RESPONSE TO CONSULTATION ON THE RESTRICTION REPORT FOR LEAD AND IT COMPOUNDS

Impact assessment of the restriction on the European hunting community

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Executive summary

FACE launched a survey to collect input from hunters across the EEA on their views on the restriction proposal to ban the use of lead projectiles in hunting ammunition. The survey targeted individual hunters aiming to gather information on the current state of hunting for example in terms of firearms owned, and hunters' views on changes posed by the current restriction proposal. The survey was translated to 16 European languages and it ran for ca. 4 months in late 2020 and early 2021. It was opened by 97,220 respondents but answered by 18,284 participants based in 30 countries. The survey results are considered representative for all 7 million European hunters since it is assumed that hunters form a uniform population, and the number of responses is significantly larger than the minimum sample size suggested by Slovin's formula.

This study reports the findings of the survey and an impact assessment related to the survey results. The key findings from the impact assessment undertaken was the distress that European hunters are feeling towards the proposed restriction, the large numbers of firearms in Europe and the magnitude of the one-off costs related to replacing the unsuitable firearms. According to the survey there are in total 69 million firearms in Europe from which 34 %, 24 million, firearms are not suitable for non-lead ammunition. One-off costs related to the replacement of those firearms could potentially reach up to 14.5 Billion euros, although this is likely to be under-represented due to a conservative estimate used (10%) with respect to the potential unsuitability of rimfire rifles and that only "unsuitable" and not "limited suitability" shotguns were factored into the analysis.

The submitter requests that these data and costs are considered in the impact assessment of the Annex XV restriction report.

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Key findings from the impact assessment

The key learnings from the impact assessment undertaken was the distress European hunters are feeling towards the proposed restriction, the large numbers of firearms in Europe and the magnitude of the one-off costs related to replacing the unsuitable firearms. According to the exhaustive survey targeted for the European hunters there are in total 69 million firearms in Europe from which 34 %, 24 million, firearms are not suitable for non-lead ammunition. According to the results of this analysis there are 5.09 million unsuitable shotguns, 7.88 million centerfire ≤ 6.5 rifles and 13.29 million centerfire > 6.5 mm rifles in Europe. One-off costs related to the replacement of all unsuitable firearms could potentially reach up to 14.5 Billion euros, although this is likely to be underrepresented due to a conservative estimate used (10%) with respect to the potential unsuitability of rimfire rifles and that only “unsuitable” and not “limited suitability” shotguns were factored into the analysis.

A majority of the hunters are not in a position to readily comply with the proposed restriction. Thus, the restriction results in huge drops in the number of hunters. 25 % of hunters will stop hunting entirely and at least 30 % of hunters will hunt less frequently. Impact is felt most severely among the users of rimfire rifles and shotguns. Regarding the non-hunting shooting, at least 20 % of hunters will stop non-hunting shooting and approximately half of hunters will engage in non-hunting shooting less frequently. Impact is felt most severely among the users of rimfire rifles, shotguns and air-rifles.

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Introduction

Aims of the Analysis

This analysis aims to present the perspective of European hunters, their hunting activities and how they consider they will be impacted by the proposed restriction on lead ammunition. Information on firearms used in hunting activities, and information about hunters' views on changes posed by the restriction is presented. Information was gathered via an exhaustive online survey developed for this purpose. This analysis of the survey responses gives estimates for the number of firearms owned, for a breakdown for those used for hunting and non-hunting. Estimates for replacement costs of unsuitable firearms to discharge non-lead ammunition are also given. The aim is to give an understanding of the level of the quantities rather than to give exact figures of the firearms in Europe. This analysis assesses what would happen to European hunters in terms of different activities and firearms.

European hunters are represented by FACE[1], the European Federation for Hunting and Conservation, who commissioned this report. FACE was established in 1977 and represents the interests of Europe's 7 million hunters as an international non-profit-making non-governmental organisation. This makes FACE the largest democratically representative body for hunters in the world and probably one of the largest European civil society organisations. FACE is made up of its Members: national hunters' associations from 37 European countries including the EU-27. FACE also has 7 Associate Members and has its Secretariat in Brussels.

Methodology

This project involved information gathering from European hunters and national hunting associations, compilation and analysis of the information collected and a summary of the main findings and conclusions that can be drawn.

Surveys

Two surveys were prepared with input from FACE and launched during the information gathering phase. The first was more general and targeted national associations to gather background information. The second was more detailed and targeted at individual hunters to gather information on the current state of hunting for example in terms of firearms owned. For **shotguns**, the surveys differentiated between calibres, those where steel shot is generally available and those where it is not. Shotguns were also differentiated based on whether they would be suitable, have limited suitability, or be unsuitable to be reproofed/modified to fire steel shot. For **rifles**, the survey differentiated between rimfire and centerfire as this

[1] https://www.face.eu/

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is important in terms of the availability of non-lead rifle ammunition. For centrefire, the survey differentiates between ≤ 6.5 mm and > 6.5 mm calibers as this is also a relevant current distinction for the availability of non-lead rifle ammunition. **Short firearms**, **muzzle loaders** and **air-powered firearms** were considered separately. For these groups, the information collected included the number of firearms used for hunting and non-hunting, impacts on the proposed restriction and concerns related to the proposed restriction.

The hunter survey was translated to 16 European languages[2] and it ran for ca. 4 months in late 2020 and early 2021. The survey was an online survey, and it was promoted via FACE and national associations and open to all hunters. It was opened by 97,220 respondents and collected 18,284 responses. The survey for collected responses from hunters based in 30 countries[3]. The majority of the responses came from France, Finland, Germany and Sweden. The survey results are considered representative for all European hunters since it is assumed that hunters form a uniform population, and the number of responses is significantly larger than the minimum sample size suggested by Slovin's formula[4].

Assumptions and constraints

The key assumptions used in this analysis are listed below.

- There are 7 million hunters in Europe (most of which are linked to national hunting associations and thus in FACE)
- Survey results are representative of all European hunters
    - Results correlate with the reality e.g. 98 % of the respondents use shotguns for hunting and thus 98 % of the European hunters use shotguns for hunting.
- The following firearms are unsuitable (and/or with limited suitability) for non-lead ammunition:

[2] Bulgarian, Czech, Dutch, English, Estonian, Finnish, French, German, Greek, Italian, Latvian, Polish, Slovak, Slovenian, Spanish and Swedish.
[3] Austria, Belgium, Bulgaria, Croatia, Czechia, Cyprus, Denmark, Estonia, Finland, France, Germany, United Kingdom, Greece, Hungary, Ireland, Iceland, Italy, Latvia, Liechtenstein, Lithuania, Malta, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

[4] When it is not possible to survey an entire population (such as 7 M European hunters) Slovin's Formula can be used to give an idea how large sample size is needed. Slovin's Formula provides the sample size (n) using the known population size (N) and the acceptable error value (e): $n = N \div (1 + Ne^2)$. The resulting value of n equals the sample size to be used. If N is 7 M and e is 0.01 Slovin's formula suggest that n is 9,986. Thus sample size of more than 9,986 responses ensures a reasonable accuracy of results.

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- 10 % of Rimfire rifles (which is an ECHA percentage)[5]
- Shotguns UNSUITABLE (25 % of all shotguns)
- Shotguns LIMITED SUITABILITY (21% of all shotguns)
- Centerfire rifles ≤ 6.5 mm
- 10 % of short firearms (which is an ECHA percentage)
- Muzzle loaders
- Air-weapons

Key constraints of the analysis are listed below.

- It is possible that hunters (e.g. from countries where a ban on the use of lead ammunition has been in force for some time) who are not impacted by the restriction did not participate in the survey. This may skew the survey results and make for example impacts greater than in reality.
- In the survey it was left to the respondents to determinate if their shotguns are suitable, limited suitability or unsuitable.
- Due to the online nature of the survey, it may be the case that the 'more active' hunters completed the surveys, which may possess more firearms than 'average' or 'less active' hunters.

Firearm grouping

For shotguns, the report differentiates between those where steel shot is generally available (**10/12/16/20 calibre**) and those where it is not (**24/28/.410 calibre**). A second grouping for shotguns is based on whether or not they would need to be reproofed/modified to fire steel shot:

- **Suitable:** Shotguns capable for use with non-lead shot without testing/modification;
- **Limited suitability:** Shotguns capable for use with a limited range of non-lead shot cartridges without testing/modification (e.g. standard pressure, limited range of shot sizes);

[5] This figure of 10% is taken from ECHA's Annex XV Restriction report, which cites the California impact assessment, assuming that 10 % of firearms need to be replaced due to their dependency on rare calibres (Annex D: Impact assessment, page 369). This share is used in this report in the following calculations for rimfire rifles and short firearm. However, it is becoming clear that there are not accurate enough alternatives for .22 rimfire, so this is a very conservative percentage. It is more like 90-100% based on the latest accuracy testing of non-lead rimfire ammunition.

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- **Unsuitable:** Shotguns that are currently unsuitable for steel shot that require modification (e.g. to choke or chamber) or replacement and/or testing to ensure they support the pressures of alternatives.

Rifles are differentiated between rimfire and centerfire as this is important for the availability of non-lead rifle ammunition. Centrefires are also differentiated between **≤ 6.5 mm** and **> 6.5 mm** as this is also a relevant current distinction for the availability of non-lead rifle ammunition.

Table 1 Firearm grouping

Category for the purpose of this research	Sub-grouping based on firing mechanism and ammunition	Sub-grouping based on suitability for non-lead ammunition
Rifles	- Rimfire - Centerfire ≤ 6.5 mm - Centerfire > 6.5 mm	
Shotguns	- 10/12/16/20 gauge - 24/28/.410 gauge	
		- Suitable - Limited suitability - Unsuitable
Short firearms/handguns **(all short barrel firearms)**		
Muzzle loaders	(all antique and modern muzzle loaders)	
Air-powered firearms	Air rifles, air pistols	

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Hunting related industry in Europe

Supply chain

FACE has estimated that there are 7 million hunters in Europe. Typically, hunters own and use more than one type of firearm. According to the survey results, 98 % of the hunters hunt with a shotgun and 88 % with a rifle. A majority of hunters own at least one rifle of each type (rimfire, centerfire ≤ 6.5 mm and centerfire > 6.5 mm). The vast majority of the hunters own one or more **12 gauge shotguns**. Owning other shotgun types is less common.

