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Food and Agriculture Organization of the United Nations

ECE/FAO Team of Specialists on Forest Products and Wood Energy Statistics (ToSFPWES)

ad-hoc group on the revision of statistics on removals:

Expert Group on Forestry statistics

30 May 2023, Geneva, Switzerland

ECE/FAO Team of Specialists on Forest Products and Wood Energy Statistics

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ECE/FAO Team of Specialists on Forest Products and Wood Energy Statistics

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I. Report of activities

- The ad-hoc team has held two TEAM meetings (June 28, 2022, & April 28, 2023) and various team interactions through e-mail requests for comments and preferences.
- Before the first meeting, a set of proposed questions for the questionnaire on removals was prepared and sent to members of the ad hoc group as a background document for the first team meeting. Based on the comments raised on the meeting a new version of the questions was prepared and sent to members for their additional written comments.
- The questionnaire was prepared at the beginning of September using Google forms and released to the members of the ad hoc group on 23th September with a deadline on 14th October.
- During this first round, answers from 8 countries (Portugal, Poland, Serbia, Germany, France, Czechia, United States and Canada) were collected.

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I. Report of activities

- Based on the approval of the ToS leader Francisco X. Aguilar Cabezas, it was decided to share the questionnaire with other members of the Team of Specialists on Forest Products and Wood Energy Statistics and also with national correspondents of the JFSQ, which was kindly offered by Eurostat. For this purpose, a version of the questionnaire in excel file was also prepared.
- The questionnaire with accompanied Information Note prepared by the Secretariat was distributed at the beginning of November with a deadline on 2nd December.
- Following this process a total of 24 replies were received (Hungary, Azerbaijan, Sweden, United Kingdom, Bulgaria, Ukraine, Montenegro, Germany, Norway, Latvia, Cyprus, Portugal, Serbia, France, Poland, Czechia, United States, Canada, Finland, Iceland, Luxembourg, Netherlands, Slovenia and North Macedonia).

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I. Report of activities

- All answers were put together by Secretariat by the end of the year 2022 and the first evaluation of results was accomplished at beginning of the year 2023.
- The preliminary results and findings of the questionnaire were presented at the biannual Forestry Working Group meeting in Luxembourg, 1-2 March, 2023, following which was received the reply from Spain, with corresponding findings being updated on results.
- In the second ad-hoc team meeting, held on 2023 (28 April) the results of the questionnaire were presented and debated by the team.

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ECE/FAO Team of Specialists on Forest Products and Wood Energy Statistics (ToSFPWES)

ad-hoc group on the revision of statistics on removals:

II. Questionnaire on Removals Statistics

Expert Group on Forestry statistics

30 May 2023, Geneva, Switzerland

ECE/FAO Team of Specialists on Forest Products and Wood Energy Statistics

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Questionnaire on Removals Statistics

- Aim
- Questionnaire structure
- Main results

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Aim

- To improve the quality and comparability of removals statistics internationally, including data collected through the JFSQ.
- Within that scope was created a questionnaire on removals, and the representatives of UNECE member States were requested to submit a reply.
- EUROSTAT also took an active role in circulating the removals questionnaire amongst JFSQ correspondents and contributors.

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Questionnaire structure:

- Respondent (Q1-3)
- Definitions (Q4-7).
- Removals x Fellings (Q8-10).
- Removals specification (Q11-19)
- Forest owner (Q20-25)
- NFI (Q26-28)
- Stakeholders (Q29-33)
- Final section (Q34)

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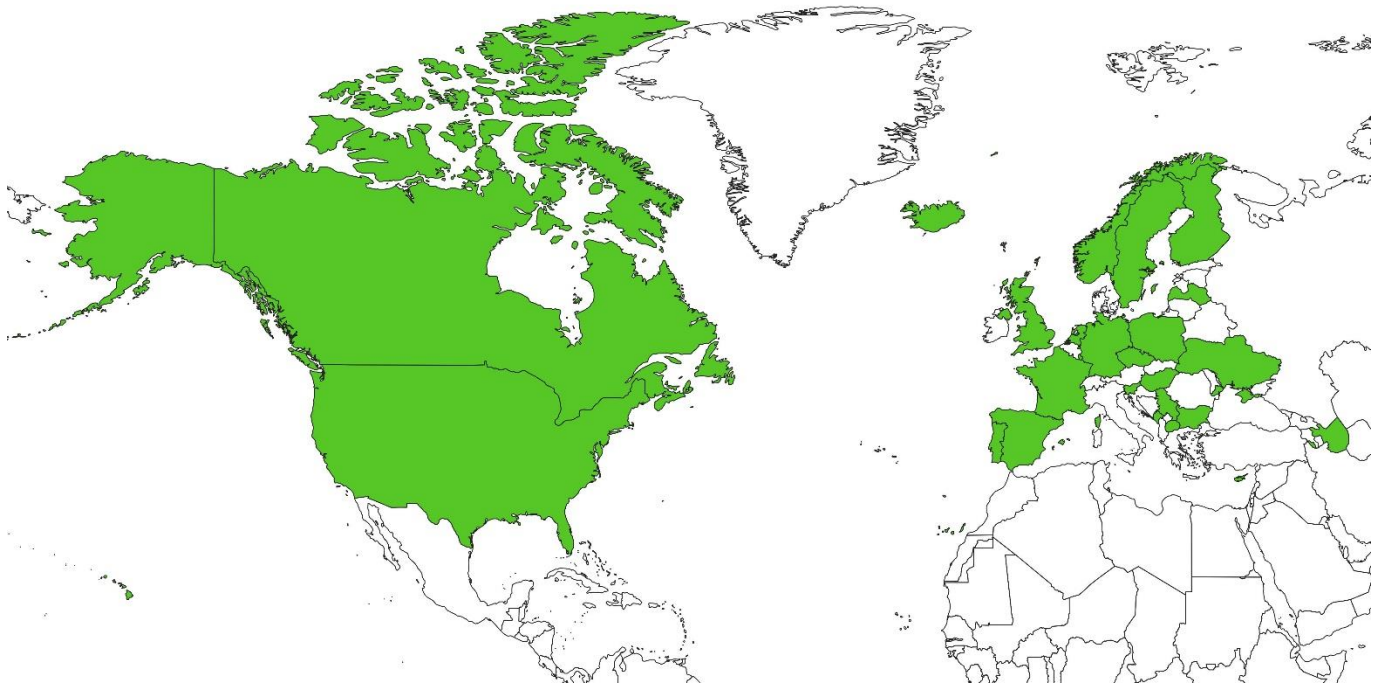
Main results

