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**MAC Protocol
Diplomatic Conference**

UNIDROIT 2019
DCME-MAC – Doc. 6
Original: English
July 2019

**THE HARMONIZED SYSTEM CODES PROPOSED FOR INCLUSION
IN THE MAC PROTOCOL ANNEXES**

(Prepared by the UNIDROIT Secretariat)

Introduction

1. The purpose of this document is to provide additional information on the Harmonized Commodity Description and Coding System codes (HS codes) listed in the draft MAC Protocol Annexes. It also explains the result of the 2018 process in which States proposed additional codes for inclusion in the draft MAC Protocol Annexes.
2. Appendix 1 contains a spreadsheet with information on the HS codes listed in the draft MAC Protocol. Appendix 2 provides a detailed summary of the additional HS codes proposed by States in 2018 for consideration at the Diplomatic Conference. Appendix 3 contains further information on the evaluation process undertaken between 2013 and 2019 to scrutinise the HS codes currently listed in the draft MAC Protocol Annexes. Appendix 4 contains a short table setting out the Annexes in which each HS code is listed.
3. For further reference, an explanation of how the draft MAC Protocol utilises the HS to define its scope is available in Part 2D of the Legal Analysis (DCME-MAC – Doc. 5). Further information on the operation of the HS is available in Appendix I of the Legal Analysis. Finally, additional information on how the draft MAC Protocol could be adjusted to adapt to revisions of the HS is available in Part 6X and Appendix VII of the Legal Analysis.

HS codes listed in the draft MAC Protocol Annexes

4. The draft MAC Protocol Annexes list 42 HS codes, which account for USD 101,324,614,543 (over USD 100 billion) worth of annual global trade in MAC equipment.¹ 21 HS codes are listed in Annex 1 (mining equipment), 26 HS codes in Annex 2 (agricultural equipment) and 32 HS codes in Annex 3 (construction equipment).
5. The 42 listed HS codes underwent an extensive evaluation process between 2013 and 2017 (described in Appendix 3 of this document). The five year process can be summarised as follows:
 - (a) HS codes were initially proposed by companies operating in the MAC sectors (manufacturers, financiers, legal service providers and end-users).

¹ Comtrade database, as maintained by the United Nations Statistics Division, 2017 export data (2017 data is the most up to date dataset available that is largely complete). Accessed 28 May 2019.

- (b) Data on the proposed codes was provided by the Working Group,² additional research was undertaken by the Secretariat and advice was sought from the World Customs Organization (WCO).
- (c) The Study Group evaluated the 113 proposed HS codes, based on a set of criteria.³
- (d) The Study Group recommended that 36 HS codes were suitable for inclusion in the preliminary draft MAC Protocol Annexes. Other proposed codes were classified as unsuitable for inclusion on the basis that they failed to satisfy key criteria or because insufficient information had been supplied in relation to their coverage.
- (e) The Committee of Governmental Experts (CGE) re-evaluated the list of suitable and unsuitable HS codes during its two sessions in 2017.
- (f) On recommendation from the CGE, the list of suitable codes was updated to reflect revisions made to the HS in 2017, increasing the number of HS codes listed in the draft MAC Protocol Annexes from 36 to 42.

6. The 42 listed HS codes were approved by the CGE at its second session (CGE2, Rome, 2–6 October 2017). The listed HS codes are consistent with the sixth edition of the HS currently in force (HS 2017).

7. While the seventh edition of the HS will not be approved until 1 January 2020 (and enter into force in January 2022), initial advice from the WCO indicates that the 42 listed HS codes will not be affected by revisions that have been proposed at this point.

2018 process for the proposal of HS codes for inclusion in the draft MAC Protocol Annexes

8. Pursuant to a request by CGE2,⁴ in June 2018 the Secretariat established a process for States to propose additional HS codes for inclusion in the MAC Protocol Annexes. The Secretariat wrote to all United Nations member States inviting proposals. States were requested to provide certain information⁵ in making proposals, which were due by 30 November 2018.

9. The following process was established to evaluate each proposal:

- (a) On receipt of a proposal, the Secretariat contacted the MAC Working Group and advised them of the newly proposed code.
- (b) The Working Group provided information and data on the types and individual unit costs for the equipment covered by the proposed HS code.
- (c) The Secretariat then undertook additional research utilising UN trade statistics, WCO documentation and other online trade and equipment databases to verify the information provided by both the proposing State and the MAC Working Group.

² The MAC Working Group is responsible for encouraging private sector participation in developing the Protocol, as well as communicating and representing private sector interests during the drafting process. It is an independent body outside the purview of UNIDROIT. The Working Group is made up of many of the largest MAC equipment manufacturers and financiers globally. Membership also includes several trade associations, including the Association of Equipment Manufacturers (AEM), which has 917 members in the agriculture and construction industries, the Equipment Leasing and Finance Association (ELFA), which represents over 575 financial service companies, banks and manufacturers, and the *Verband Deutscher Maschinen und Anlagenbau* (VDMA), which is one of the largest industrial associations in Europe representing 3,100 member companies in the engineering industry. The Working Group is led by Mr Phillip Durham who is a partner in the Structured Finance Group of the law firm Holland and Knight in New York.