A general overview from the lead ammunition supply chain is given below in Figure 1. It can be divided in four levels. Lead suppliers and producers are in the first level. Firearms manufacturers are partly included in this level because the specifications for ammunition comes from them. Firearms manufacturers are also present in the second level, manufacturing level, of the supply chain. Firearms manufactured can be divided into five different groups: shotguns, rifles, short firearms / handguns, muzzle loaders and air-powered firearms. Usually, firearms manufactures are so-called generalists having firearms from many of these groups in their portfolio. However, amongst them are also so-called specialists, focusing only on one type of firearm.

Ammunition manufacturers are in the second level of the supply chain. The main categories for ammunition can be presented as gunshot (shotshell), non gunshot (referred to commonly as bullet) and pellet. Firearms manufacturers are linked with ammunition manufacturers; gunshots are used with shotgun, bullets with rifles, short firearms and muzzle loaders, and pellets with air-powered firearms. Within gunshot and bullet categories there are many sub-categories. Gunshot manufacturers consist of projectile manufacturers, loaders and component manufacturers (excluding projectile). Bullet manufacturers consist of projectile manufacturers, rimfire and centerfire loaders, and rimfire and centerfire component manufacturers. Pellet manufacturing is a simpler process and it consist only of manufacturers. In addition, there are supporting companies e.g. for machinery, testing and OEMs. It is characteristic for the ammunition manufacturers that they perform many of these roles/activities. Same can be said for firearms manufacturers. Companies usually manufacturer many types of firearms.

Distributors and dealers are in the third level of the supply chain. The fourth level is consisted of consumers, namely hunters and sport shooters and associations which represent these individuals. It has been estimated that there are approximately 7 million hunters in Europe.

This analysis is focused on the fourth level of the supply chain, end-users.

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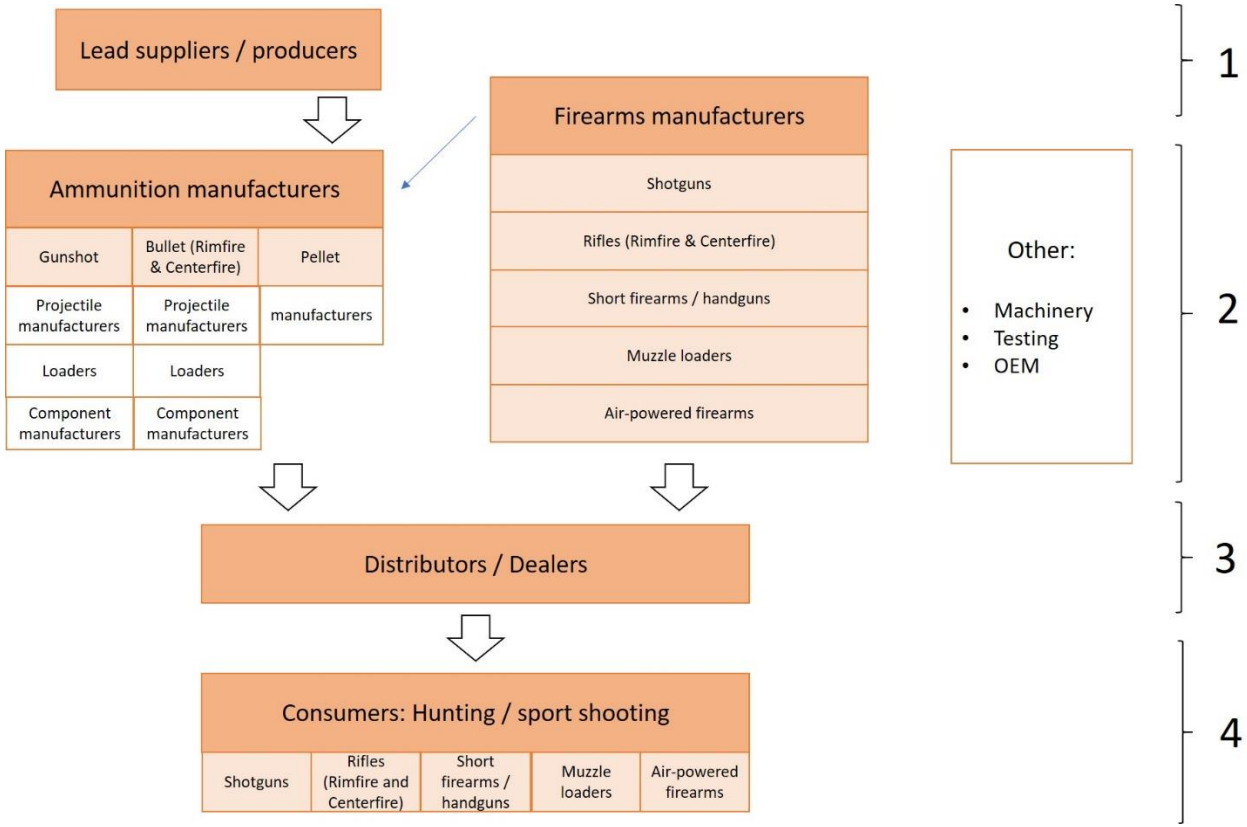

Figure 1 Supply chain

Descriptive hunting information on the firearms and activities

As outlined above, the survey results are assumed to be generally representative for the entire European hunting community. Therefore, the survey results reported below are seen equivalent to the community.

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Some of the results can however be extrapolated to cover the entire 7 million community. Such variables are, for example, the number of firearms owned. Extrapolation is performed via average answers. Extrapolation is performed multiplying the % of hunters for each scoring with 7 million for each firearms category to achieve number of hunters in a scoring per firearms category. This figure is then multiplied with each scoring, such as e.g. for 0, 1, 3, 4, 5 to 7, and 8 firearms owned, to achieve number of firearms in each scoring. If there is a gap in a scoring, an average of the lower and upper limit is use. For example, 6 in scoring 5 to 7. Lastly, the number of firearms per each scoring is summed together to achieve total number of firearms in Europe per firearms category. For example:

*(% of hunters in scoring zero * 7 M * firearms in scoring zero) + (% of hunters in scoring one * 7 M * firearms in scoring one) + … + (% of hunters in scoring eight * 7 M * firearms in scoring eight) = Number of firearms in Europe*.

A similar formula has been used in all extrapolation sections of this assessment.

Hunting with shotgun and rifle

98 % of European hunters hunt with shotgun and 88 % hunt with rifle. It is typical for hunters to use both firearms categories depending on the prey. Hunters would also use firearms for hunting and non-hunting activities (e.g. sports shooting).

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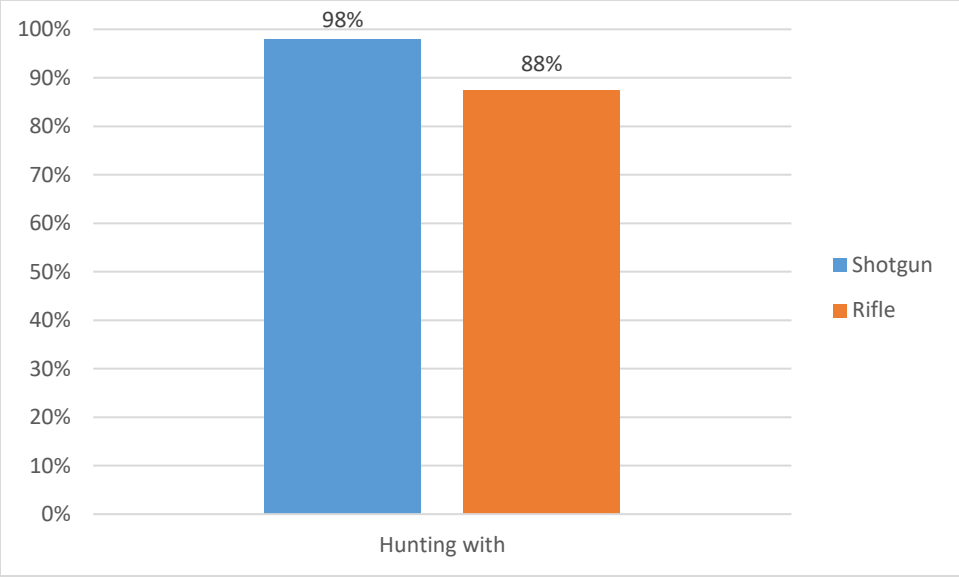

Figure 2 Overview of hunting

Firearms owned

Summary of firearms owned by hunters

This chapter focuses on how many firearms hunters own. The findings differentiate between the firearm categories: Rifles, shotguns by gauge, shotguns by suitability and other firearms (short firearms, muzzle loaders and air weapons). As can be seen from Figure 3, the number of firearms owned varies between firearm categories and also within certain type of firearms. The following figures shows the percentage of European hunters owning 0, 1, 2, 3, 4, 5-7 or more than 8 firearms per type.

