Out of **19 514** civilian outdoor rifle and pistol shooting ranges in the responding countries, **10 033** are in Germany (10 000), Luxembourg (8) and the Netherlands (25), and thus **9 481** in the rest of Europe.

Right from wrong, the calculations below are based on the presumption that all those ranges in Germany, Luxembourg and the Netherlands already comply with the proposed derogation conditions.

The implementation of the ECHA's proposal, if enacted as proposed, would however cause major challenges for the rest of **9 481** civilian outdoor rifle and pistol shooting ranges in Finland, Sweden, Norway, Denmark, Estonia, France, Bulgaria, Croatia, Romania, UK, Malta, Poland, Slovakia,

¹⁰ Reply to the survey from Germany.

¹¹ Reply to the survey from Luxembourg.

¹² Reply to the survey from the Netherlands.

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Liechtenstein, Ireland, Belgium, Cyprus, Slovenia, Austria, Czech, Greece, Latvia, Italy, Hungary, Portugal and Spain.¹³

Notably, some responding countries (Finland, Sweden, Norway, France, Poland, Slovenia, Czech, Hungary, Austria and Spain) indicate that some but *"less than 5% of their shooting ranges are complying with the proposed derogation conditions"*.¹⁴

As there appear to be some shooting ranges in those countries complying with the derogation conditions proposed by ECHA and for ensuring that the calculations are on a conservative side, the respective *"less than 5%"* have been counted as *"5%"*: Finland (34), Sweden (160), Norway (65), France (40), Poland (25), Slovenia (1), Czech (20), Hungary (10), Austria (25) and Spain (7). Moreover, Denmark (31-154) and Ireland (1-4) have estimated that 5-25% of their ranges align with the proposed derogation conditions.

In total, it is estimated that **418 to 544 (4.4 to 5.7%)** of the shooting ranges in the responding countries (outside Germany, Luxembourg and the Netherlands) are already complying with the proposed derogation conditions.

The above can be criticised as being an overestimation of the shooting ranges already fulfilling the proposed derogation conditions. This criticism is correct but *"less than 5%"* cannot be quantified because of the inherent variability between *"none" and 5%"*. Thus, the estimates are deliberately based on *"5%"* which is admittedly too high but anyway a method to replace the said data gap.

Therefore, it could be estimated that the number of bullet shooting ranges not complying with the ECHA's derogation conditions in the responding countries (without Germany, Luxemburg and the Netherlands) to the ECHA's derogation conditions is **at least 9 000** $[(9\ 481-418) + (9\ 481-544)]/2$.

3.3 Installation of water management systems

Water management systems (diverting runoff water, drainage, filtering, treatment, discharge and maintenance) can be expensive. For example,

¹³ Cyprus does not have rifle and pistol ranges; statement from Cyprus Shooting Sport Federation.

¹⁴ Denmark has indicated that 5% (31) to 25% (154) of shooting ranges (616) are complying. The same with Ireland: 5% (4) to 25% (7) of shooting ranges (14) are fulfilling the proposed derogation conditions.

Norway estimates that the cost of building such a system is €100 000 per shooting range.¹⁵

As the number of non-complying shooting ranges in the responding countries (without Germany, Luxembourg and the Netherlands) is **at least 9 000** and presuming that all those ranges must install a full water management system, the total cost of such installations would be **at least €900 million**.

3.4 Upgrading running target silhouette tracks

A running track is a rifle shooting sport and practice based on running a moose/wild boar/deer silhouette moving sideways. The survey shows that there are **2 080 to 3 025** of those tracks in the responding countries (outside Germany, Luxembourg and the Netherlands).

Norway estimates that the cost of building a sand trap with a roof (without water management system) will be around **€1 830 per metre**, which would be around €54 900 for each 30 metre running moose/wild boar track.¹⁶

The compliance cost to the ECHA's proposal would thus be between **€114 to 166 million** for constructing a complying running target sand trap with a roof (without water management system).

It is to be noted that running target silhouette tracks are in addition to and separate from other rifle and pistol shooting disciplines at the same shooting ranges.

3.5 Installation of trap chambers

The survey results show that shooting ranges in the responding countries (outside Germany, Luxembourg, and the Netherlands) either do not have trap chambers installed or have them installed in less than 5% of the ranges.