- Number of replies

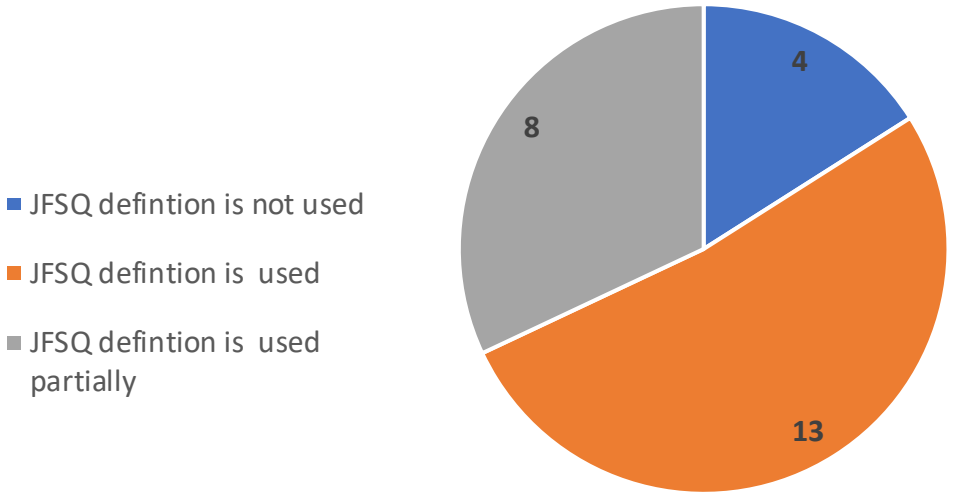
Azerbaijan
Bulgaria
Canada(1)
Cyprus
Czechia
Finland
France
Germany
Hungary
Iceland
Latvia
Luxembourg
Montenegro
Netherlands
North Macedonia
Norway
Poland
Portugal
Serbia
Slovenia
Spain
Sweden
Ukraine
United Kingdom
United States
Total: 25 (45% of UN ECE Member States



(1) "This survey was completed from a national perspective. Canada obtains its removals information from its provinces and territories who complete a more direct data collection process from industry, mills, and many other sources. To date, we have not collected this level of detail with the provinces and territories so we do not know if data is available or not at these levels."

Main results: DEFINITIONS (Q4-6)

What national definition do you use for reported removals? (Q4)



What national definition do you use for reported removals? (Q6)

Unity	Total
m^3	9
m^3 o.b.	5
m^3 u.b.	5
m3 o.b.; tonnes	1
board feet (International 1/4inch and scribner), cubic feet, green tons, pieces (poles, posts)	1
m^3 - non-coniferous o.b., coniferous - u.b.	1
m^3; tonnes	1
no information	2
Total	25

Removals in JFSQ:

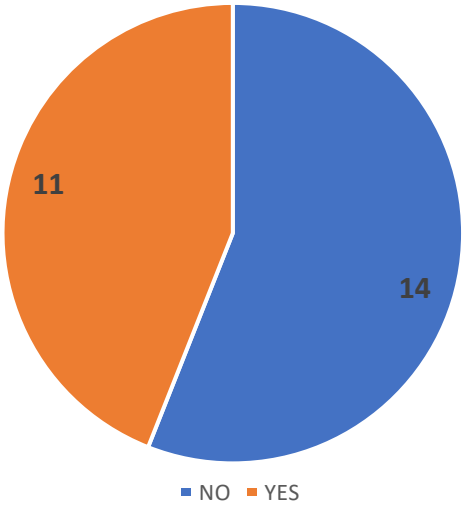
The volume of all trees, living or dead, that are felled and removed from the forest, other wooded land or other felling sites. It includes unsold roundwood stored at the forest roadside. It includes natural losses that are recovered (i.e. harvested), removals during the year of wood felled during an earlier period, removals of non-stem wood such as stumps and branches (where these are harvested) and removal of trees killed or damaged by natural causes (i.e. natural losses), e.g. fire, windblown, insects and diseases. Please note that this includes removals from all sources within the country including public, private, and informal sources. It excludes bark and other non-woody biomass and any wood that is not removed, e.g. stumps, branches and tree tops (where these are not harvested) and felling residues (harvesting waste). It is reported in cubic metres solid volume underbark (i.e. excluding bark).

Main results: DEFINITIONS (Q7)

Is wood from other wooded land or other felling sites included in the reported total wood removals?

Main results: REMOVALS x FELLINGS

Do you distinguish wood removals and fellings on national level? (Q8)