³ The Study Group's assessment criteria are set out in Appendix 3 to this document.

⁴ <https://www.unidroit.org/english/documents/2017/study72k/cqe02/s-72k-cqe02-report-e.pdf>, paragraph 166.

⁵ <https://www.unidroit.org/english/documents/2018/study72k/s-72k-inf02-e.pdf>.

- (d) Once the necessary data had been compiled, the Secretariat applied several criteria (set out in paragraph 12 below) to form a recommendation as to whether the proposed HS code should be included or excluded from the draft MAC Protocol Annexes.
- (e) The Secretariat then consulted the WCO on the list of proposed HS codes and draft recommendations. The WCO provided advice on the recommendations, based on their expert understanding of the equipment covered by the proposed HS codes.
- (f) The Secretariat contacted each proposing State notifying them of the draft recommendation in relation to their proposal, and invited the State to provide any additional comment or information.
- (g) The Secretariat's analysis and recommendations in relation to each individual proposed HS code were finalised and compiled in a table contained in Appendix 2 of this document.

10. 71 proposals were made by six States and the MAC Working Group, relating to 42 HS codes not currently listed in the draft MAC Protocol Annexes. Of the 42 new codes proposed, 14 HS codes were recommended for inclusion in the draft MAC Protocol Annexes. Additionally, three HS codes already listed in certain Annexes were recommended to be added to additional Annexes and one listed HS code was recommended for removal from the draft MAC Protocol Annexes.

11. The Secretariat's recommendations in relation to the proposals made are noted in the table in Appendix 1 of this document.

12. In analysing the HS codes proposed for inclusion in the draft MAC Protocol, the following criteria were taken into account:

- (a) Proposed HS codes should cover equipment that is predominantly used in the mining, agricultural and construction sectors. Proposed HS codes should not cover general use equipment commonly used outside the MAC sectors. This is because Article II(1) provides that the Protocol will apply to MAC equipment covered by HS codes listed in the Annexes, irrespective of any intended or actual use of the equipment. As such, HS codes listed in the Annexes must not cover general use equipment to avoid unduly expanding the operation of the Protocol outside the MAC sectors.
- (b) Proposed HS codes should cover equipment that is predominantly high value. The Cape Town Convention is designed to regulate interests in categories of high value equipment. Accordingly, it would be inappropriate to include HS codes in the MAC Protocol Annexes that cover predominantly low value equipment. There is no formal threshold for what constitutes "high value" equipment. Proposed codes must be assessed on a case-by-case basis. Generally, an HS code covering MAC equipment that is separately financed or leased for commercial use will cover equipment that is sufficiently high value for inclusion in the Annexes. Individual unit prices for new equipment covered by the HS codes currently listed in the draft MAC Protocol Annexes range from USD 10,000 - USD 7,000,000. This range of individual unit prices within an HS code is important in determining whether it covers *predominantly high value equipment*. For example, where an HS code mainly covers MAC equipment with individual unit prices of between USD 30,000 – USD 200,000 but in some cases also covers MAC equipment worth USD 10,000 or less, the code should not be excluded from the Annexes as it still covers predominantly high value equipment. HS code 870191 can be used to illustrate this criterion. HS code 870191 covers tractors with an engine capacity no greater than 18 kW. It is currently listed in the draft MAC Protocol Annexes, as a new code created by the 2017 HS revision and approved by CGE2 in October 2018. On further advice from the MAC Working Group, it appears that the individual unit prices of tractors covered by HS code 870191 range between USD 12,000 – USD 16,000. As the HS code does not appear to cover any types of

high-value equipment, the MAC Working Group proposed that the code be removed from the draft MAC Protocol Annexes. The Secretariat agreed with the proposal, and has recommended that HS code 870191 be removed (see Appendix 1 and 2).

- (c) Proposed HS codes should cover equipment that has individual serial numbers. Article XVII of the draft Protocol provides that an international interest in equipment will be registered on the basis of a manufacturer's serial number. As such, equipment without a manufacturer's serial number is incapable of being registered in the international registry. HS codes covering predominantly un-serialised equipment should not be included in the Annexes.
- (d) Proposed HS codes should cover complete equipment rather than parts. Article I(2)(a), (b) and (k) provide that the MAC Protocol applies to mining, agricultural and construction equipment, including all installed, incorporated or attached accessories components and parts that do not fall within a separate listed HS code. As such, the MAC Protocol applies to parts insofar as they are installed in equipment within the scope of the Protocol, but does not contemplate the registration of international interests in parts themselves. This decision was made on advice from the MAC Working Group that parts of MAC equipment were not generally the subject of asset-based financing separate from the object, unlike airplane engines. As such, HS codes explicitly covering parts should not be included in the Annexes, unless it can be demonstrated that the parts covered are predominantly high value and are the subject of separate asset-based financing or leasing.
- (e) Proposed HS codes should cover equipment used on-site in the MAC sectors. The Protocol is generally intended to apply to MAC equipment designed for on-site activity in the mining, agricultural and construction sectors (equipment used on mines, farms and construction sites). More specifically, the Protocol is intended to apply to equipment designed for use in production, cultivation and extraction, rather than post-cultivation/post-extraction processing or refining. This is because much of the equipment utilised in the post-cultivation/post-extraction processes is often general purpose equipment commonly used in manufacturing and other industrial processes. In certain limited circumstances, an HS code might cover MAC equipment used both on-site and at a later facility for purposes such as sorting. For example, HS code 843710 covers "machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables". In these circumstances, an HS code covering types of MAC equipment designed for use both on-site and off-site in the MAC sectors should be eligible for inclusion in the draft MAC Protocol Annexes. The basis for this policy is that equipment that can be used on-site and off-site is usually specific to the MAC sectors. As such, this criterion is almost a subsidiary rule of the first criterion: that HS codes should cover equipment predominantly used in the MAC sectors. It should be noted, however, that once an HS code is listed in the Annexes, Article II(1) provides that the MAC Protocol applies to MAC equipment *irrespective of any intended or actual use of the equipment*.