Trap chambers are expensive solutions, like steel and rubber bullet traps, bullet trap cassettes, and vertical steel plates. High-quality steel is costly, so it cannot normally be installed using volunteer labour, and the costs of operation/maintenance are high.

¹⁵ Reply to the survey from Norway.

¹⁶ Reply to the survey from Norway. This is supported by La Fédération française de ball-trap (FFBT - France) which states that "*La mise en place de l'isolant demanderait le démontage de la butte existante, puis l'installation du toit et des systèmes de traitement des eaux de drainage. Les coûts seraient supérieurs à 150 000 €*".

Sweden has estimated that the installation cost of installation trap chambers (STAPP) for 20 shooting positions will be €200 000, excluding excavation work.¹⁷ It has also pointed out that the cost of constructing a military rifle range for 20 shooting stands in terms of the ECHA's derogation conditions is €700 000 including excavation work. Additional annual maintenance cost is €10 000 – 30 000.¹⁸

As purchase of trap chambers, their installation and maintenance are expensive, it is presumed that only **10% (900) or 20 % (1 800)** of the respective shooting ranges (**9 000**) will install them for 20 shooting stands with the cost of **€200 000**.

The total installation cost (excluding excavation work) of trap chambers would be around **€180 to €360 million**.¹⁹

3.6 Upgrading soil/sand traps

Out of at least **9 000** non-compliant shooting ranges in the responding countries (without Germany, Luxembourg and the Netherlands), it is presumed that around **900 (10%) or 1 800 (20%)** of those would resort to trap chambers, and therefore the task of upgrading soil/sand traps concerns at least **7 200 to 8 100** shooting ranges.

Various kinds of sand/soil bullet traps are used on almost all the ranges in the responding countries, and those traps operate properly in terms of safety, cost, and maintenance.

However, the proposed derogation conditions require an impermeable barrier to soil, an overhanging roof or a permanent cover, and a water management system.

Upgrading shooting ranges to the proposed derogation conditions requires, at least, removing the existing sand/soil by heavy earthmoving equipment and labour, installing the insulation, and building up a roof or permanent cover. As regards drainage water systems, different environmental

¹⁷ <https://www.stapp.se>. This has also confirmed by the German Shooting Sport and Archery Federation by stating that "the costs for trap chambers (steel traps with granules filling which would also be used outdoor) are around €300 000 for 30 lines 25/50 m without maintenance costs"; see ECHA, Final Background Document, 2 December 2022, page 406.

¹⁸ Reply to the survey from Sweden.

¹⁹ As stated above, the calculations are based on the presumption that all rifle and pistol shooting ranges in Germany (10 000), Luxemburg (8) and the Netherlands (25) already comply fully to the proposed derogation conditions.

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conditions bring different challenges with hot, cold, watery environments all presenting unique technical and design problems.

The cost of the proposed best practice sand traps (including excavation works) is estimated at €341 000 for a rifle range with a sand trap of 39 metres, €253 000 for a pistol range with a sand trap of 28 metres and €789 000 for practical shooting range with a sand trap of 94 metres.²⁰

As noted above, there remains **7 200 to 8 100** existing shooting ranges which do not comply with the proposed derogation conditions, and where the ECHA's proposed best practice sand trap must be installed.

The total cost of upgrading a rifle range with a sand trap of 39 metres (€341 000) to the ECHA's derogation conditions would be **€2 455 to €2 762 million**.

The total cost of upgrading pistol ranges with a sand trap of 28 metres (€253 000) to the ECHA's derogation conditions would be **€1 822 million to €2 049 million**.

As the number of practical shooting ranges is unknown, we cannot estimate the cost of upgrading those with a sand trap of 94 metres to the proposed derogation conditions. However, the French Shooting Federation (French Fédération Française de Tir) has estimated that one stand of practical shooting costs €50 000, and thus the cost of 10 stands would be €500 000. Finland has also estimated that the cost is €789 000 for a practical shooting range with a sand trap of 94 metres. However, the total number of practical shooting tracks in the responding countries has not been estimated.