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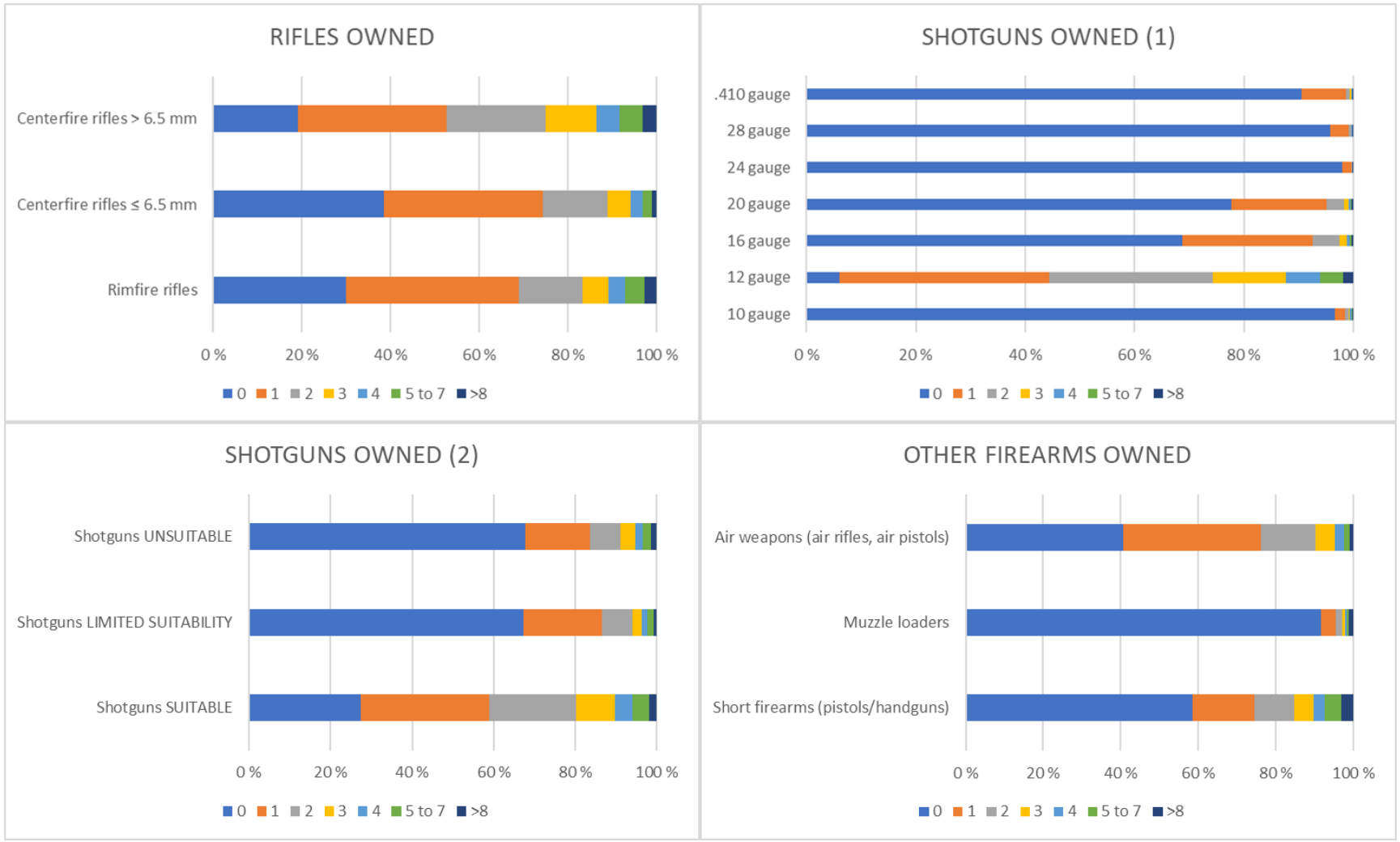

Figure 3 Overview of firearms owned

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Rifles

For all rifle types, rimfire, centerfire ≤ 6.5 mm and centerfire > 6.5 mm, the most common option is to own one firearm, as shown in Figure 3. A majority, 70 %, of the hunters own at least one rimfire rifle. 30 % of the hunters do not own a rimfire rifle, 39 % own one rimfire rifle and 31 % own two or more rimfire rifles.

A majority, 62 %, of the hunters own at least one centerfire ≤ 6.5 rifle. 38 % of the hunters do not own centerfire ≤ 6.5 rifles, 36 % own one centerfire ≤ 6.5 rifle and 26 % own two or more centerfire ≤ 6.5 rifles.

The vast majority, 81 %, of the hunters own at least one centerfire > 6.5 mm rifle. 48 % of the hunters own two or more centerfire > 6.5 mm rifles.

From all the rifle types it is the most common to own several centerfire > 6.5 mm rifles for the hunters. It is also worth noting that relatively large share of hunters, 7 % for rimfire and 8 % for centerfire > 6.5 mm, own more than five firearms of same type.

Shotguns by gauge

For most of the shotgun gauges, the dominant feature appears to be that hunters do not own a shotgun, as shown in Figure 3. A striking exception to that rule is 12 gauge where only 6 % of hunters do not own a shotgun and a majority, 55 % own more than one shotgun. In addition, 25 % of hunters own three or more 12 gauge shotguns.

Also 16 gauge and 20 gauge are shotgun types where owning at least one shotgun is more common than in most of the gauges.

Shotguns by suitability

It appears that it is common for hunters to own at least one suitable shotgun and rare to own one or more shotgun with limited suitability and unsuitable shotgun, as shown in Figure 3. For shotguns suitable for non-lead ammunition a majority, 73 %, of hunters own one or more and 41 % two or more shotguns. However, for shotguns with limited suitability for non-lead ammunition and unsuitable 67 % and 68 % respectively of hunters do not own a shotgun.

Other firearms

The number of owned firearms for other firearms: short firearms, muzzle loaders and air weapons are shown in Figure 3. Among hunters, it is rare to own a short firearm; 59 % of hunters reported that they do not own a short firearm. In addition, 25 % of hunters own two or more short firearms. Owning muzzle loaders is rare among hunters. 92 % reported that they do not own muzzle loaders. The number of air weapons owned is more scattered among hunters: 41 % reported that they do not own an air weapon, 36 % own one air weapon and 23 % own two or more air weapons.

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Extrapolation

The estimated number of firearms owned in Europe per type are outlined in Table 2.

Table 2 Number of firearms owned

Firearm type	Firearm category	Number of firearms in million	Number per type in million
Rifle	Rimfire rifles	10.40	31.56
	Centerfire rifles ≤ 6.5 mm	7.88	
	Centerfire rifles > 6.5 mm	13.29	
Shotgun by gauge	10 gauge	0.53	21.62
	12 gauge	14.25	
	16 gauge	3.09	
	20 gauge	2.20	
	24 gauge	0.24	
	28 gauge	0.45	
	.410 gauge	0.86	
Shotgun by suitability	Shotguns SUITABLE	11.17	20.64
	Shotguns LIMITED SUITABILITY	4.38	
	Shotguns UNSUITABLE	5.09	
Other firearms	Short firearms (pistols/handguns)	7.92	16.79
	Muzzle loaders	1.58	
	Air weapons (air rifles, air pistols)	7.29	

Number of firearms used solely for hunting

Summary of firearms used for hunting

This chapter focus on how many firearms hunters use solely for hunting. The findings are divided between firearm categories: Rifles, shotguns by gauge, shotguns by suitability and other firearms (short firearms, muzzle loaders and air weapons). As can be seen from Figure 4, the numbers of firearms used for hunting vary between firearm categories and also within certain types of firearm. The following figures shows the percentage of European hunters using 0, 1, 2, 3, 4, 5-7 or more than 8 firearms per type solely for hunting.

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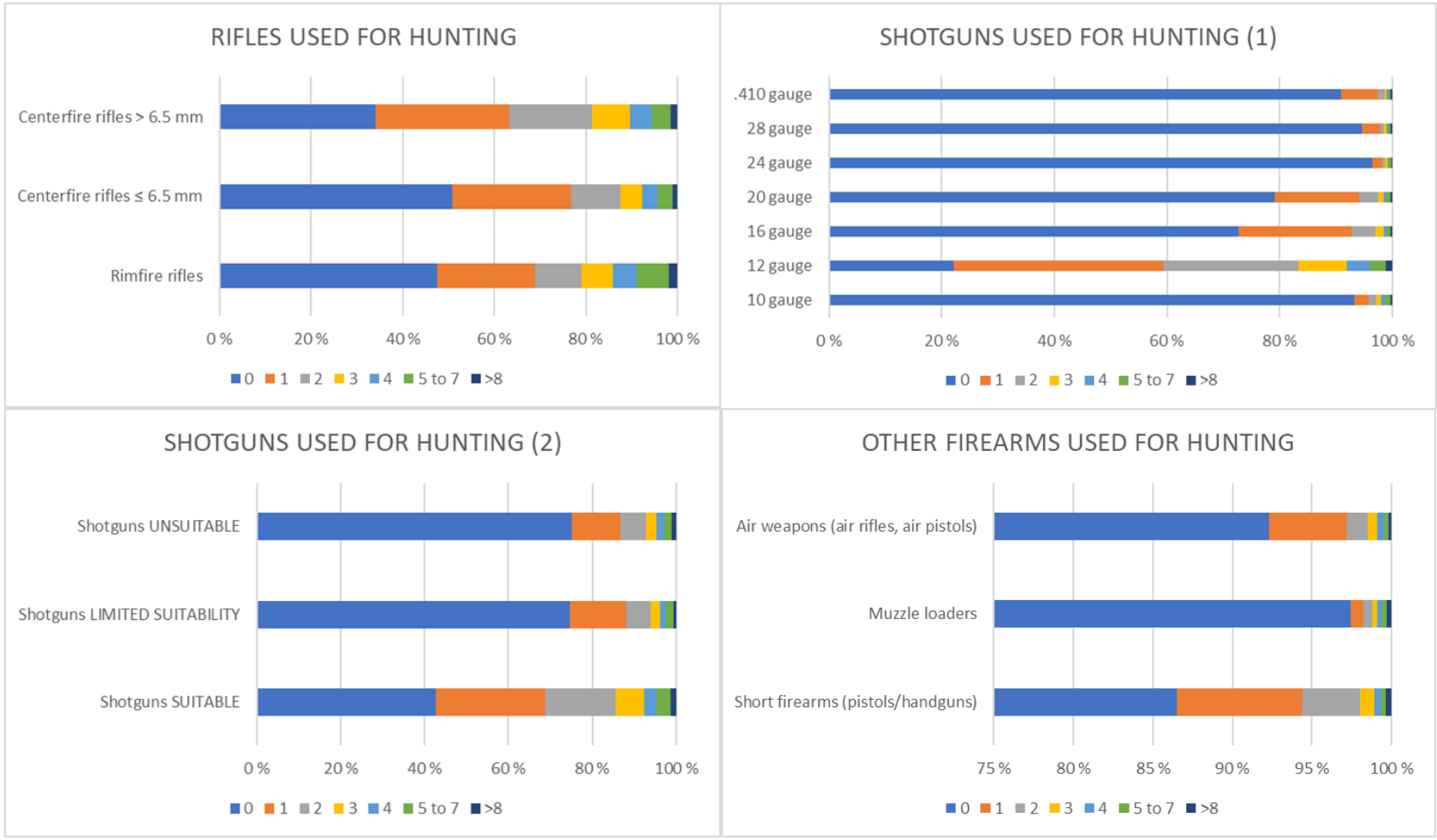

Figure 4 Firearms used solely for hunting

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Rifles

Concerning all rifle types: rimfire, centerfire ≤ 6.5 mm and centerfire > 6.5 mm the most common option for hunters is not to own a rifle used solely for hunting, as shown in Figure 4. However, for rimfire and centerfire > 6.5 mm, a majority of hunters use one or more rifle for hunting. The percentages are 52 % and 66 % respectively.