13. The Diplomatic Conference is invited to review the additional HS codes proposed in 2018 to determine whether they should be included in the MAC Protocol Annexes, taking into account the recommendations made by the Secretariat.

Proposals of additional HS codes for consideration at the Diplomatic Conference

14. The purpose of the 2018 process was to allow States to propose additional HS codes for inclusion in the draft MAC Protocol Annexes and to allow sufficient time for the Secretariat to undertake the necessary consultations and research to evaluate such proposals. In providing States

with this opportunity to propose HS codes in 2018, it was anticipated that States would not need to make further proposals in the lead-up to the Diplomatic Conference.

15. Nonetheless, States may propose further HS codes for inclusion in the draft MAC Protocol Annexes for review by the Diplomatic Conference. If any State wishes to make such a proposal, the Secretariat would draw their attention to the following matters:

- (a) To allow time for the Secretariat to conduct the necessary consultations and research, States are encouraged to submit additional HS code proposals as early as possible. Any proposals received after **11 October 2019** are unlikely to receive a favourable recommendation for inclusion, as the Secretariat will not have sufficient time to conduct the necessary consultations and research in order to allow States to make an informed decision.
- (b) In proposing an additional HS code, States should directly address the criteria set out in paragraph 12 above.
- (c) In proposing an additional HS code, States should consult Appendix 1 to this document to determine whether the relevant HS code is already listed in the draft MAC Protocol Annexes (HS codes shaded in green) or has been previously evaluated and excluded (HS codes shaded in orange). If the relevant HS code has previously been excluded, States are encouraged to provide additional information addressing the rationale for its exclusion.

APPENDIX 1**Spreadsheet of the Harmonized System codes proposed for inclusion in the MAC Protocol**

1. This spreadsheet is based upon previous documents prepared by the UNIDROIT Secretariat for consideration by the Study Group at its second meeting (Rome, March 2015) and subsequently updated for the third and fourth Study Group meetings. It was further revised by the UNIDROIT Secretariat for consideration at first and second sessions of the Committee of Governmental Experts (CGE) in 2017 as well as for the 2018 consultation process with States.⁶ The information contained in this document is based upon data provided by the Working Group, States, and additional research undertaken by the UNIDROIT Secretariat.⁷

2. The first part of the spreadsheet contains a list of 56 HS codes (shaded in green), identified in ascending numerical order that are recommended for inclusion in the future MAC Protocol Annexes. The HS codes shaded in dark green are those HS codes currently contained in the draft MAC Protocol Annexes, as approved at CGE2. The HS codes shaded in light green are additional codes recommended for inclusion by the Secretariat, based on proposals made by States in 2018.

3. One exceptional code in the first part of the spreadsheet is HS code 870191 (number 48 in the spreadsheet) that is shaded light orange. This HS code was initially accepted for inclusion in the draft MAC Protocol Annexes at CGE2, but is now recommended for exclusion from the MAC Protocol on the basis that the Working Group provided further advice suggesting it covers predominantly low value equipment. States may wish to additionally note HS codes 842920 (number 11), 842951 (number 14) and 870410 (number 53), which are shaded dark green, except for one cell explaining the Annexes in which the code is listed, which is shaded in light green. This is to denote that while both codes were approved for inclusion in certain draft MAC Protocol Annexes at CGE2, they have been recommended for addition in *further* Annexes. The additional annex for these HS codes have been recommended is written in red.

4. The second part of the spreadsheet contains a list of 79 HS codes (shaded in orange) that are recommended for exclusion from the future MAC Protocol. As consistent with the first part of the spreadsheet, the HS codes shaded in dark orange were excluded from the draft MAC Protocol at CGE2. The HS codes shaded in light orange were codes proposed by States in 2018, but were recommended for exclusion from the MAC Protocol by the Secretariat, on consultation with the WCO and Working Group.

Information contained in the spreadsheet

5. The first column in the below spreadsheet contains 4-digit HS code headings (e.g., 8429) accompanied by the relevant description (e.g., self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers) sourced from the HS Nomenclature (2017 edition).