3.7 Funds available

As regards funds available for upgrading outdoor civilian rifle and pistol shooting ranges to the proposed derogation conditions, almost all responding countries indicated that none or less than 5% of their shooting ranges have finances available for such an operation (Annex IV).

Without changes to those conditions, namely the bullet trap specifications and/or the strictly defined best practice sand traps, most shooting ranges will not be able to cater to the continued use of lead bullets because they do not have the capital needed to invest.

It is important to note that average civilian outdoor rifle and pistol shooting ranges are entities that do not normally operate at scale to enable business-like operations.

²⁰ Reply to the survey from Finland.

4. Comparison with the data used by ECHA

ECHA has estimated that there are **16 000** rifle and pistol shooting ranges in the EU. Half of those (**8 000**) are in Germany and equipped with bullet trap chambers which are legal requirement in the country.

As regards bullet containment within the rest of the EU rifle and pistol shooting ranges (8 000, excluding Germany), ECHA estimates that 5% of those have sand traps with impermeable layer to soil (400), 35% have sand traps without impermeable layer to soil (2 800), and 10% have soil berms (800).²¹

As noted above, ECHA does not have data related to the existing risk management measures at rifle and pistol shooting ranges, and thus cannot estimate whether they are equipped with an impermeable barrier to soil, an overhanging roof or a permanent cover, and a water management system.

5. Concerns

5.1 Underestimated costs

ECHA estimates that costs for upgrading the current risk management measures at bullet shooting ranges to meet the proposed derogation conditions are **€1 094 million**.

However, the current calculations based on the survey of 29 responding countries show that the estimated costs of the proposed measures would be around six times higher than that of the cost figure used by ECHA: **€5 481 to €6 237 million**.

Cost figures based on the survey are thus differing significantly from the ECHA's total of **€1 094 million** for upgrading all shooting ranges in the EEA States either by trap chamber or by best practice sand trap with impermeable barrier, roof or permanent cover, and water management system.²²

Difference between the figures may be explained by the ECHA's admission that the proposed derogation conditions have been set without knowing the existing risk management measures in place at shooting ranges in Europe.²³

²¹ ECHA, Final Background Document, 2 December 2022, page 86.

²² ECHA, Final Background Document, 2 December 2022, pages 410 and 412.

²³ ECHA, Final Background Document, 2 December 2022, pages 455-457.

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As that central aspect of the restriction proposal is not known, it seems obvious that ECHA has greatly **underestimated** the cost associated with the proposed restriction.

ECHA has also proposed that the owner of a shooting range must ensure that no agricultural activities occur at that location.²⁴

Some herbivores are grazing freely and migrating between different seasonal pastures. Regarding shooting ranges within those pastures, ECHA has neither assessed the risk management measures needed for animals to stop herding at those locations nor the economic consequences.

This is a major gap in ECHA's opinion because fencing costs, if a consequence of the proposed prohibition, would be one of the most expensive aspects of the whole proposal.

5.2 Availability of non-lead ammunition

It may be argued that observance of the proposed derogation conditions is not mandatory, as shooting at civilian outdoor rifle and pistol shooting ranges could continue using non-lead ammunition.

However, such an argument is incomplete. There are few, if any, properly functioning non-lead alternatives available in rimfire and small centrefire calibres, and the ammunition industry is far from being able to produce such ammunition at all or in sufficient quantities in terms of market demand. This is a fact, which was admitted by ECHA.²⁵

Moreover, there are thousands of different cartridges utilising hundreds of different bullet diameters ('calibres'). Although non-lead centrefire ammunition is made for sport shooting, those are more expensive for training and available only for the most popular cartridges and calibres.

²⁴ ECHA explains that "a ban of any agricultural use within site boundary would be the minimum RMM [risk management measure] to reduce risks to livestock"; see ECHA, *Compiled RAC and SEAC Opinion on an Annex XV dossier proposing restrictions on Lead and its compounds*, Final, 2 December 2022, page 2; and ECHA, *Background Document to the Opinion on the Annex XV dossier proposing restrictions on Lead in outdoor shooting and fishing*, Final, 2 December 2022, page 376.