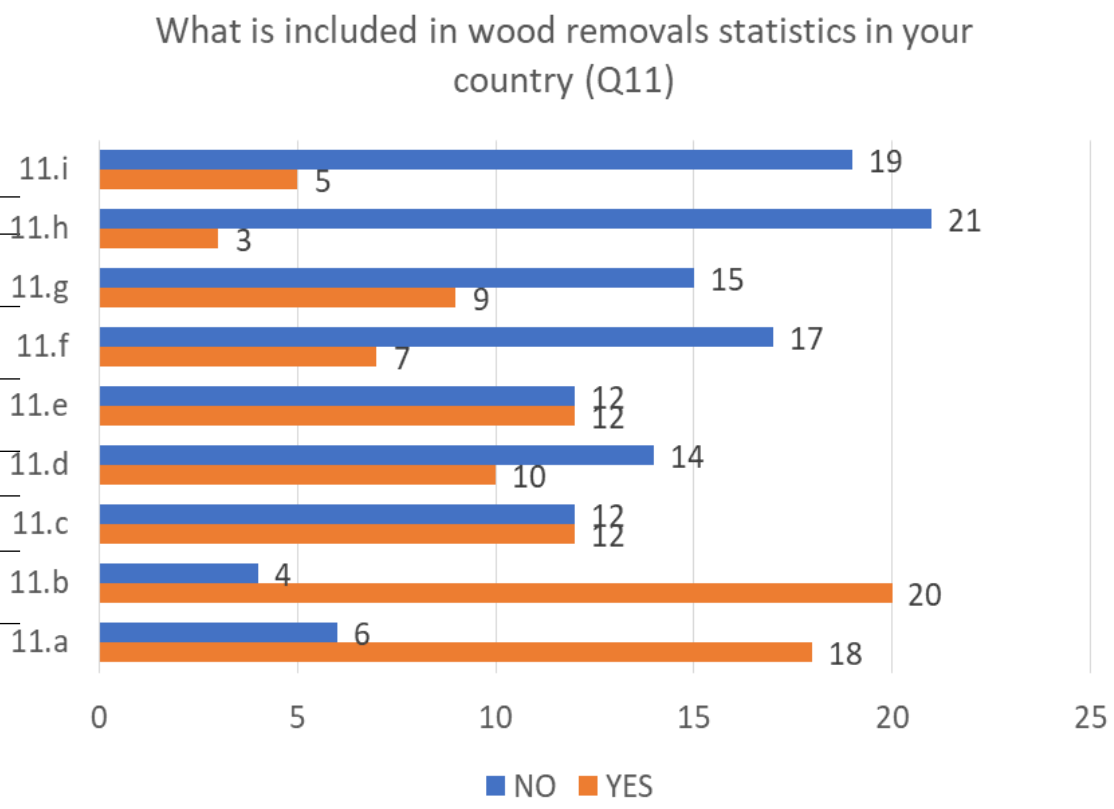


What is the latest available removals/fellings ration in your country? (Q10)

Bulgaria	83,9 % (2021)
Czechia	89 % (period 2011-2020)
Germany	93,2 % (2021)
Latvia	97,6 % (2021)
Portugal	Fellings corresponds to removals plus 17 % in coniferous and 4 % in broadleaves
Slovenia	91,2 % (2021 - JFSQ removals under bark) 93,6 % (2021 - national "slovenian net" reporting)
Sweden	95,50%

Main results: REMOVALS SPECIFICATION

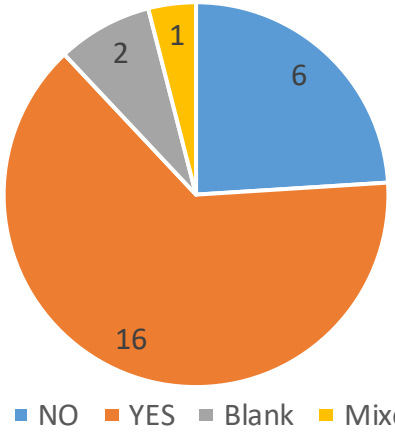
11.i	Other
11.h	Bark
11.g	Removals of non-stem wood where these are harvested and removed - tops and branches
11.f	Do you include removals of non-stem wood where these are harvested and removed - stumps and roots
11.e	Do you include oversized volume of wood (in cm, %) required by wood processors
11.d	Natural losses
11.c	Unsold roundwood stored at the forest roadside
11.b	Removal of trees killed or damaged by natural causes e.g. fire, windblown, insects and diseases
11.a	The volume of all trees, living or dead, that are felled and removed from the forest, other wooded land or other felling sites



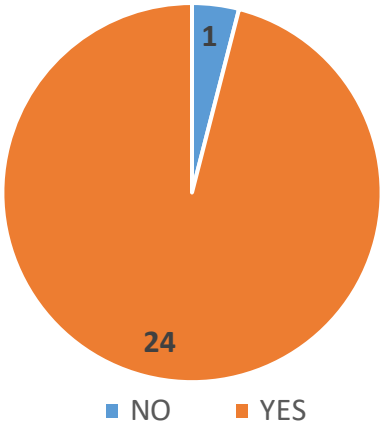
(multiple replies are possible)

Main results: REMOVALS SPECIFICATION

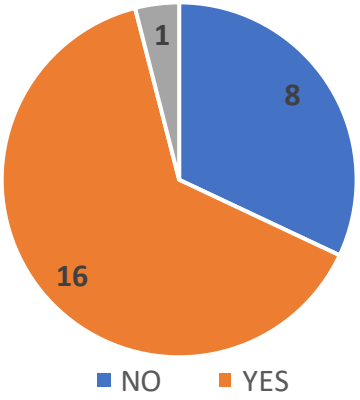
Do you assess removals by ownership categories? (Q12)



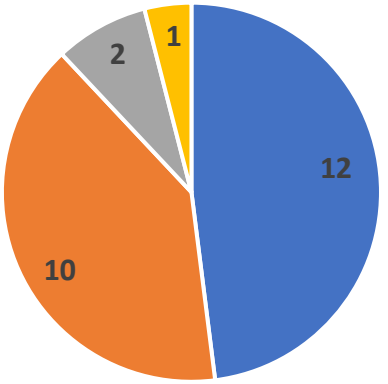
Do you assess removals by tree species group (coniferous x non-coniferous)? (Q13)