⁶ For earlier iterations of the spreadsheet considered by the Study Group, please see [UNIDROIT 2015 – Study 72K – SG2 – Doc. 3](#), [UNIDROIT 2015 – Study 72K – SG3 – Doc. 4](#), [UNIDROIT 2016 – Study 72K – SG4 – Doc. 4](#), [UNIDROIT 2016 – Study 72K – SG4 – Doc. 8](#), [UNIDROIT 2017 – Study 72K – CGE1 – Doc. 5 corr](#), [UNIDROIT 2017 – Study 72K – CGE2 – Doc. 5](#) and [UNIDROIT 2018 – Study 72K – INF. 2](#).

⁷ The MAC Protocol Working Group is an independent body outside the purview of UNIDROIT that was formed in 2015 to encourage private sector participation in developing the MAC Protocol. The Working Group is also responsible for communicating and representing private sector interests during the drafting process.

6. The HS codes identified in the document have been selected from Chapters 82, 84, and 87 of the HS Nomenclature, which are separated by grey lines. The 4-digit HS codes cover categories of equipment which are too broad for inclusion under the future MAC Protocol. Accordingly, the second and third columns identify a sub-category of the 4-digit HS codes by reference to 6-digit (e.g., 842920) more specific HS codes accompanied by their description (e.g., graders and levelers).

7. The fourth column entitled "Examples and Uses" identifies a typical example of equipment that is covered by the relevant 6-digit HS code, explaining its uses in relation to mining, agricultural, or construction activities (e.g., see 820713 - Machines used for tunnel boring (i.e. to build tunnels) utilised in both the construction and mining industries). The fifth column includes an image of the equipment covered by the relevant HS code. These two columns were included in order to assist the Diplomatic Conference to better understand the kind of equipment covered by the selected HS codes. The information was provided by the private sector through the Working Group, States and additional research by UNIDROIT.

8. As one of the three main criteria for developing future protocols under Article 51 of the Cape Town Convention is that the relevant equipment must be "high value", a sixth column identifying the range of list prices for new commercial equipment covered by the relevant HS code has been included, as provided and verified by the Working Group. A range has been selected instead of an approximate value because some 6-digit HS codes may cover a variety of equipment (e.g., see 842952). The range of individual unit prices in this column is only indicative and there are likely to be types of MAC equipment with unit prices falling outside the stated ranges.

9. The seventh column, entitled "Comtrade Statistics", identifies the volume of annual global exports of the equipment covered by the relevant 6-digit HS code. The data is based on the 2017 annual statistics, which is the most complete recent data set that is available. Comtrade is maintained by the United Nations Statistics Division, which assisted the Secretariat in extracting data from the database. The purpose for including this column is to verify that there is a significant market/demand for that type of equipment.

10. The eighth column named "Annex" notes the Annexes in which it is recommended that the relevant 6-digit HS code be listed (mining equipment in Annex 1, agricultural equipment in Annex 2 and construction equipment in Annex 3). Some 6-digit HS codes cover types of equipment that may be used in two or all of the three industries. Where that is the case, the relevant 6-digit HS code has been listed in multiple draft MAC Protocol Annexes.

11. The ninth column describes the process through which the relevant HS code was recommended for inclusion (or exclusion) from the MAC Protocol.

12. The second part of the spreadsheet (shaded in orange) contains an additional tenth column which explains the rationale for why the relevant HS code was recommended as unsuitable for inclusion in the draft MAC Protocol Annexes.

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code
CHAPTER 82 - tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal									
1	8207 - Interchangeable tools for hand tools, whether or not power-operated, or for machine tools (for example, for pressing, stamping, punching, tapping, threading, drilling, boring, broaching, milling, turning or screw driving), including dies for drawing or extruding metal, and rock drilling or earth boring tools	Rock drilling or earth boring tools, and parts thereof	820713 -- With working part of cermets	Machines used for tunnel boring (i.e. to build tunnels) utilised in both the construction and mining industries.	<p>Top hammer drill:</p> 	300,000 - 400,000	805,099,097	Mining Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
CHAPTER 84 - Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof									
2	8413 - Pumps for liquids, whether or not fitted with a measuring device; liquid elevators		841340 -- Concrete Pumps	Includes stationary and mobile concrete pumps. (Note: Specialty vehicles that incorporate concrete pumps are classified separately under 870540: concrete mixer trucks; and 870590: concrete pumping trucks)	<p>Trailer mounted concrete pump:</p> 	100,000 - 700,000	438,131,130	Construction	Proposed by Working Group, Study Group requested more information (2016); Proposed by Japan (2017); Proposed by China (2018)
3	8424 - Mechanical appliances (whether or not hand-operated) for projecting, dispersing, or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; steam or sand blasting machines and similar jet projecting machines	Agricultural or Horticultural sprayers	842449 -- other [than portable sprayers]	Includes self-propelled and tractor-drawn herbicide and pesticide sprayers	<p>Self-propelled agricultural sprayer:</p> 	15,000 - 500,000	669,231,247	Agriculture	New code created by the HS 2017 edition. Previously deemed suitable as 842481; Proposed by U.K. (2018)
4	8424 - Mechanical appliances (whether or not hand-operated) for projecting, dispersing, or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; steam or sand blasting machines and similar jet projecting machines	Other appliances	842482 -- Agricultural or Horticultural	Includes self-propelled center pivot irrigation sprinklers and other irrigation equipment; and other agricultural and horticultural appliances of heading 8424.	<p>Agricultural or horticultural appliance (sprayer):</p> 	14,000 - 500,000	1,783,624,763	Agriculture	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code
5	8426 - Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane		842620 -- Tower Cranes	The tower crane is a fixed crane that is mounted on-site. It is a vertical metallic structure having a horizontal boom that can turn over an angle up to 360°.	Tower crane: 	100,000 - 1,000,000	1,535,707,294	Construction	Proposed by Working Group, Study Group requested more information (2016); Proposed by MAC Working Group (2018)
6	8426 - Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane	Other machinery, self-propelled	842641 -- On tires	Crawler cranes, which are self-propelled cranes used to load, unload, and stack cargo containers in shipping ports and terminals.		180,000 - 1,600,000	1,905,410,706	Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
				Loader Cranes (also called knuckle-boom cranes or articulating cranes) are hydraulically-powered articulated arm fitted to a truck or trailer, and used for loading/unloading.		180,000 - 400,000	N/A	Construction	N/A
				Telescopic Cranes have booms that consist of a number of tubes fitted one inside the other. A hydraulic or other powered mechanism extends or retracts the tubes to increase or decrease the total length of the boom.		370,000 - 1,500,000	N/A	Construction	N/A
7	8426 - Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane	Other machinery, self-propelled	842649 -- Other	Derrick cranes, which have a movable pivoted arm for moving or lifting heavy weights, especially onto a ship. This codes also covers mobile pneumatic conveyors that may be used to transfer grain out of a ship's storage hold and into a hopper located on the dock.	Derrick crane: 	220,000 - 5,500,000	1,960,930,891	Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
8	8428 - Other lifting, handling, loading or unloading machinery (for example, elevators, escalators, conveyors, teleferics)	Other continuous-action elevators and conveyors, for goods or materials	842831 - Specially designed for underground use	Includes Armor Faced Conveyors (AFCs) used in longwall mining systems	Longwall top coal caving armored face conveyor: 	300,000 - 10,000,000	132,737,317	Mining	Proposed by U.K. (2018); Proposed by Poland (2019)