²⁵ As regards rimfire bullets, ECHA has identified that "currently only limited alternatives are available on the EU market with little evaluation has been done yet of their technical suitability. Alternative small calibres do not yet achieve the same level of precision as lead ammunition": ECHA, Final Background Document, 2 December 2022, page 464.

When non-lead centrefire ammunition for sport shooting and training are neither affordable nor even available for some cartridges and calibres, shooters would either stop shooting or must replace their firearms with the associated extra costs.

5.3 No unacceptable risk

Non-civilian uses of lead ammunition have been excluded from the ECHA's restriction proposal. However, it is a fact that police, custom forces, frontier guards, national intelligence agencies, and army reservists frequently use civilian outdoor rifle and pistol shooting ranges for training in certain countries.

Excluding the non-civilian use of lead ammunition would lead to a situation whereby, for example, police and custom forces train at a shooting range with lead rifle and pistol bullets on certain days per week, while sport shooters and hunters are required to practice with non-lead bullets on other days of the week.

If civilian outdoor rifle and pistol shooting ranges cannot fulfil the proposed strict risk management measures, which is likely, it is doubtful whether the ECHA's proposal could fulfil the stated environmental objective.

The restriction process under REACH allows for the targeting of substances and their use that pose an unacceptable risk to human health and the environment.²⁶ For the risk to be '*unacceptable*' and to justify a restriction, it must be substantial and '*acceptable*' risks may not be countered by means of a restriction.²⁷

It would also be intrinsically controversial to claim that the use of the same lead rifle and pistol ammunition at the same shooting range would pose an unacceptable risk when used by civilians but an acceptable risk when used by non-civilians.

²⁶ Under Article 68(1) of REACH, the Commission is to impose restrictions when there is an *unacceptable risk* to human health or the environment arising from the manufacture, use or placing on the market of substances.

²⁷ See Opinion of Advocate General KOKOTT, delivered on 20 April 2023, Case C-558/21 P, Global Silicones Council and Others v European Commission, ECLI:EU:C:2023:320, paragraph 36.

5.4 Unreasonable transitional period

As regards the continued use of lead bullets at rifle and pistol shooting ranges, ECHA has proposed that the derogation conditions must be in place within five (5) years from the entry into force of the measure.

Unfortunately, such measures cannot be achieved within the proposed transitional period. The process including planning, permitting and construction would take for a minimum 1,5 years per one shooting range. In view of the high number of ranges to be reconstructed and the limited availability of planning consultants, permitting officials and construction companies then a significantly longer transition is needed.

Summary

Replying countries	29
Civilian outdoor rifle and pistol shooting ranges	19 514
Shooting stands	32 334
Shooting ranges fulfilling the proposed derogation conditions in Germany, Luxembourg, the Netherlands	10 033
Shooting ranges outside Germany, Luxembourg, and the Netherlands	9 481
Shooting ranges (outside Germany, Luxembourg, the Netherlands) fulfilling the proposed derogation conditions (rough estimation)	418-544
Shooting ranges not fulfilling the proposed derogation conditions	9 000
Running moose/wild boar tracks (outside Germany, Luxembourg, the Netherlands)	2 080 – 3 025
Shooting ranges (outside Germany, Luxembourg, the Netherlands) installing trap chambers (10%)	900
Shooting ranges (outside Germany, Luxembourg, the Netherlands) installing trap chambers (20%)	1 800
Shooting ranges (outside Germany, Luxembourg, the Netherlands) rebuilding sand/soil traps	7 200 –8 100
COSTS	
Installation of water management systems	€900 million
Rebuilding running moose tracks	€114 to 166 million
Installation of trap chambers	€190 to 360 million
Upgrading a rifle range with a sand trap of 39 metres	€2 455 to €2 762 million
Upgrading a pistol range with a sand trap of 28 metres	€1 822 to €2 049 million
Total upgrading cost	€5 481 to €6 237 million
ECHA's total upgrading cost estimate	€1 094 million

Annex I: Survey questions

Country:

Name of person completing the form:

Email address:

Questions:

1. Please give an estimate on the number of all permanent outdoor shooting ranges in your country where bullets are used (excluding shotgun ranges)?

Number:

Of this number:

Could you provide an estimate of the number of rifle ranges?