From all the rifle types, it is the most common to use several centerfire > 6.5 mm rifles solely for hunting. It is also worth noting that a relatively large share of hunters, 9 % for rimfire, use more than five firearms of same type solely for hunting.

Shotguns by gauge

For most of the shotgun gauges the dominant feature appears to be that number of shotguns used solely for hunting is zero, as shown in Figure 4. A striking exception to that rule is 12 gauge where 37 % of hunters use one and 41 % two or more shotguns solely for hunting.

In addition, 16 gauge and 20 gauge are shotgun types where using at least one shotgun solely for hunting is more common than in most of the gauges.

Shotguns by suitability

Also in this topic, firearms used solely for hunting, it appears that it is common for hunters to use at least one suitable shotgun and rare to use one or more shotgun with limited suitability and unsuitable shotgun solely for hunting. This is shown in Figure 4. For shotguns suitable for non-lead ammunition a majority, 57 %, of hunters uses one or more shotguns solely for hunting. However, for shotguns with limited suitability for non-lead ammunition (steel) and unsuitable 75 % and 75 % respectively of hunters reported that they do not use shotguns solely for hunting.

Other firearms

The number of firearms used solely for hunting for other firearms: short firearms, muzzle loaders and air weapons are shown in Figure 4. The common feature among hunters is that they do not use other firearms solely for hunting. For short firearms 87 %, muzzle loaders 98 %, and air weapons 92 % of the hunters do not use these firearms solely for hunting.

Extrapolation

The estimated number of firearms used solely for hunting in Europe per type are outlined in Table 3.

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Table 3 Number of firearms used solely for hunting

Firearm type	Firearm category	Number of firearms in million	Number per type in million
Rifle	Rimfire rifles	9.84	27.31
	Centerfire rifles ≤ 6.5 mm	7.25	
	Centerfire rifles > 6.5 mm	10.23	
Shotgun by gauge	10 gauge	1.36	20.11
	12 gauge	10.77	
	16 gauge	2.93	
	20 gauge	2.39	
	24 gauge	0.66	
	28 gauge	0.88	
	.410 gauge	1.12	
Shotgun by suitability	Shotguns SUITABLE	8.62	16.50
	Shotguns LIMITED SUITABILITY	3.76	
	Shotguns UNSUITABLE	4.12	
Other firearms	Short firearms (pistols/handguns)	1.71	3.29
	Muzzle loaders	0.58	
	Air weapons (air rifles, air pistols)	1.00	

Number of firearms used for both hunting and non-hunting

Summary

This chapter focus on how many firearms hunters use both for hunting and non-hunting. Findings are divided between firearm categories: Rifles, shotguns by gauge, shotguns by suitability and other firearms (short firearms, muzzle loaders and air weapons). As can be seen from Figure 5., the numbers of firearms used for both hunting and non-hunting vary between firearm categories and also within certain types of firearm. The following figures shows the percentage of European hunters using 0, 1, 2, 3, 4, 5-7 or more than 8 firearms per type for hunting and non-hunting.

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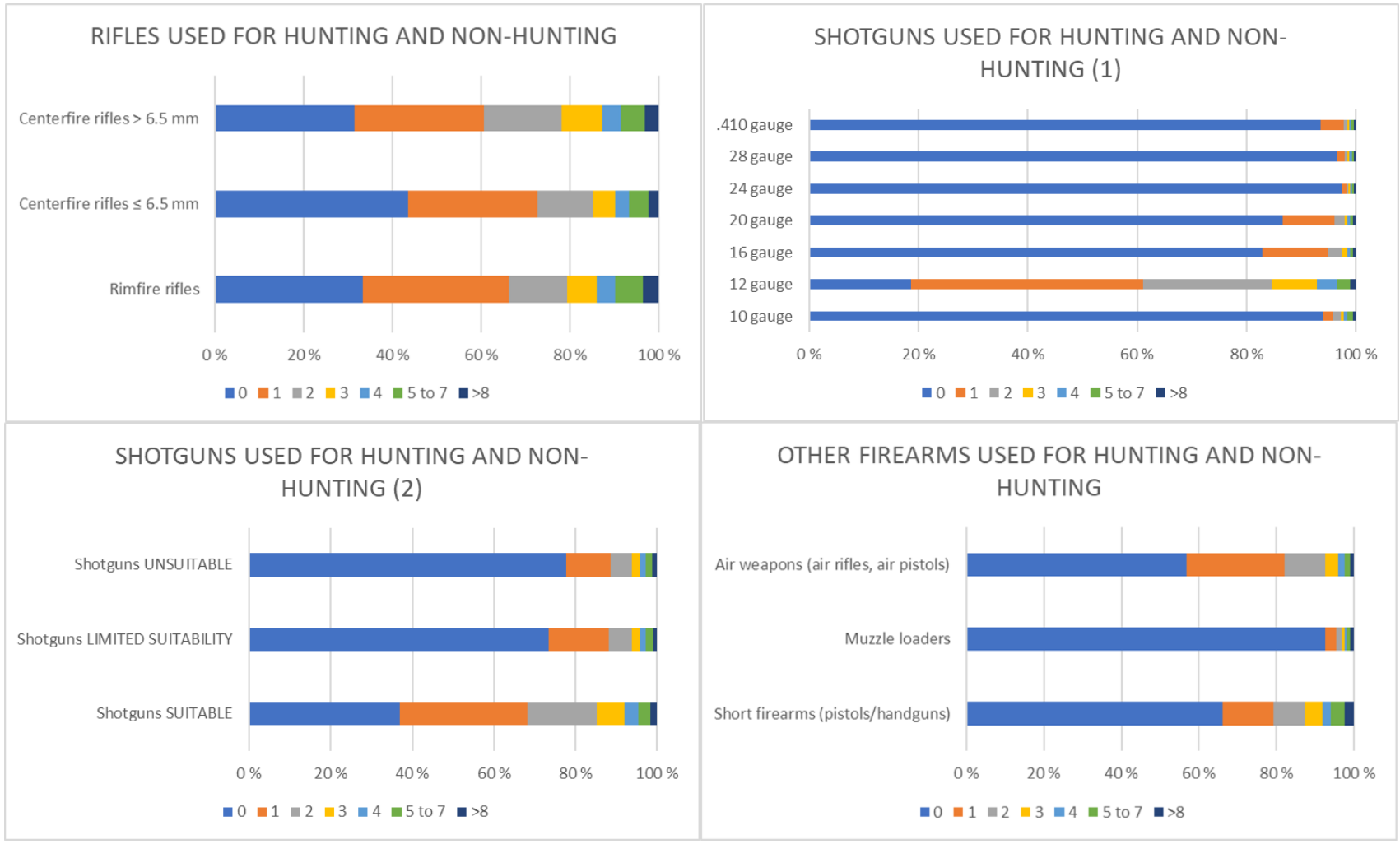

Figure 5 Firearms used for both hunting and non-hunting

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Rifles

Concerning all rifle types: rimfire, centerfire ≤ 6.5 mm and centerfire > 6.5 mm, it is most common for hunters to report that they do not own a rifle or to report use of one rifle for both hunting and non-hunting, as shown in Figure 5. However, for rimfire, centerfire ≤ 6.5 mm and centerfire > 6.5 mm 34 %, 27 % and 39 % respectively of hunters use two or more rifles for both hunting and non-hunting.

In addition, 10 % of hunters use more than five rimfire rifles and 8 % more than 5 centerfire > 6.5 mm for both hunting and non-hunting.

Shotguns by gauge

Again, for shotguns by gauge, the dominant feature among most of the gauges is that it is rare for a vast majority of hunters to use shotguns for both hunting and non-hunting as shown in Figure 5. 12 gauge is again an exception: 42 % of hunters use one shotgun and 39 % of hunters use two or more shotguns for both activities.

In addition, 16 gauge and 20 gauge are shotgun types where using at least one shotgun for both activities is more common than in most of the gauges.

Shotguns by suitability

Regarding firearms used for both hunting and non-hunting, it appears that it is common for hunters to use at least one suitable shotgun and rare to use one or more shotgun with limited suitability and unsuitable shotgun for both hunting and non-hunting. This is shown in Figure 5. For shotguns suitable for non-lead ammunition a majority, 63 %, of hunters uses one or more shotguns for both hunting and non-hunting. However, for shotguns with limited suitability for non-lead ammunition and unsuitable 73 % and 78 % respectively of hunters don't use shotguns for both hunting and non-hunting.

Other firearms

The number of firearms used for both hunting and non-hunting for other firearms: short firearms, muzzle loaders and air weapons are shown in Figure 5. The common feature again for this firearms category is that for hunters it is common to not use other firearms for both activities. For short firearms 66 %, muzzle loaders 92 %, and air weapons 57 % of the hunters do not use these firearms for both activities. However, compared to firearms used solely for hunting, this activity with non-hunting included the number of short firearms and air weapons increase measurably. It thus appears that among these firearms categories non-hunting is plays an important part in terms of the number of firearms used.

Extrapolation

The estimated number of firearms used for both hunting and non-hunting in Europe per type are outlined in Table 4.

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Table 4 Number of firearms used for both hunting and non-hunting

Firearm type	Firearm category	Number of firearms in million	Number per type in million
Rifle	Rimfire rifles	11.34	31.77
	Centerfire rifles ≤ 6.5 mm	8.81	
	Centerfire rifles > 6.5 mm	11.62	
Shotgun by gauge	10 gauge	1.358	18.12
	12 gauge	10.62	
	16 gauge	2.07	
	20 gauge	1.69	
	24 gauge	0.651	
	28 gauge	0.742	
	.410 gauge	0.98	
Shotgun by suitability	Shotguns SUITABLE	9.12	16.74
	Shotguns LIMITED SUITABILITY	3.97	
	Shotguns UNSUITABLE	3.647	
Other firearms	Short firearms (pistols/handguns)	6.47	13.62
	Muzzle loaders	1.62	
	Air weapons (air rifles, air pistols)	5.54	

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Impacts of the proposed restriction

High level impacts

The hunters were asked about expectations regarding a ban on the use of lead ammunition. The results are outlined in Figure 6. 93 % of hunters expect that they will be impacted by the restriction. 88 % of hunters expect that their use of shotguns will be impacted and 78 % of hunters expect that their use of rifles will be impacted by the restriction.