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code
9	8429 - Self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers	Bulldozers and angledozers	842911 -- Track laying	Crawler, caterpillar, or track-laying tractors that run on two continuous tracks consisting of a number of plates or pads pivoted together and joined to form a pair of endless chains, each encircling two wheels on either side of the vehicle.	Track-laying bulldozer: 	295,000 - 650,000	2,861,095,364	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
10	8429 - Self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers	Bulldozers and angledozers	842919 -- Other [than track laying]	Includes Straight Blade Dozers used for moving large, sharp and abrasive objects; Semi-U Blade Dozers, built much like Straight Blade Dozers but with a deeper profile and closed ends to help keep granular materials in front for long pushes; U-Blade Dozers, designed to push large quantities of granular materials over long distances.	U-Blade Dozer: 	100,000 - 2,000,000	282,931,932	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
11	8429 - Self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers		842920 -- Graders and levelers	Graders are commonly used in the construction and maintenance of dirt roads and gravel roads. In the construction of paved roads they are used to prepare the base course to create a wide flat surface for the asphalt to be placed on.	Grader: 	300,000 - 1,200,000	1,754,680,973	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts. Proposed by Japan (2017) for addition to Annex 1.
12	8429 - Self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers		842930 -- Scrapers	The scraper is a large piece of equipment used in mining, construction, agriculture for earthmoving.	Elevated scraper: 	100,000 (scraper) - 1,200,000 (scraper tractor)	78,180,412	Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
13	8429 - Self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers		842940 -- Tamping machines and road rollers	Includes self propelled tamping machines and road rollers used to compact (or tamp) soil and asphalt. Road rollers (sometimes called roller-compactors, or just rollers) are self-propelled vehicles used to compact soil, gravel, or asphalt during road construction, similar roller compactors are used to level and compact subsoil for agriculture and in surface restoration following surface mining. Note: tamping machines that are not self propelled are classified under 843061.	Road roller: 	20,000 - 300,000 (road rollers)	1,882,678,556	Agriculture Construction	Proposed by Working Group, Study Group requested more information as some equipment under this code could be covered under the Luxembourg Rail Protocol (2016); Proposed by Japan (2017); Proposed by China (2018); Proposed by Cameroon (2018)