Could you provide an estimate of the number of pistol ranges?

2. Generally speaking, what percentage of permanent outdoor rifle/pistol shooting ranges in your country have moving targets (e.g. running wild boar and/or moose target) and/or practical shooting (i.e. where bullets are fired over a wide area)?

- None
- Less than 5%
- 5-25%
- 25-50%
- 50-75%
- 75-100%
- I don't know

3. Generally speaking, what percentage of permanent outdoor rifle/pistol shooting ranges in your country have ECHA's (above) derogation conditions already in place?

- None
- Less than 5%
- 5-25%
- 25-50%
- 50-75%
- 75-100%
- I don't know

More specifically:

- a. What percentage of permanent outdoor rifle/pistol shooting ranges in your country have ECHA's trap chambers in place?

- None
- Less than 5%
- 5-25%
- 25-50%
- 50-75%

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- 75-100%
 - I don't know
- b. What percentage of permanent outdoor rifle/pistol shooting ranges in your country have ECHA's best practice sand traps in place (i.e. roof, layer between sand trap and ground, and running water management system)?
- None
 - Less than 5%
 - 5-25%
 - 25-50%
 - 50-75%
 - 75-100%
 - I don't know
4. Could you talk to an outdoor rifle or pistol shooting range, which has ECHA's (above) derogation conditions in place and ask: Approximately how much did it cost to put these measures in place? (Note: Please specify the type of range including the disciplines shot e.g. if the range has moving targets and/or practical shooting, as we expect huge costs).
5. Could you try to find a "typical" outdoor rifle or pistol range in your country that does not have ECHA's (above) derogation conditions in place and ask: Please produce a rough cost estimate of putting these measures in place? (1. Trap chamber OR 2. Sand berm: building the roof, running water management, insulation between the soil and barrier. Note: Please specify the type of range including the disciplines shot, e.g. if the range has moving targets and/or practical shooting).
6. Generally speaking, what percentage of the permanent outdoor shooting ranges (without such derogation conditions) in your country have the budget/means to upgrade their facilities to meet these conditions?
- None
 - Less than 5%
 - 5-25%
 - 25-50%
 - 50-75%
 - 75-100%
7. What percentage of permanent outdoor rifle/pistol shooting ranges in your country have other types of RMMs?
- None
 - Less than 5%
 - 5- 25%
 - 25-50%
 - 50-75%
 - 75-100%

Annex II

	Country	Number of rifle/pistol shooting ranges and shooting positions		
1	Finland	All range sites	670	
		Rifle positions		1499
		Pistol position		247
2	Sweden	All range sites	3200	
		Rifle positions		2550
		Pistol position		650
3	Norway	All range sites	1300	
		Rifle positions		900
		Pistol position		400
4	Denmark	All range sites	616	
		Rifle positions		459
		Pistol position		157
5	Estonia	All range sites	51	
		Rifle positions		48
		Pistol position		48
6	France	All range sites	800	
		Rifle positions		500
		Pistol position		300
7	Germany	All range sites	10 000	
		Rifle positions		10 000
		Pistol position		10 000
8	Bulgaria	All range sites	103	
		Rifle positions		103
		Pistol position		103
9	Croatia	All range sites	27	
		Rifle positions		27
		Pistol position		27
10	Luxembourg	All range sites	8	
		Rifle positions		16
		Pistol position		9
11	Netherlands	All range sites	25	
		Rifle positions		25
		Pistol position		25
12	Romania	All range sites	10	
		Rifle positions		7
		Pistol position		10
13	UK	All range sites	300	
		Rifle positions		300
		Pistol position		0
14	Malta	All range sites	2	2
		Rifle positions		2
		Pistol position		
15	Poland	All range sites	500	
		Rifle positions		500
		Pistol positions		500
16	Ireland	All range sites	14	
		Rifle positions		14