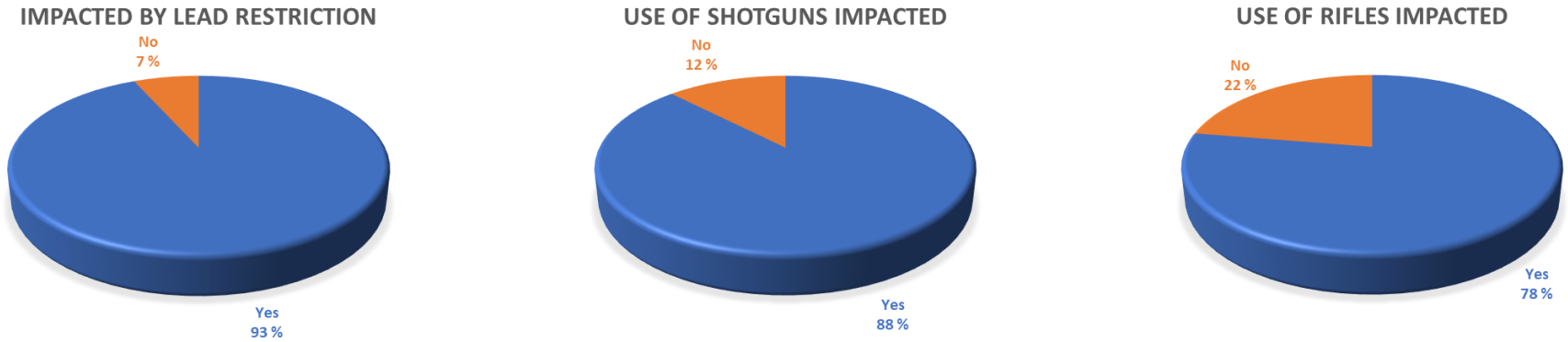

Figure 6 High level impacts of the proposed restriction

Specific impacts

Hunting

This chapter focus on how hunters foresee their hunting related activities to be impacted by a ban on lead-based ammunition. Possible impacts are assessed via four topics:

1) Changes to hunting activity,
2) stopping hunting completely,
3) hunting less frequently, and
4) engaging in less practice shooting before hunting.

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Firearms categories assessed are: 1) Rimfire rifle, 2) centerfire ≤ 6.5 mm rifle, 3) centerfire > 6.5 mm rifle, 4) shotguns, and 5) air-rifles. Opinions of the hunters are assessed via five scorings:

1) strongly agree,
2) agree,
3) neutral,
4) disagree and
5) strongly disagree.

The results are summarised in Figure 7.

Regarding changes to hunting, all firearm categories look quite similar. A majority of hunters either disagree or strongly disagree that there will be no change to their hunting activity. Disagreement is strongest within rimfire and shotguns categories. Regarding stopping hunting completely, there is a bit more variation between firearm categories. Nonetheless, the extremes, strongly agree and strongly disagree together with neutral opinion appears to be popular. It is worth noting that for all firearms categories approximately 25-35 % of hunters foresee themselves stopping hunting completely in case of a ban on lead-ammunition. Stopping hunting is most popular for rimfire rifle and shotguns. Opinions on hunting less frequently follow the same pattern than for stopping hunting completely. The extreme opinions together with neutral are the most popular options among hunters. In addition, depending on the firearms category approximately 30-45 % see themselves hunting less frequently. Hunting less frequently is most popular for rimfire rifle and shotguns. Regarding, practice shooting before hunting, hunters are strongly inclined to engage less in it for all firearms categories. Depending on the firearm category 50-65 % of hunters will practice less in a case of a ban on lead ammunition.

Impacts of the restriction on hunting can be concluded that hunters will have to endure unwanted changes to their hobby which results in at least 25 % of hunters stopping hunting and at least 30 % of hunters hunting less frequently. Impact is felt most severely among the users of rimfire rifles and shotguns. In addition, at least half of hunters will engage less in practice shooting before hunting which could turn out to be a huge safety issue.

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Figure 7 Impacts of the proposed restriction on hunting

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Non-hunting

This chapter focus on how hunters foresee their non-hunting related activities to be impacted by a ban on lead-based ammunition. Possible impacts are assessed via four topics:

1) Changes to non-hunting shooting,
2) stopping non-hunting shooting completely,
3) non-hunting shooting less frequently, and
4) stopping hunting & continuing non-hunting shooting.

Firearms categories assessed are: 1) Rimfire rifle, 2) centerfire ≤ 6.5 mm rifle, 3) centerfire > 6.5 mm rifle, 4) shotguns, and 5) air-rifles. Opinions of the hunters are assessed via five scorings:

1) strongly agree,
2) agree,
3) neutral,
4) disagree and
5) strongly disagree.

The results are summarised in Figure 8.

Regarding changes to non-hunting shooting, all firearm categories look quite similar. A majority of hunters either disagree or strongly disagree that there will be no change to their non-hunting shooting. Disagreement is strongest within rimfire and shotguns categories. Regarding stopping non-hunting shooting completely, there is a bit more variation between firearm categories. Nonetheless, the extremes, strongly agree and strongly disagree together with neutral opinion appears to be popular. It is worth noting that for all firearms categories approximately 20-30 % of hunters foresee themselves stopping non-hunting shooting completely in case of a ban on lead-ammunition. Stopping non-hunting shooting is most popular for rimfire rifle, shotguns and air-rifles. Opinions on non-hunting less frequently are divided among hunters. Still, the extreme opinions together with neutral are the most popular options among hunters. In addition, for all firearms category approximately 50 % see themselves engaging in non-hunting shooting less frequently. Hunters' opinions regarding stopping hunting and continuing non-hunting shooting are quite similar for all firearms categories. Most of the hunters disagree or are neutral on this topic.

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Impacts of the restriction on non-hunting shooting can be concluded that hunters will have to endure unwanted changes to their hobby which results in at least 20 % of hunters stopping non-hunting shooting and approximately half of hunters engaging in non-hunting shooting less frequently. Impact is felt most severely among the users of rimfire rifles, shotguns and air-rifles.

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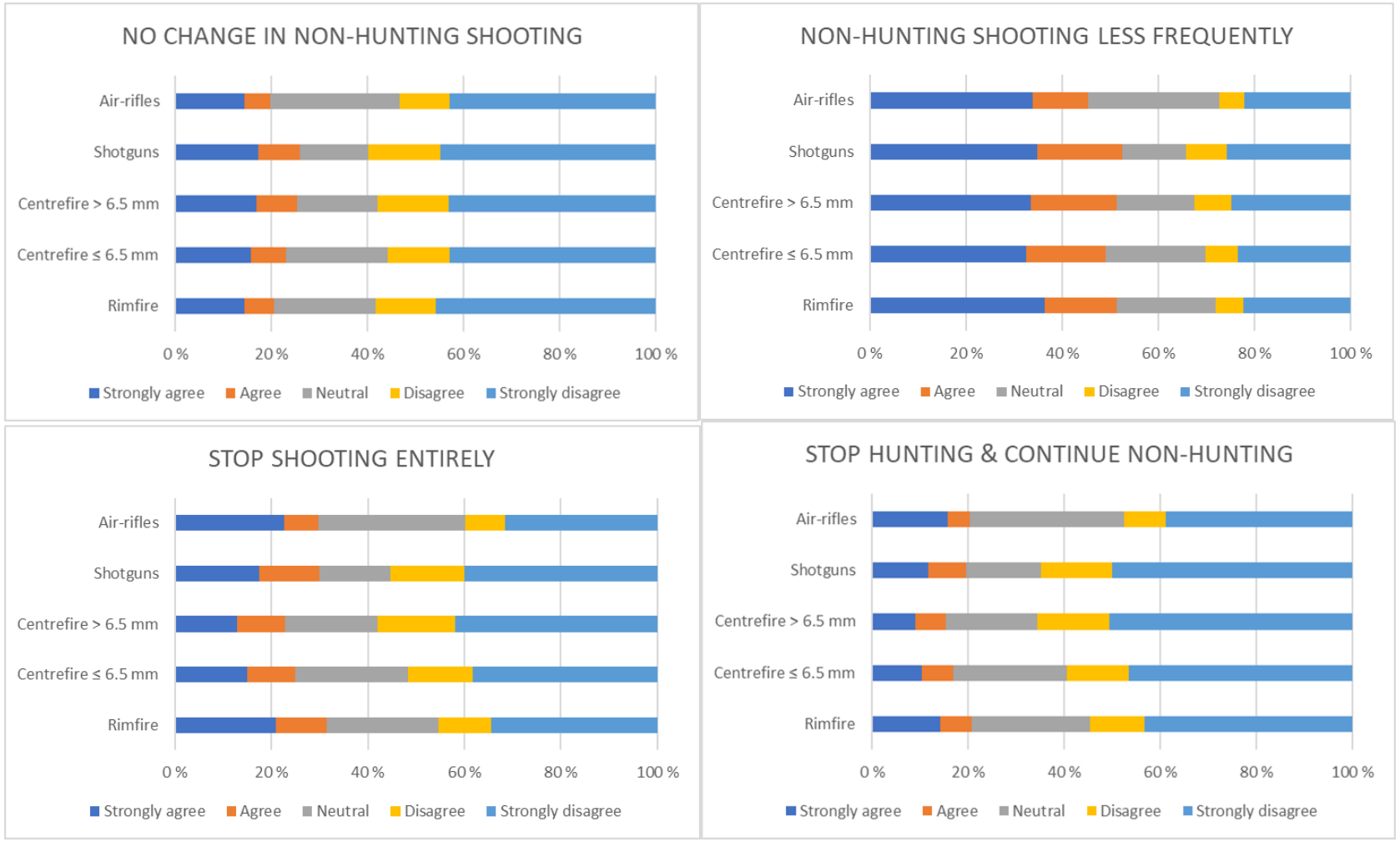

Figure 8 Impacts of the proposed restriction on non-hunting

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Safety risk

One finding apparent from the survey results is related to safety and risks of non-lead ammunition. The hunters were asked about their intention to use shotguns which are not steel proofed (including with unsuitable choke, insufficient pressure resistance, barrel chambering) following a ban on the use of lead in ammunition. As outlined in Figure 9, almost half of the hunters, 46 %, intend to use non- steel proofed shotguns. The current restriction proposal doesn't force hunters to modify their shotguns. Therefore, if this reluctance turns out to reality it poses a safety risk on the hunters, albeit self-inflicted.