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code
					Rock-crushing drum roller: 	20,000 - 120,000	N/A	Agriculture Construction	N/A
14	8429 - Self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers	Mechanical shovels, excavators and shovel loaders	842951 -- Front-end shovel loaders	Loaders (bucket loaders, front loaders, front-end loaders, payloaders, scoop, shovel, skip loaders, or wheel loaders) are used to move aside or load materials such as asphalt, demolition debris, dirt, snow, feed, gravel, logs, raw minerals, recycled material, rock, sand, woodchips, etc.	Front-end shovel loader: 	100,000 - 2,300,000	9,283,829,089	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
				Back hoes are a type of excavators which consists of a tractor, front shovel bucket and small backhoe in the rear. It is the most common excavator used today.		100,000 - 200,000	N/A	Mining Agriculture Construction	N/A
				Crawlers and compact excavators are high horsepower excavators used in heavy tasks. Compact excavators are used to lift of soil and debris using hydraulic power mechanisms.		100,000 - 1,100,000	N/A	Mining Agriculture Construction	N/A
				Wheel loaders are front-end-loading machines which dig and do secondary loading.		125,000 - 2,300,000	N/A	Mining Agriculture Construction	N/A
15	8429 - Self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers	Mechanical shovels, excavators and shovel loaders	842952 -- Machinery with a 360° degrees revolving superstructure	Excavator with power-operated shovels which have a 360 degree revolving superstructure.		130,000 - 1,100,000	20,710,070,480	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
16	8429 - Self-propelled bulldozers, angledozers, graders, levelers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers	Mechanical shovels, excavators and shovel loaders	842959 -- Other	Excavators primarily designed for excavation and loading of excavated materials.		20,000 - 6,000,000	2,616,719,122	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code
17	8430 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-excavators; snow ploughs and snow-blowers		843010 -- Pile-drivers and pile-extractors	Pile drivers used to drive piles (poles) into soil to provide foundation support for buildings or other structures.	Pile-driver: 	30,000 - 1,800,000	599,091,818	Mining Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
				Diesel Hammers are pile drivers using a diesel engine.		30,000 - 500,000	N/A	Mining Construction	N/A
				Hydraulic hammers are powerful percussion hammers fitted to excavators for demolishing concrete structures or rocks, powered by auxiliary hydraulic systems from the excavator.		200,000 - 1,800,000	N/A	Mining Construction	N/A
18	8430 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-excavators; snow ploughs and snow-blowers	Coal or rock cutters and tunneling machinery	843031 -- Self-propelled	Self-propelled machines used to cut rocks and coal as well as machines used for tunneling.	Self-propelled coal cutter: 	200,000 - 3,000,000	9,573,655,699	Mining Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
				Directional boring, commonly called horizontal directional drilling or HDD, is a steerable trenchless method of installing underground pipes, conduits and cables in a shallow arc along a prescribed bore path by using a surface launched drilling rig, with minimal impact on the surrounding area.	Horizontal Directional Drill (HDD). Self Propelled: 	200,000 - 3,000,000	N/A	Mining Construction	N/A
19	8430 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-excavators; snow ploughs and snow-blowers	Coal or rock cutters and tunneling machinery	843039 -- Other	Hammers that are used (i) in rock breaking operations and sometimes in tunneling operations and (ii) hammers used by backhoe loaders and small excavators in concrete and bituminous/asphalt breaking operations.	Hammer on backhoe: 	10,000 - 62,000	599,691,957	Mining Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
20	8430 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-excavators; snow ploughs and snow-blowers	Other boring or sinking machinery	843041 -- Self-propelled	Mobile seismic drilling units to drill holes in the crust of the earth.	Mobile drilling unit: 	52,000 - 475,000	2,753,422,656	Mining Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
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21	8430 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-excavators; snow ploughs and snow-blowers	Other boring or sinking machinery	843049 -- Other	Either stationary and fixed or mobile machinery for attacking the earth's crust (e.g. cutting and breaking down rock and coal, excavation, digging and drilling) or for preparing or compacting terrain.		750,000 - 8,000,000	1,407,287,060	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
22	8430 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-excavators; snow ploughs and snow-blowers		843050 -- Other machinery, self-propelled	Terrain leveler surface excavation machines for surface mining, site prep, rock excavation as an alternative to blasting or hammering. Surface Miners are a technology for extracting and crushing material in one continuous process.	Terrain leveler surface excavation machine: 	300,000 - 8,000,000	843,098,633	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
23	8430 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-excavators; snow ploughs and snow-blowers	Other machinery, not self-propelled	843061 -- Tamping or compacting machinery	Grid Rollers are used for compaction of weathered rocks, well graded coarse soils. These rollers are not suitable for clayey soils, silty clays and uniform soils. The main use of these rollers are in subgrade and sub-base in road constructions.		25,000 - 640,000	366,500,344	Mining Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
24	8430 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-excavators; snow ploughs and snow-blowers	Other machinery, not self-propelled	843069 -- Other	Concrete level truss screed machine.		55,000 - 145,000	1,050,885,907	Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
25	8432 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers		843210 -- Plows	It includes plows that are large farming implements with one or more blades affixed to a frame, drawn by a tractor and used for cutting furrows in the soil and turning it over, especially to prepare for the planting of seeds.	Plow: 	5,000 - 125,000	437,673,261	Agriculture	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
				Chisel plows used for breaking up the soil and deep tillage. Chisel plows disturb the soil below the surface, and try to reduce the amount of top layers disturbed.		5,000 - 100,000	N/A	Agriculture	N/A