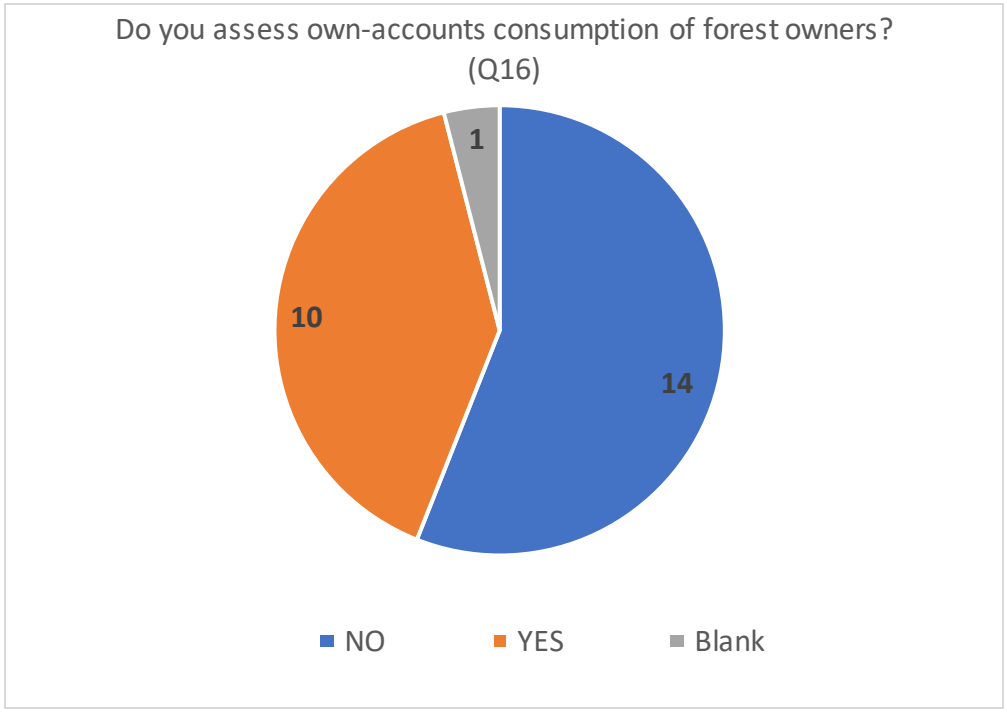
Do you assess removals by tree species? (Q14)



Do you use minimum diameter, minimum top diameter or minimum top-branch diameter? (Q15)



Main results: REMOVALS SPECIFICATION



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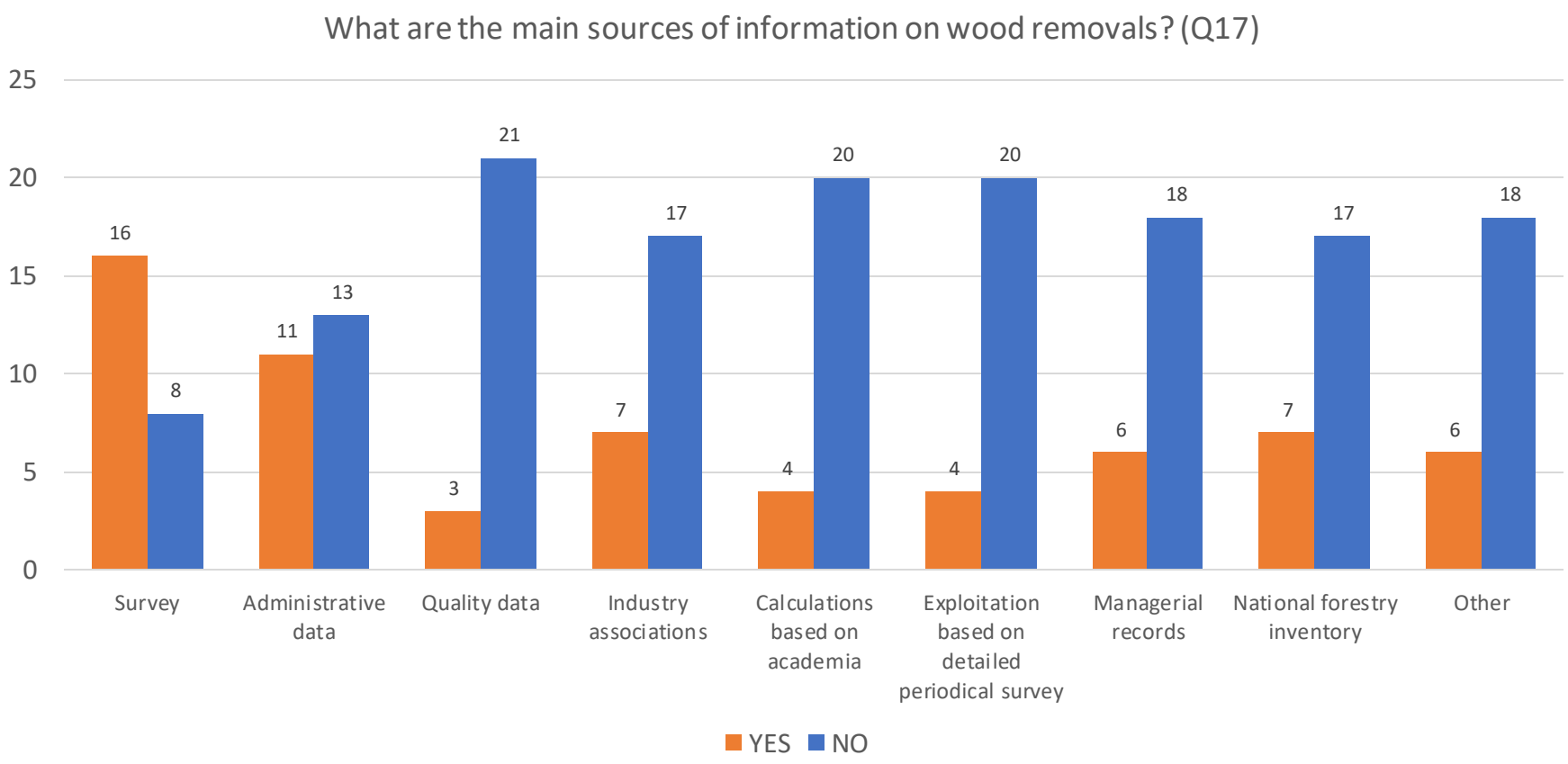
Main results: REMOVALS SPECIFICATION



(multiple replies are possible)