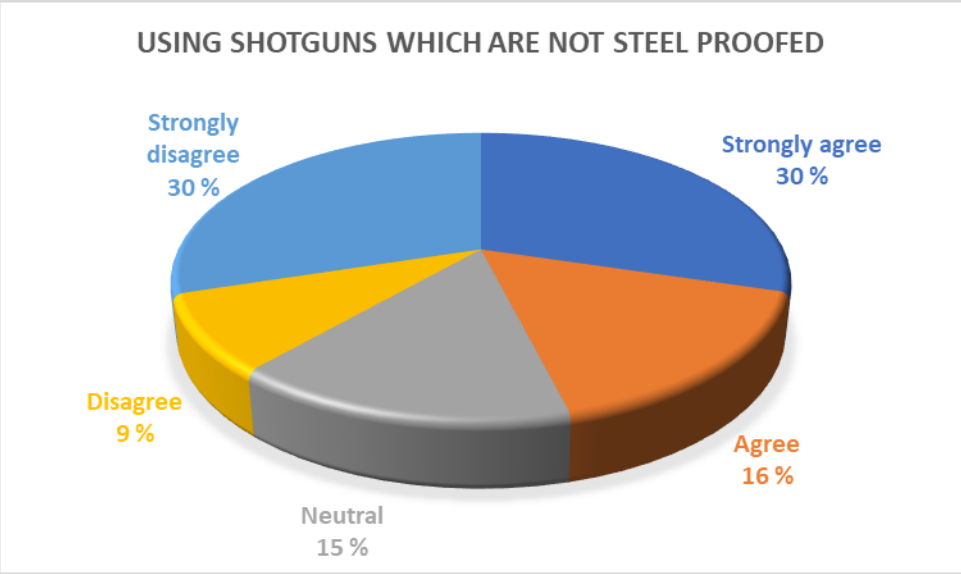

Figure 9 Intention to use shotguns which are not steel proofed

Position to comply with the proposed restriction

This chapter focus on hunters' readiness to comply with the ban and use non-lead ammunition. hunters were asked are they

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1) readily in a position to comply concerning for all shooting activities,
2) in a position to comply for hunting activities by 2030, and
3) in a position to comply for non-hunting activities by 2030.

Firearms categories assessed are: 1) Rimfire rifle, 2) centerfire ≤ 6.5 mm rifle, 3) centerfire > 6.5 mm rifle, 4) shotguns, and 5) air-rifles. Opinions of the hunters are assessed via five scorings:

1) strongly agree,
2) agree,
3) neutral,
4) disagree and
5) strongly disagree.

The results are summarized in Figure 10.

The results look similar for all topics and for all firearms categories. Approximately 65-70 % of hunters disagree that they are readily in a position to comply with for all shooting activities. Approximately 60-65 % of hunters disagree that they are in a position to comply for hunting activities by 2030. Approximately 55-60 % disagree that they are in a position to comply for non-hunting shooting by 2030.

It can be concluded that more time is needed for hunters to comply with the ban on lead-ammunition.

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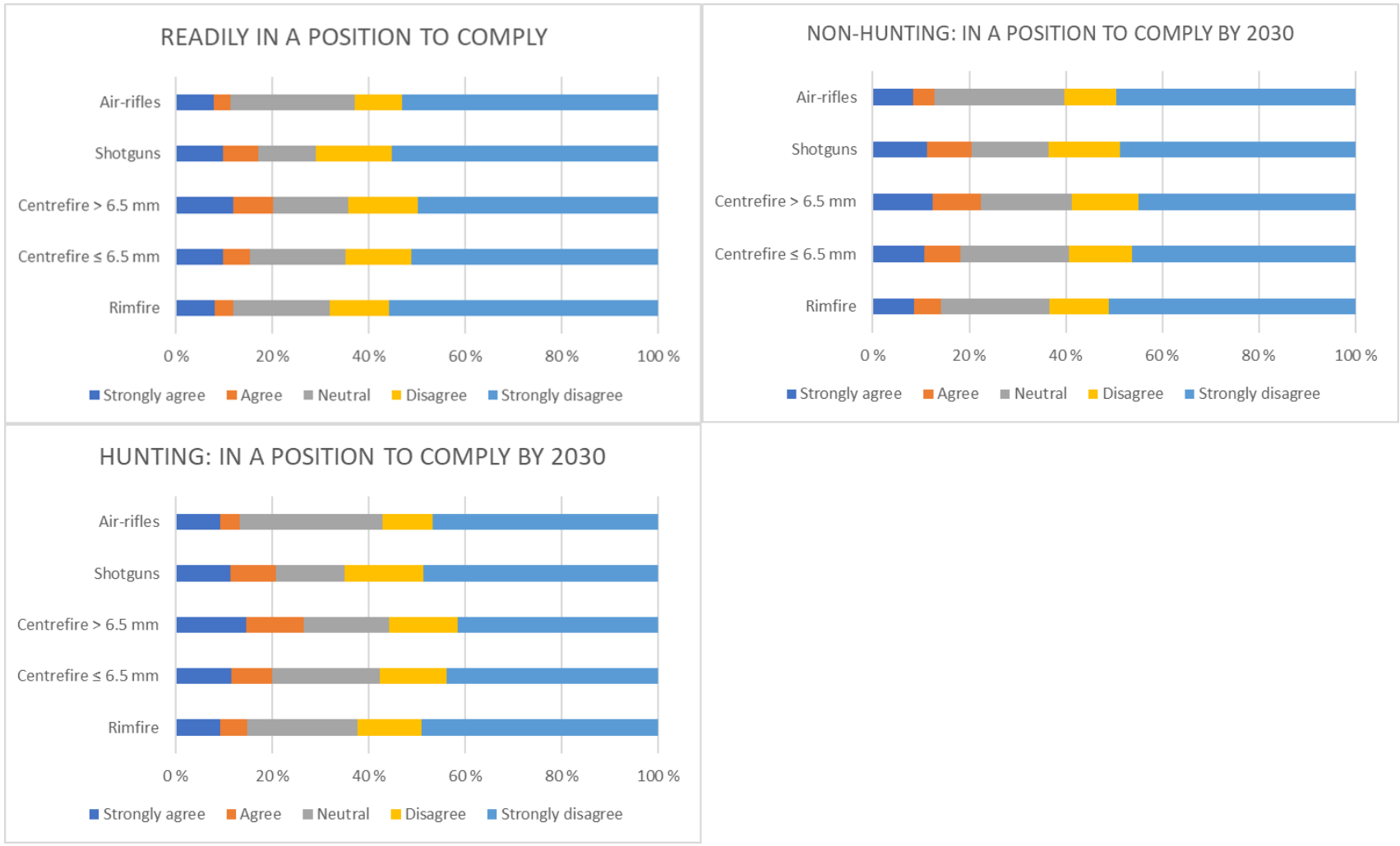

Figure 10 Readiness to comply with the proposed restriction by firearm type

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Concerns

This chapter assess the concerns hunters are feeling towards a ban on lead ammunition. Concerns are classified to concerns related to shotguns, concerns related to rifles and concerns related to cost of testing and modifying firearms:

- Concerns related to shotguns
  - Suitability of non-lead shot ammunition for my existing shotguns
  - Killing effectiveness and humaneness of kill with non-lead shot ammunition
  - Cost of non-lead shot
  - Safety aspects related to the use of non-lead shot
- Concerns related to rifles
  - Availability of non-lead rifle ammunition for my existing rifles
  - Killing effectiveness and humaneness of kill with non-lead rifle ammunition – for static animals
  - Killing effectiveness and humaneness of kill with non-lead rifle ammunition – for driven hunting
  - Ballistic performance of non-lead ammunition for my existing firearms
  - Cost of non-lead rifle ammunition – generally
  - Cost of non-lead rifle ammunition – for hunting
  - Cost of non-lead rifle ammunition – for non-hunting activities (e.g. practice)
  - Safety aspects related to the use of non-lead rifle ammunition
  - Cost of purchasing new rifles
- Concerns related to cost of testing and modifying firearms
  - Availability of testing
  - Cost of reproofing existing firearms
  - Costs associated with shooting practice with non-lead ammunition
  - Increased prevalence of accidents
  - Environmental impact of non-lead ammunition

Opinions of the hunters are assessed via five scorings: 1) strongly agree, 2) agree, 3) neutral, 4) disagree and 5) strongly disagree. The results are summarized in Figure 11, Figure 12 and Figure 13.

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Shotguns

All concern topics related to shotguns are similar to each other. Over 50 % of hunters are strongly concerned and approx. 15 % are concerned about suitability of non-lead ammunition, killing effectiveness and humaneness of kill with non-lead ammunition, cost of non-lead shot and safety aspects of non-lead ammunition. Cost of non-lead shot is the topic hunters are mostly concerned.

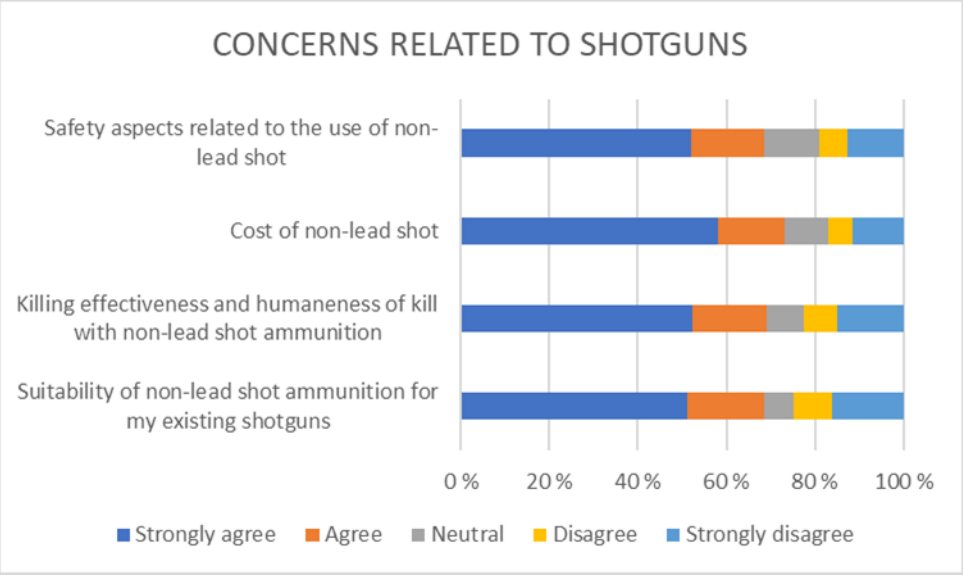

Figure 11 Concerns related to use of non-lead ammunition with shotguns

Rifles

All concern topics related to rifles look relatively similar to each other: Approx. 60 % of hunters are either strongly concerned or concerned about the topics. Topics related to costs: Cost of non-lead rifle ammunition (generally, for hunting and for non-hunting) and cost of purchasing new rifles are exceptions. Approx. 70 % of hunters are either strongly concerned or concerned about the topics.