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
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				Disc plows cut soil by using discs instead of a wedge-shaped blade.		17,000 - 72,000	N/A	Agriculture	N/A
26	8432 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers	Harrows, scarifiers, cultivators, weeders and hoes	843221 -- Disc harrows	Disc harrows are used to cultivate the soil where crops are to be planted. It is also used to chop up unwanted weeds or crop remainders. It consists of many iron or steel discs which have slight concavity and are arranged into two or four sections.	Disc harrow: 	10,000 - 140,000	391,309,380	Agriculture	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
				Spring Harrows use flexible iron teeth that mounted in rows to loosen up the soil to prepare it for planting.		10,000 - 100,000	N/A	Agriculture	N/A
27	8432 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers	Harrows, scarifiers, cultivators, weeders and hoes	843229 -- Other [than disc harrows]	Cultivators and tillers used to prepare soil for planting after ploughing, including (i) tractor drawn and tractor mounted cultivators (ii) walk behind rotary tillers. Includes cultivators that use tines, teeth, prongs, shanks, or spikes to loosen the soil, break up the remaining clods of soil, mix the soil, and remove weeds. Harrows and cultivators used in commercial agriculture are typically mounted on heavy frames drawn behind a tractor. (Note: Disc harrows are classified under 843221)	Tractor-drawn cultivator: 	20,000 - 80,000 (cultivators)	1,212,981,944	Agriculture	Proposed by Working Group, Study Group requested more information (2016); Proposed by Japan (2017)
28	8432 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers	Seeders, planters and transplanters	843231 – No-till direct seeders, planters and transplanters	It includes no-till equipment (i) a seeder which is a machine for sowing seed mechanically; (ii) planters which is an implement or machine for planting seeds in the ground; and (iii) a seed drill that may be used for pasture overseeding or for use over plowed ground.	Seeder: 	20,000 - 200,000 (Drills) 300,000 (seeding equipment) 500,000 (planters)	389,555,925	Agriculture	New code created by the HS 2017 edition, inserted by Committee of Governmental Experts (October 2018)
29	8432 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers	Seeders, planters and transplanters	843239 – Other	Conventional equipment such as (i) a seeder which is a machine for sowing seed mechanically; (ii) planters which is an implement or machine for planting seeds in the ground; and (iii) a seed drill that may be used for pasture overseeding or for use over plowed ground.	Tractor-drawn Planter: 	20,000 - 200,000 (Drills) 300,000 (seeding equipment) 500,000 (planters)	939,776,024	Agriculture	New code created by the HS 2017 edition, inserted by Committee of Governmental Experts (October 2018)

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
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				Air seeders are used to sowing small, round seeds.		60,000 - 200,000 (Air Drills)	N/A	Agriculture	N/A
				Planters are the most accurate type of seeder available, and they are the most expensive ones.		30,000 - 500,000	N/A	Agriculture	N/A
30	8432 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers	Manure spreaders and fertilizer distributors	843241 – Manure spreaders	Manure spreaders, muck spreaders or honey wagons are agricultural machines used to distribute manure over a field as a fertilizer.	Manure spreader (attached to tractor): 	10,000 - 350,000	193,797,150	Agriculture	New code created by the HS 2017 edition, inserted by Committee of Governmental Experts (October 2018)
31	8432 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers	Manure spreaders and fertilizer distributors	843242 – Fertiliser distributors	A fertilizer distributor is a machine used to distribute fertilizer evenly onto crops.	Fertilizer Distributor: 	35,000 - 360,000	236,799,114	Agriculture	New code created by the HS 2017 edition, inserted by Committee of Governmental Experts (October 2018)
				Box spreaders such as this spinner discharge box spreader can handle many dry, flowable, high-value materials such as compost, poultry litter, and industrial materials. A heavy-duty metering endgate, effectively controls the movement of materials to the spinners.		250,000 - 350,000 (self-propelled fertilizer spreader)	N/A	Agriculture	N/A
				Side discharge spreaders provide excellent material breakup and have the widest spread pattern and provide the finest and thinnest application of wet manure.		35,000 - 60,000	N/A	Agriculture	N/A
32	8433 - Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 8437		843320 -- Other mowers, including cutter bars for tractor mounting	Includes (i) cutter bars for tractor mounting and (ii) heavy duty mowers principally designed to cut grass, stubble and other growth.	Cutting bar for tractor mounting: 	15,000 - 35,000 (Cutter) 8,000 - 75,000 (Mowers/Mower-Conditioner)	1,258,226,397	Agriculture	Proposed by Working Group, Study Group requested more information (2016); Proposed by Japan (2017)

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
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33	8433 - Harvesting or Threshing Machinery, including Straw or Fodder Balers; Grass or Hay Mowers; Machines for Cleaning, Sorting or Grading Eggs, Fruit or other Agricultural Produce; Other than Machinery of Heading 8437		843330 -- Other haymaking machinery	Includes tractor drawn rakes and mergers that collect cut hay into windrows		5,000 - 50,000	552,203,837	Agriculture	Proposed by Japan (2017); Proposed by U.K. (2018)
34	8433 - Harvesting or Threshing Machinery, including Straw or Fodder Balers; Grass or Hay Mowers; Machines for Cleaning, Sorting or Grading Eggs, Fruit or other Agricultural Produce; Other than Machinery of Heading 8437		843340 - Straw or fodder balers, including pick-up balers	Straw or Fodder Balers.		14,000 - 800,000	1,102,520,919	Agriculture	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
35	8433 - Harvesting or Threshing Machinery, including Straw or Fodder Balers; Grass or Hay Mowers; Machines for Cleaning, Sorting or Grading Eggs, Fruit or other Agricultural Produce; Other than Machinery of Heading 8437		843351 -- Combine harvester-threshers	Combine Harvester or Thresher.		300,000 - 1,000,000	\$3,767,996,089	Agriculture	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
36	8433 - Harvesting or Threshing Machinery, including Straw or Fodder Balers; Grass or Hay Mowers; Machines for Cleaning, Sorting or Grading Eggs, Fruit or other Agricultural Produce; Other than Machinery of Heading 8437	Other harvesting machinery; threshing machinery:	843353 -- Root or tuber harvesting machines	Includes defoliators or shredders, diggers and windrowers for tubers, and lifters for root crops; the objects are typically tractor-drawn.	Tractor-drawn beet harvester (lifter): 	100,000 - 650,000	459,723,535	Agriculture	Proposed by Japan (2017), Proposed by U.K. (2018)
37	8433 - Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 8437	Other harvesting machinery; threshing machinery	843359 -- Other	Includes a tree shaking harvester that applies force to dislodge the tree's produce	Tree shaking harvester: 	40,000 - 600,000	1,538,973,245	Agriculture	Proposed by Working Group, Study Group requested more information (2016); Proposed by Japan (2017); Proposed by China (2018); Proposed by U.K. (2018)