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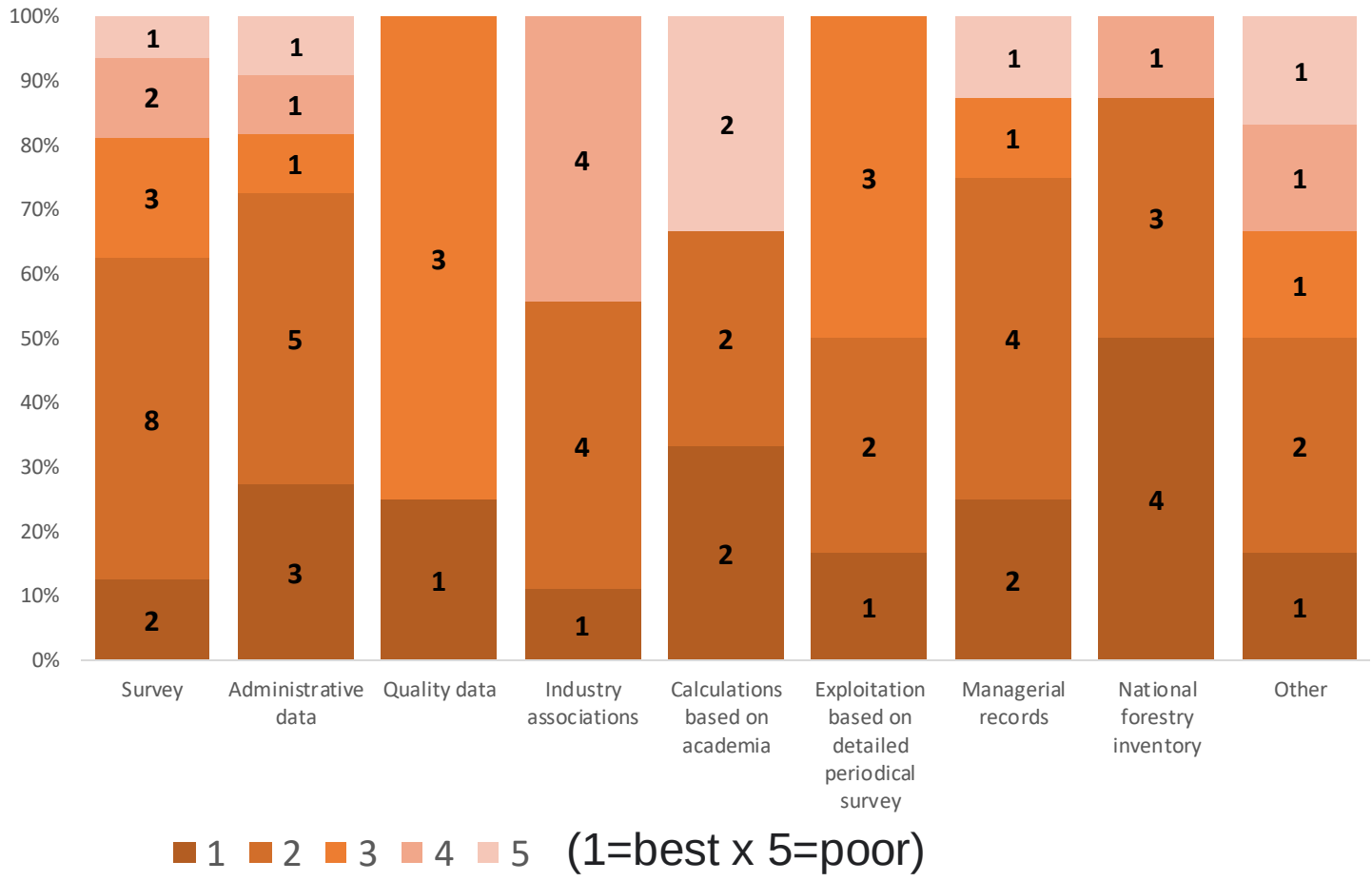
Main results: REMOVALS SPECIFICATION

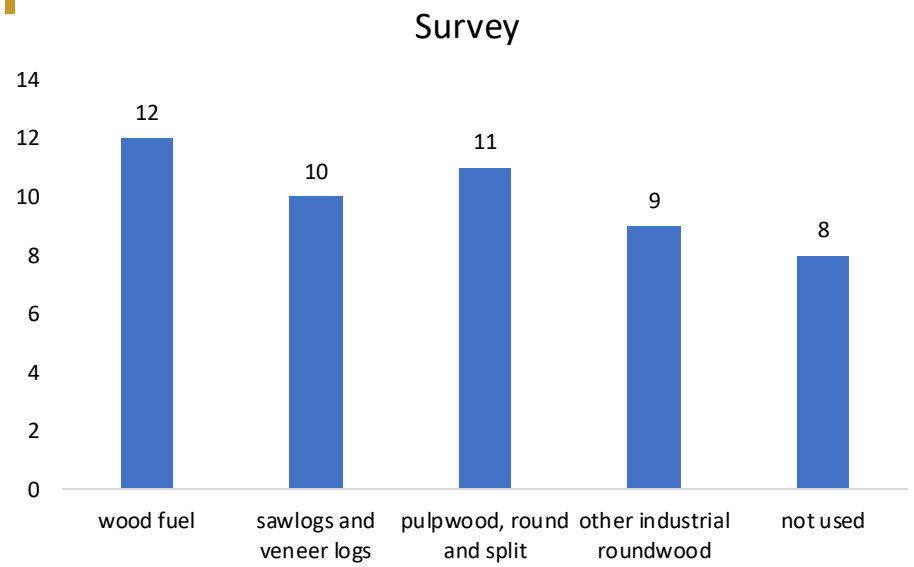
How do you assess the source data quality? (Q18)