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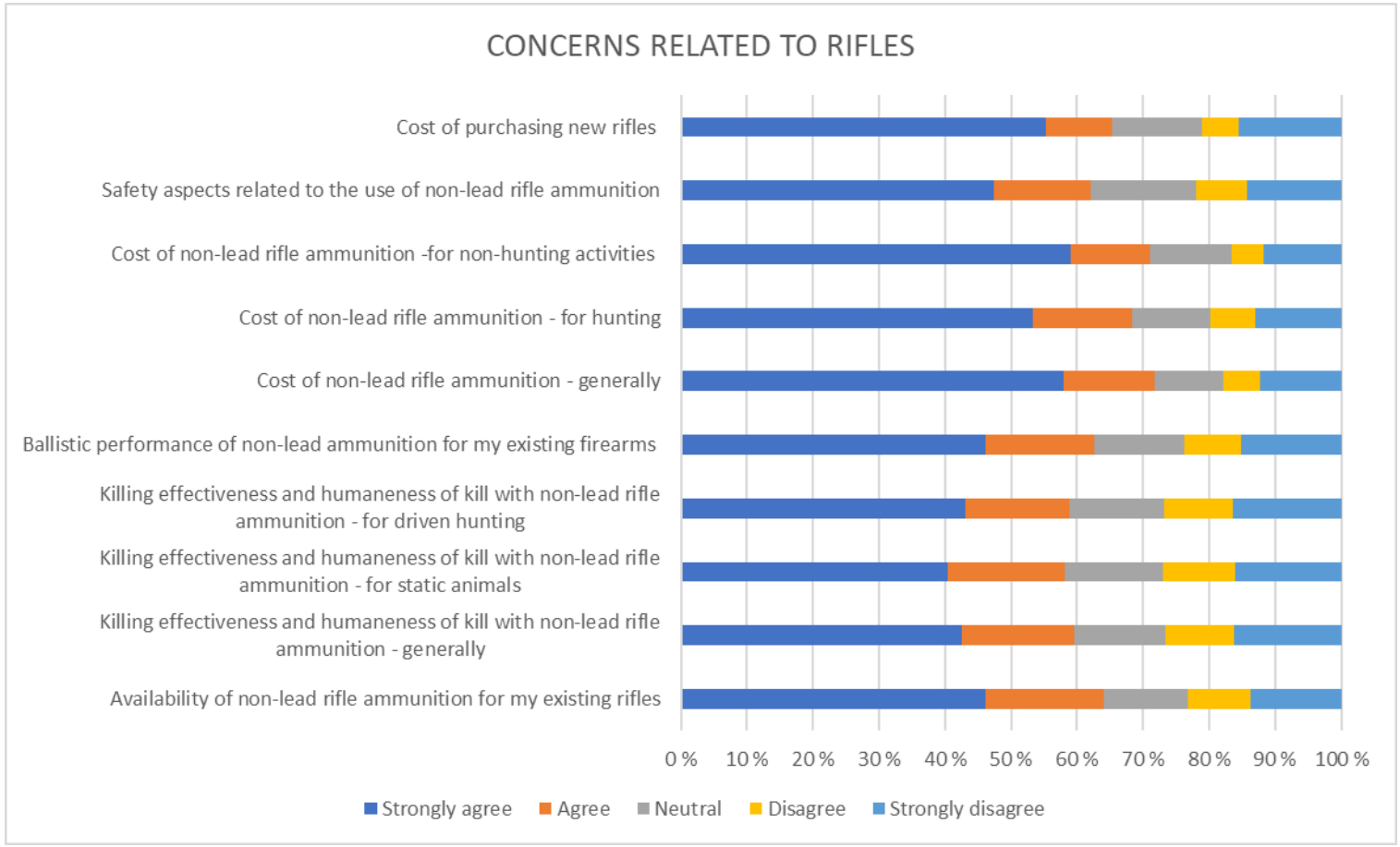

Figure 12 Concerns related to use of non-lead ammunition with rifles

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Cost of testing and modifying firearms

Concerns related to cost of testing and modifying follow the same pattern: A majority of hunters are either strongly concerned or concerned about these topics. Hunters are most concerned about cost of modifying firearms, cost of reproofing and costs associated with practice/target shooting. Approx. 70 % of hunters are either strongly concerned or concerned about these topics in case of a ban on lead ammunition.

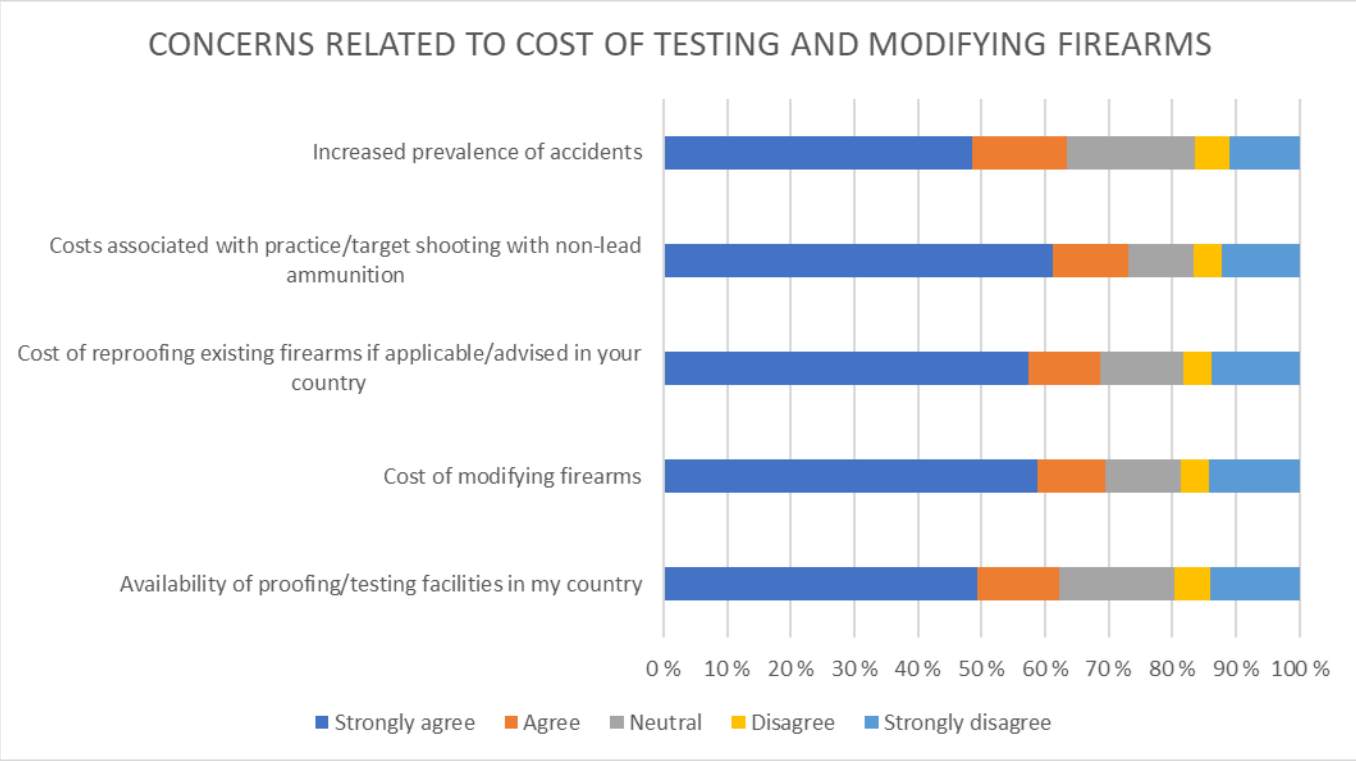

Figure 13 Concerns related to cost of testing and modifying firearms for non-lead ammunition

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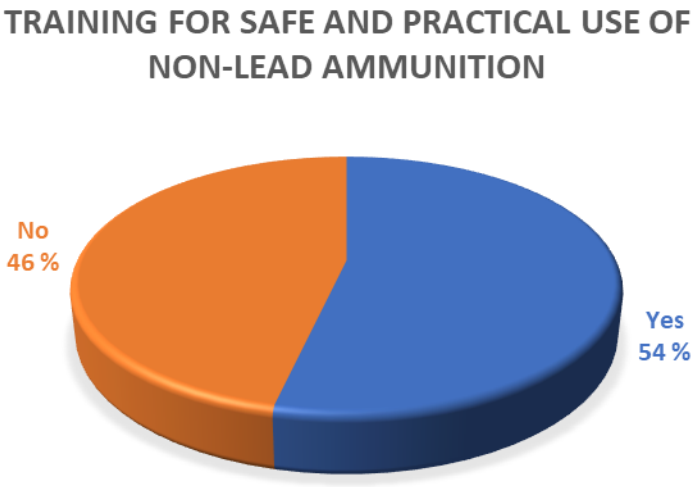
Training for safe and practical use of non-lead ammunition

54 % of hunters would like to see training provided in the safe and practical use of non-lead ammunition. 80 % of the hunters think that such training should be paid for by the EU.