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		Pistol positions		14
17	Slovakia	All range sites	50	
		Rifle positions		50
		Pistol positions		50
18	Liechtenstein	All range sites	1	
		Rifle positions		1
		Pistol positions		0
19	Belgium	All range sites	60	
		Rifle positions		40
		Pistol positions		55
20	Cyprus	All range sites		
		Rifle positions	0	0
		Pistol positions	0	0
21	Austria	All range sites	500	
		Rifle positions		400
		Pistol positions		100
22	Slovenia	All range sites	11	
		Rifle positions		9
		Pistol positions		11
23	Czech	All range sites	400	
		Rifle positions		400
		Pistol positions		400
24	Greece	All range sites	12	
		Rifle positions		8
		Pistol positions		12
25	Latvia	All range sites	3	
		Rifle positions		3
		Pistol positions		3
26	Hungary	All range sites	200	
		Rifle positions		50
		Pistol positions		150
27	Italy	All range sites	500	
		Rifle positions		350
		Pistol positions		500
28	Portugal	All range sites	11	
		Rifle positions		9
		Pistol positions		11
29	Spain	All range sites	140	
		Rifle positions		140
		Pistol positions		140
	TOTAL		19 514	
		Rifle positions		18 410
		Pistol positions		13 924

Annex III

	Country	Fulfilling the proposed derogation conditions (ECHA)	Fulfilling the proposed trap chambers (ECHA)	Fulfilling the best practice sand traps (ECHA)
1	Finland	<5%	<5%	None
2	Sweden	<5%	<5%	<5%
3	Norway	<5%	<5%	<5%
4	Denmark	5-25%	None	None
5	Estonia	None	None	<5%
6	France	<5%	<5%	<5%
7	Germany	75-100%	75-100%	5-25%
8	Bulgaria	None	None	None
9	Croatia	None	None	None
10	Luxembourg	75-100%	75-100%	75-100%
11	Netherlands	75-100%	50-75%	50-75%
12	Romania	None	None	None
13	UK	None	None	None
14	Malta	None	None	None
15	Poland	<5%	<5%	<5%
16	Ireland	5-25%	25-50%	<5%
17	Slovakia	N/a	N/a	N/a
18	Liechtenstein	N/a	N/a	N/a
19	Belgium	None	5-25%	<5%
20	Cyprus	No civilian outdoor rifle and pistol shooting ranges		
21	Slovenia	<5%	5-25%	<5%
22	Austria	<5%	<5%	<5%
23	Czech	<5%	<5%	<5%
24	Greece	None	None	None
25	Latvia	N/a	N/a	N/a
26	Hungary	<5%	<5%	None
27	Italy	None	<5%	<5%
28	Portugal	None	None	None
29	Spain	<5%	<5%	<5%

Annex IV

Country	Funds available for upgrading to the ECHA's derogation conditions
Finland	None
Sweden	<5%
Norway	None
Denmark	None
Estonia	<5%
France	<5%
Germany	<5%
Bulgaria	None
Croatia	<5%
Luxembourg	50-75%
Netherlands	75-100%
Romania	None
UK	5-25%
Malta	<5%
Poland	None
Ireland	<5%
Slovakia	None
Liechtenstein	N/a
Belgium	25-50%
Cyprus	No civilian outdoor rifle and pistol shooting ranges
Slovenia	None
Austria	<5%
Czech	None
Greece	None
Latvia	N/a
Hungary	None
Italy	<5%
Portugal	None
Spain	N/a

Annex V

Country	Number of shooting ranges	Moving targets	Estimated number of moving targets
Finland	670	42-45%	281-302
Sweden	3200	31%	992
Norway	1300	5-25%	65-325
Denmark	616	35	35
Estonia	51	50-75%	26-38
France	800	5-25%	40-200
Bulgaria	103	50-75%	52-77
Croatia	27	5-25%	1-7
Romania	10	50-75%	5-8
UK	300	5%	15
Malta	2	0	0
Poland	500	25-50%	125-250
Ireland	14	N/a	N/a
Slovakia	50	5%	3
Liechtenstein	N/a	N/a	N/a
Belgium	60	5%	3
Cyprus	No civilian outdoor rifle and pistol shooting ranges		
Austria	500	5-25%	25-125
Czech	400	5-25%	20-100
Greece	12	0	0
Latvia	3	5-25%	1
Hungary	200	5%	10
Italy	500	75-100%	375-500
Portugal	Prohibited		
Spain	140	5-25%	7-35
TOTAL			2 080-3 025