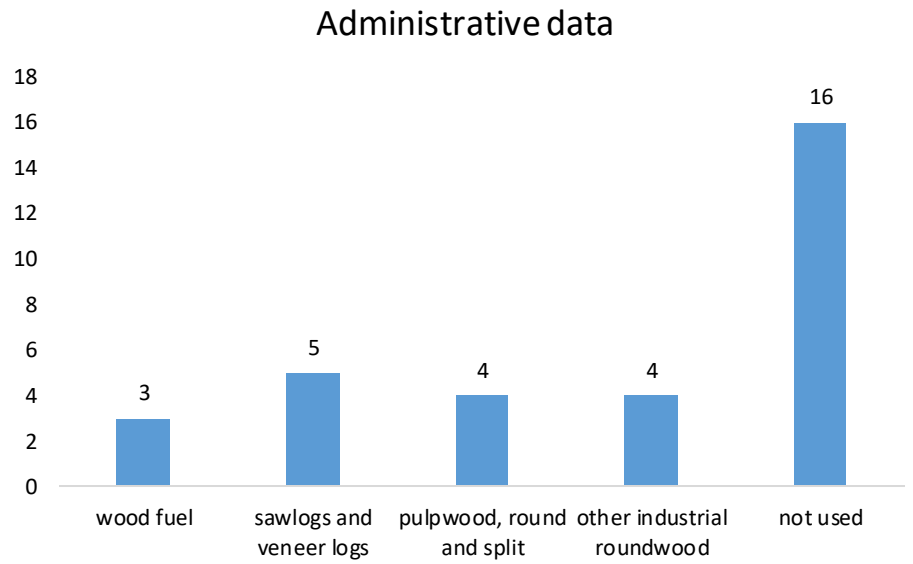


Main results: REMOVALS SPECIFICATION

Which sources of information are used for particular assortments? (Q19)

(The survey and administrative data example)





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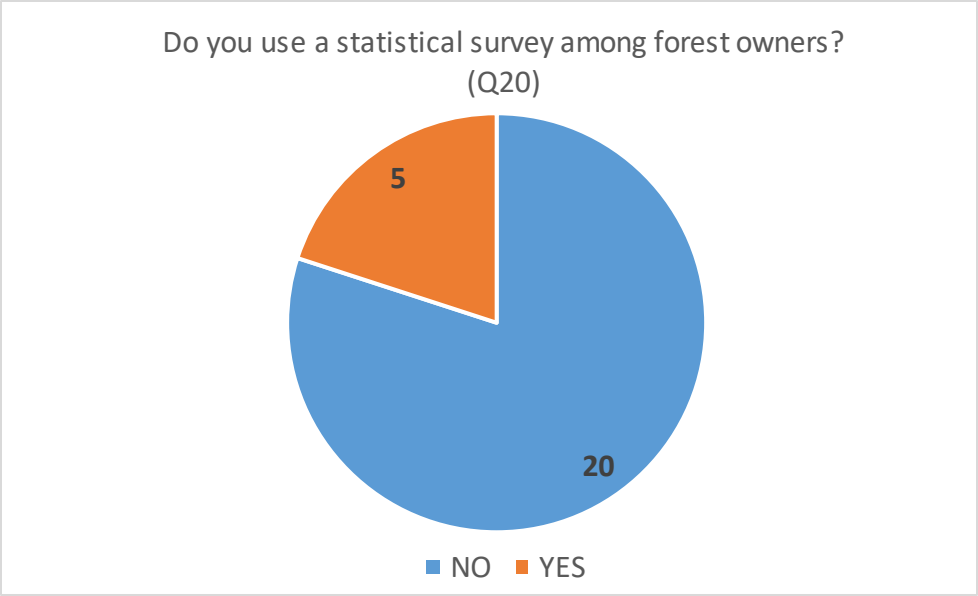
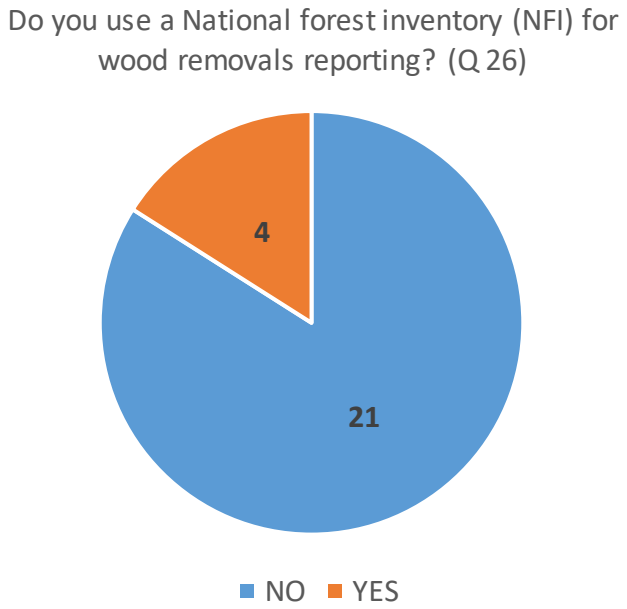
Main results:





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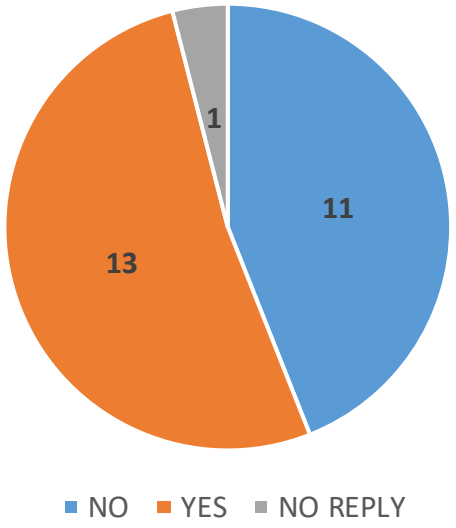
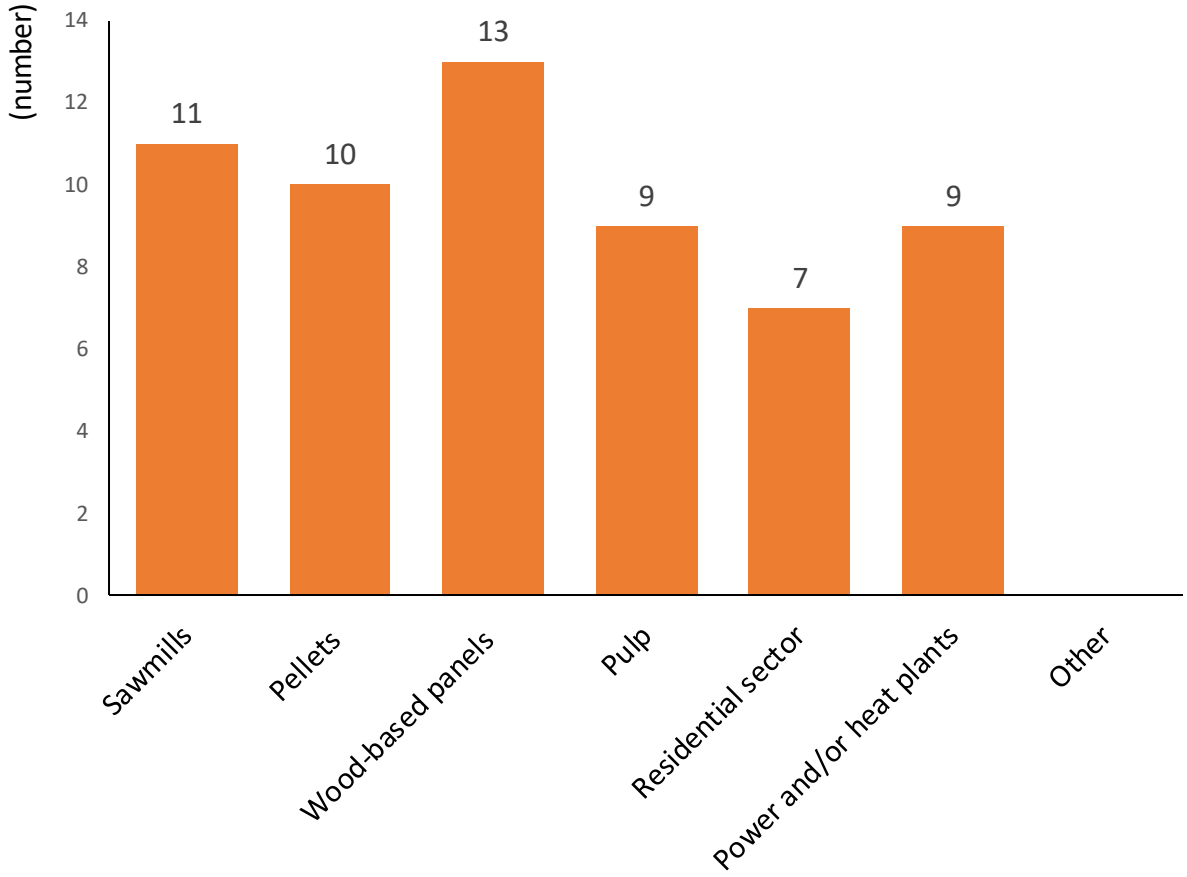
Main results: STAKEHOLDERS

Do you use a survey among timber processing stakeholders or their associations? (Q29)





Main results: STAKEHOLDERS

Stakeholders covered by the survey (Q30)	Sawmills	Pellets	Wood-based panels	Pulp	Residential sector	Power and/or heat plants	Other
France	1		1				
Germany	1		1	1	1	1	
Hungary	1	1	1	1	1	1	
Latvia			1	1			
Netherlands		1	1	1	1	1	
Portugal	1	1	1	1	1		
Serbia	1	1	1		1	1	
Slovenia	1	1	1	1	1	1	
Sweden	1	1	1	1	1	1	
Ukraine	1	1	1	1			
United States	1	1	1	1		1	
Total	9	8	11	9	7	7	

III. Next steps

- Consolidation of questionnaire final results
- …..

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Thank you!

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Contacts

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Annex:

Additional results of the Questionnaire on Removals Statistics

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Main results (Q20, cont.)

Do you use a statistical survey among forest owners? (Q20)

	Germany	United States	Slovenia	Ukraine	Czechia
If yes, are all forest owner categories covered by the survey? (Q21)	YES	YES	YES	YES	NO Forest owners with forest area < 200 ha.
What percentage share of national forest area is covered by the survey? (Q22)	Statistical survey among forest owners to fill JFSQ-sheet "EU2 Removals". Survey is not used for the reporting of JQ1 19% of forest area is covered by the survey, the high share is achieved as a lot of the state forest companies are reporting.	It's a national survey, all lands			0,77
What percentage share of wood removals volume is covered by the survey? (Q23)	About 20%.	Based on national survey	Direct comparison is not possible due to different measurement units of quantities (gross/net cubic meters).		72% - 80%
Is fuelwood production part of the survey or is it calculated? (Q24)	The survey is not used for JQ1 reporting (Removals calculation). In wood fuel, specific household and industry surveys conducted every two or three years. For years between surveys, (small) models are used.	Part form survey. Residential fuelwood calculated based on household surveys energy consumption	Fuelwood production is assesed from other survey among households; the research sample is 6.000-7.000 private households in Slovenia.	The accounting of fuel wood is envisaged the state statistical observation	Fuelwood is part of the survey, but the figures from the survey are then recalculated on the whole forest area.
What is the calculation used to derive country-level figures from the survey? (Q25)	Forest owners surveis are not used for removals calculation.	National coverage. Survey based on permament plots	It depends on the type of assortments. The data from survey among forest owners serve as aids for calculations, but are not used directly. Final data are calculated in a complex way combining several partial data sources and additional experts estimations.	Additional estimates are not made within the framework of the state statistical observation	Reported figures from the questionnaire are recalculated on the whole forest area according to regions and forest ownership categories. For each forest owners' category in the region, removals intensity per hectare (removals/forest area) is derived which is then applied on the rest of the forest area of particular forest owners' category.