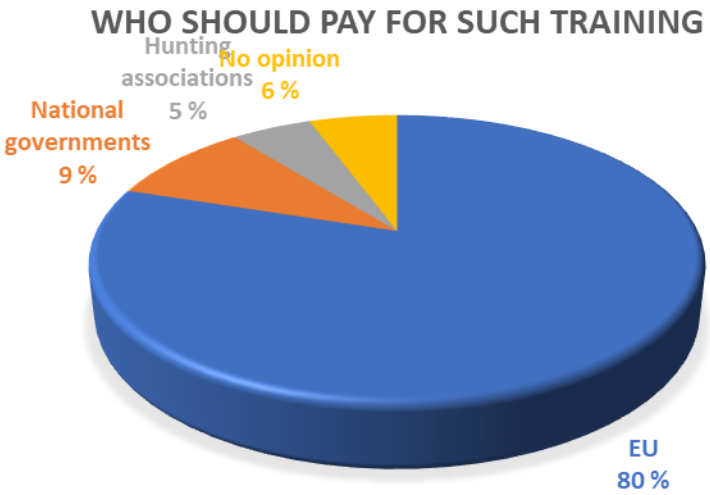


Figure 14 Training for non-lead ammunition

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Quantified impact of the proposed restriction

Number of firearms to be adapted/replaced

Shotguns

The Annex XV Restriction report suggest that 21 %, 15-20 % of shotguns (Annex D: Impact assessment, page 332) are not suitable for steel shot. Our study analysis estimates that 25 % of shotguns are unsuitable for steel shot, and 21% have limited suitability for steel shot, hence, could require modifications. The dossier submitter also did not have information on how many guns would fall into following categories: suitable, limited suitability and unsuitable (Annex D: Impact assessment, page 332), however, these data were generated in this study (see Table 5). According to the results of our analysis there are 5.09 million unsuitable shotguns in Europe and 4.38 million shotguns that have limited suitability. This is significantly more than estimated in the Annex XV Restriction report. The results of the extrapolation based on survey answers are outlined in Table 5.

Table 5 Number of shotguns per suitability based on survey respondents

Firearm category	Number of firearms in million	Share of all shotguns
Shotguns SUITABLE	11.17	54 %
Shotguns LIMITED SUITABILITY	4.38	21 %
Shotguns UNSUITABLE	5.09	25 %
Total	20.64	100 %

The ECHA dossier submitter has estimated that the cost for proof testing is 70 € and for choke modification 70 € per barrel (Annex D: Impact assessment, page 331). These costs have been applied below to the percentage of unsuitable shotguns, but could be applied to the 21% of shotguns with “limited suitability” to test/ensure they are more compatible with all types of steel shot. This analysis uses ECHA’s identified figures in two ranges: 140,00 € for modifications to 1000 € for replacement[6] (Annex D: Impact assessment, page 330). Just taking into account the unsuitable shotguns, using these figures, it can be concluded that the lower limit for making a shotgun suitable is 140 € and the higher limit is 1,000 €

[6] Note: FACE deems ECHA’s costs of 140.00 € for modification/adaptation and 1000.00 € for the replacement of a shotgun to be conservative.

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depending on the shotgun. Among European hunters, the total cost of making unsuitable shotguns suitable, either by modification or replacement, is thus between:

- Lower limit: 140 € * 5.09 M (unsuitable shotguns) = 713 million euros
- Higher limit. 1,000 € * 5.09 M (unsuitable shotguns) = 5,090 million euros

For a comprehensive analysis, the shares the dossier submitter has suggested are also analysed:

- 15 % of shotguns are unsuitable (ECHA percentage figure)
  - 15 % * 20.64 M =3.10 M unsuitable shotguns
    - lower limit: 140 € * 3.10 M = 433 million euros
    - higher limit: 1,000 € * 3.10 M = 3,100 million euros
- 21 % of shotguns are unsuitable (ECHA percentage figure)
  - 21 % * 20.64 M = 4.33 M unsuitable shotguns
    - lower limit: 140 € * 4.33 M = 609 million euros
    - higher limit: 1,000 € * 4.33 M = 4,334 million euros

It can be concluded that between 3.10 M and 5.09 M shotguns in Europe are unsuitable and thus need to be adapted or replaced. The cost of this is between 433 M and 5,090 M euros. These figures do not take shotguns with limited suitability into account. However, it is reasonable to suggest that hunters would also make adaptations or modifications to shotguns with limited suitability to ensure they could be used with a wider range of steel shot cartridges. For example, if all owners of the 4.38 million (limited suitability) shotguns wished to make modifications using the ECHA's cost estimate (140.00 euros), this would amount to a further 613.2 million euros. It is reasonable to suggest that a fair share of those "limited suitability" shotguns also need to be adapted/replaced if hunters are requiring same results and costs than with lead shot.

Rifles and short firearms

The Annex XV Restriction report cites the California impact assessment assuming that 10 % of guns are needs to be replaced due to their dependency on rare calibres (Annex D: Impact assessment, page 369). This share is used in the following calculations for rimfire rifles and short firearm. However, test results prove, it is becoming clear that there are not accurate enough alternatives for .22 rimfire, so 10% can be considered to be a very conservative percentage in this context. Therefore, it could be argued that it is more like 90-100% based on the latest testing results of the accuracy of non-lead rimfire ammunition. The following calculation assumes that centerfire ≤ 6.5 mm rifles are not suitable for non-lead

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ammunition and that centerfire > 6 mm are suitable for non-lead ammunition. The number of guns needed to be replaced are outlined in Table 6. To conclude 1.04 million rimfire rifles, 7.88 million centerfire ≤ 6.5 mm rifles and 0.79 million short firearms need to be replaced. For rifles, an average replacement cost is assumed to be 1,000 € and for short firearms 500 €.

Table 6 Number of rifles and short firearms to be replaced and related costs

Firearm category	Number of firearms in million	Number of unsuitable firearms in million	Average replacement cost €	Total replacement costs €
Rimfire rifles	10.40	1.04	1,000	1,040 M[7]
Centerfire rifles ≤ 6.5 mm	7.88	7.88	1,000	7,880 M
Centerfire rifles > 6.5 mm	13.29	0	1,000	0
Short firearms (pistols/handguns)	7.92	0.79	500	395 M

Total replacement cost for rimfire rifles is 1,040 million euros, 7,880 million euros for centerfire ≤ 6.5 mm rifles and 395 million euros for short firearms. In total for firearms using bullets the replacement cost is therefore 9,315 million euros

Other firearms

This analysis estimates that in Europe there are 1.58 million muzzle loaders and 7.29 million air weapons. Due to their nature these firearm types cannot be replaced and therefore replacement costs are not assessed. However, the restriction would make these almost 9 million firearms redundant.

[7] This figure is based on 10% unsuitability, which is taken from ECHA's Annex XV Restriction report. That report cites the California impact assessment, assuming that 10 % of guns are needs to be replaced due to their dependency on rare calibres (Annex D: Impact assessment, page 369). This share is used in this report in the following calculations for rimfire rifles and short firearm. However, it is becoming clear that there are no accurate enough alternatives for .22 rimfire, so this is a very conservative percentage. It is more like 90-100% based on the latest testing of the accuracy of non-lead ammunition.

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Table 7. Number of other firearms

Firearm category	Number of firearms in million
Muzzle loaders	1.58
Air weapons (air rifles, air pistols)	7.29

Summary

This assessment estimates that there are approximately 69 million firearms in Europe. Approximately 24 million firearms are not suitable for non-lead ammunition. This equals to 34 %. Replacing those firearms which can be replaced, will results in one-off cost of possibly 14,405 million euros. The amount of replaced guns and the related replacement costs are much higher than used in the Annex XV restriction proposal.

Conclusions

7 million European hunters are represented by FACE. Both rifles and shotguns are popular among the hunters. The most popular firearms are centerfire > 6.5 mm rifles and 12 gauge shotguns.

Only 30 % hunters are readily in a position to comply with the proposed restriction. However, the situation slightly improves over time. 35 % of hunters think that they are in a position to comply for hunting activities and 40 % for non-hunting shooting by 2030. Regarding the restriction, hunters are mostly concerned about the costs related to it, especially about the cost of modifying firearms, cost of reproofing and increased costs associated with practice/target shooting.

If the proposed restriction comes into place 25 % of hunters will stop hunting entirely and at least 30 % of hunters will hunt less frequently. Impact is felt most severely among the users of rimfire rifles and shotguns. Regarding the non-hunting shooting, at least 20 % of hunters will stop non-hunting shooting and approximately half of hunters will engage in non-hunting shooting less frequently. Impact is felt most severely among the users of rimfire rifles, shotguns and air-rifles.

In general, hunters seem to have a negative attitude towards the proposed restriction. This is likely due to unwanted changes and increased costs related to their hobby. According to the estimation of the survey results there are in total 69 million firearms in Europe from which 34 %, 24 million, firearms are not suitable for non-lead ammunition (leaving aside the shotguns which have limited suitability). One-off costs related to the replacement of those firearms could potentially reach up to 14.5 Billion euros. However, if the figure of 10 million hunters and sports shooters in Europe is used as estimated by the European Shooting Sports Forum (ESSF) rather than 7 million, this figure of 14.5 Billion euros would increase further. At the same time, there is a likely an underestimate of the costs associated with rimfire rifles, which is based on a figure of 10% unsuitability

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taken from ECHA's Annex XV Restriction report, which cites the California impact assessment, assuming that 10 % of guns are needs to be replaced due to their dependency on rare calibres (Annex D: Impact assessment, page 369). However, it is becoming clearer that there are not accurate enough alternatives for .22 rimfire, so this is likely to be a very conservative percentage (instead of 90-100% unsuitability). The same under-reporting must be noted with regards to the fact that only "unsuitable" and not "limited suitability" shotguns were factored into the cost analysis.

Key findings from the impact assessment

The key learnings from the impact assessment undertaken was the distress European hunters are feeling towards the proposed restriction, large number of firearms in Europe and the magnitude of the one-off costs related to replacing the unsuitable firearms. According to the exhaustive survey targeted for the European hunters there are in total 69 million firearms in Europe from which 34 %, 24 million, firearms are not suitable for non-lead ammunition. According to the results of this analysis there are 5.09 million unsuitable shotguns, 7.88 million centerfire ≤ 6.5 rifles and 13.29 million centerfire > 6.5 mm rifles in Europe. One-off costs related to the replacement of all unsuitable firearms could potentially reach up to 14.5 Billion euros, although this is likely to be underrepresented due to a conservative estimate used (10%) with respect to the potential unsuitability of rimfire rifles and that only "unsuitable" and not "limited suitability" shotguns were factored into the analysis.

A majority of the hunters are not in a position to readily comply with the proposed restriction. Thus the restriction results in huge drops in the number of hunters. 25 % of hunters will stop hunting entirely and at least 30 % of hunters will hunt less frequently. Impact is felt most severely among the users of rimfire rifles and shotguns. Regarding the non-hunting shooting, at least 20 % of hunters will stop non-hunting shooting and approximately half of hunters will engage in non-hunting shooting less frequently. Impact is felt most severely among the users of rimfire rifles, shotguns and air-rifles.

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