Main results

Do you use a National forest inventory (NFI) for wood removals reporting? (Q26)

	Germany	United States	Netherlands	Latvia
If yes, how do you assess wood removals from NFI? Do you apply correction factors? (Q27)	Use data from NFI to validate annual specific calculations of fellings and removals.	Use along with surevy of primary mills	Wood removals are derived from the NFI by making use of permanent sample plots. All trees on the sample plots are registered during its first assessment. At the second assessment it is possible to record any trees that are removed from the plots. (in short): The information on tree removal on the permanent plots is currently used to estimate removal chances of trees in certain tree species/diameter classes. These removal chances are used to estimate the removals on the total forest area. The volume derived is including the top part of the tree. To get to the actual removals a factor is used to exclude the volume of the top. It is estimated that in general this factor is 5%.	The main criteria for removals in National forest monitoring (inventory): 1) Felled and removed; 2) Removed removals of damaged by natural causes (i.e. natural losses), e.g. fire, windblown, insects and diseases.
If yes, how do you assess share of assortments? What is included in fuelwood? (Q28)	For calculation the assortments, use-specific information is used (e.g. how many sawlogs have been used in sawmills). NFI-data is not used.	From survey of primary mills. Fuelwood part of survey as well. Residential firewood from other sources	The assortments are derived from an annual survey that is undertaken at the Dutch roundwood processing industries and roundwood exporters. In the survey roundwood processors are asked which volume they processed that came from the Dutch forest. The exported are asked which volume of roundwood they exported originating from the Dutch forest and to split this volume over the required assortments. Form this data the shares of the assortments within the total removals is estimated. The long term average of these shares is used to determine the volumes of sawlogs, veneer logs and pulpwood. Fuelwood removals are derived from two different sources.	The determination of sawlogs veneer logs, pulpwood and fuelwood is not based of National forest monitoring (inventory) data. The data of sawlogs, veneer logs and, pulpwood are represented by national statistic of production data-Prodcom. Fuelwood as a part of removals that the main purposes of using such as cooking, heating or power production is estimated in national energy balance.

Main results

Stakeholders covered by the survey (Q31)	Sawmills	Pellets	Wood-based panels	Pulp	Residential sector	Power and/or heat plants	Other
France	100%						
Germany	80%		70%	100%			
Hungary							
Latvia			20%	20%			
Netherlands	100%	100%	100%			90%	
Portugal	50%	40%	90%	90%	90%		
Serbia	70%	90%	90%		60%	90%	70%
Slovenia	90%	90%	100%	100%	30%		
Sweden	100%	100%	100%	100%	100%	100%	
Ukraine							
United States	100%	100%	100%	100%	100%	100%	100%

Main results

Country	What conversion factors are used? (Q32)	What is the calculation used to derive country-level figures? (Q33)
Czechia	Not now, but we have changed the field survey methodology in NFI to assess directly in the field which part of fellings is removed from forests.	
France	over to under bark, tonnes to m3 for wood energy and any other wood industry	
Germany	If no reply from all market actors, imputation algrorythm or other tools to estimate the parent population are used. In the residential sector we are using a household survey. About 10.000 households are filling the questionnaire. Hence, the percentage share of this survey is not applicable here as it is far below 10%. Also for power/heat plants we are using a sample survey. Conversion factors: We are using many different conversion factors (from our data base). It would be too much to provide this information here, so I leave this for the moment.	
Hungary	For converting weight to volume (on JQ2 and extraEU sheets) we apply: - 625 kg/m³ for coniferous wood fuel and for wood chips and particles; - 750 kg/m³ for non-coniferous wood fuel; - 690 kg/m³ for non-coniferous sawnwood.	We have census data.
Latvia	Comparison with production data.	Involved companies are surveyed.
Netherlands	To general question.	
Poland	If necessary, we convert from weight to m3	
Portugal	Factors are only required on the conversion of sawn wood into rownd sawnwood. The factors used are: coniferous 2; nonconiferous 1,6-1,92. The other products are supplied as round production by the organizations.	
Serbia	UNECE/FAO conversion factors	

Country	What conversion factors are used? (Q32)	What is the calculation used to derive country-level figures? (Q33)
Slovenia	Coniferous: over bark (1,11); under bark (0,90) Non-coniferous: over bark (1,06); under bark (0,94)	It depends on the type of assortments. Final data are calculated in a complex way combining several partial data sources and additional experts estimations.
Sweden	Reported figures from the questionnaire are recalculated on the whole forest area, according to regions and forest ownership categories. For each forest owners' category in the region, removals intensity per hectare (removals/forest area) is derived which is then applied on the rest of the forest area of particular forest owners' category. Direct comparison is not possible due to different measurement units of quantities (gross/net cubic meters). From sawmills, board industries and pulp industries, roundwood consumption is collected in cubic metre solid volume excl. bark. Thus, no conversion figures are used here. The Swedish Energy Agency is conducting a study on the production, import and export of unprocessed wood fuels. The survey covers both the commercial production and the non-commercial. Data on wood chips production are collected from wood fuel producers. The tasks are divided into different assortments and different categories of raw materials. The removal statistics are based on wood chips production generated by domestic roundwood. The wood fuel data is in the unit GWh. Energy value is in 2.04 MWh/cubic metre solid volume incl. bark. A conversion factor for cubic metre solid volume excl. bark/cubic metre solid volume incl. bark is used for conversion to cubic metre solid volume excl. bark. The production of split fire wood is derived by the Swedish Energy Agency from annual surveys to the residential sector where data is collected on its use. This information is also reported by the Swedish Energy Agency in GWH. The energy value is 2.25 MWh/cubic metre solid volume incl. bark and the conversion factor to cubic metre solid volume excl. bark is the same as previous mentioned survey.	These surveys together give the total domestic annual consumption of round wood in the unit cubic metre solid volume excl. bark. This data is corrected with import and export statistics from Statistics Sweden and inventory change statistics from the Swedish Forest Agency. The result is the annual removal.
Ukraine	To reflect the removal of wood, the coefficients of conversion are not used	The aggregated data on forestry activity, industry, foreign trade in goods are used
United Kingdom	We have a set of standard conversion factors that are used to convert between green tonnes, underbark, overbark felled and overbark standing.	Not quite sure what this question is asking for. Data collection covers multiple surveys and data requests to trade associations.
United States	For meassurement units (board feet to green tons, etc.) For residue production based on mill type	