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					Self-propelled field forage harvester: 	300,000 - 600,000	N/A	Agriculture	N/A
38	8433 - Harvesting or Threshing Machinery, including Straw or Fodder Balers; Grass or Hay Mowers; Machines for Cleaning, Sorting or Grading Eggs, Fruit or other Agricultural Produce; Other than Machinery of Heading 8437		843360--Machines for cleaning, sorting or grading eggs, fruit or other agricultural produce	Includes mobile and stationary equipment for cleaning and sorting nuts: stick removers, sizers, sorters, de-stoners, and de-hullers.	Raisin Sorting Machine: 	5,000 - 40,000	855,723,964	Agriculture	Proposed by Japan (2017)
39	8436 - Other agricultural, horticultural, forestry, poultry-keeping or bee-keeping machinery, including germination plant fitted with mechanical or thermal equipment, poultry incubators and brooders		843680 -- Other machinery	It includes (i) an agricultural tractor with a readily-removable wood harvester unit; (ii) a tree harvesting machine is a tracked excavator-like propelling base which is specifically designed to be used with a variety of harvesting heads for the first thinning of trees; and (iii) a wood chipper designed to chip branches and cuttings from trees and shrubs.		97,000 - 717,000	2,760,214,485	Agriculture	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
40	8437 - Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables, and parts thereof; machinery used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm type machinery		843710 -- Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables	Includes mobile and stationary equipment used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm type machinery.	Mobile air-screen grain cleaner: 	30,000 - 50,000	637,185,450	Agriculture	Proposed by Japan (2017)
41	8474 - Machinery for sorting, screening, separating, washing, crushing, grinding, mixing or kneading earth, stone, ores or other mineral substances, in solid (including powder or paste) form; machinery for agglomerating, shaping or molding solid mineral fuels, ceramic paste, unhardened cements, plastering materials or other mineral products in powder or paste form; machines for forming foundry molds of sand.		847410 -- Sorting, screening, separating or washing machines	Includes mobile and stationary equipment, including vibrating screen decks for classifying aggregate into stock piles; washers that remove fine particles from aggregate; inclined screws that extract fine particles from a slurry; and rotary scrubbers that remove water soluble impurities from hard aggregates.	Screw washer: 	15,000 - 500,000	1,894,145,222	Mining Construction	Proposed by Japan for Agriculture (2017), Proposed by MAC Working Group (2018)

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
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					<p>Mobile screen:</p> 	15,000 - 500,000	N/A	Mining Construction	N/A
42	8474 - Machinery for sorting, screening, separating, washing, crushing, grinding, mixing or kneading earth, stone, ores or other mineral substances, in solid (including powder or paste) form; machinery for agglomerating, shaping or molding solid mineral fuels, ceramic paste, unhardened cements, plastering materials or other mineral products in powder or paste form; machines for forming foundry molds of sand.		847420 - Crushing or grinding machines	Includes portable and stationary rock crushers and grinding mills. Crushers are used to break large rocks into smaller rocks. Grinding mills pulverize material into powder.	<p>Mobile cone crusher:</p> 	10,000 - 1,000,000	2,747,865,566	Mining Construction	Proposed by Working Group, Study Group requested more information (2016); Proposed by Cameroon (2018); Proposed by MAC Working Group (2018)
					<p>Mobile jaw crusher:</p> 	30,000 - 1,000,000	N/A	Mining Construction	N/A
43	8474 - Machinery for sorting, screening, separating, washing, crushing, grinding, mixing or kneading earth, stone, ores or other mineral substances, in solid (including powder or paste) form; machinery for agglomerating, shaping or moulding solid mineral fuels, ceramic paste, unhardened cements, plastering materials or other mineral products in powder or paste form; machines for forming foundry molds of sand	Mixing or kneading machines	847431 -- Concrete or mortar mixers	Machinery of this type is used, mainly in the extractive industries, for the treatment (mixing) of solid mineral products.	<p>Concrete Mixer:</p> 	100,000 - 200,000	988,004,310	Mining Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
44	8474 - Machinery for sorting, screening, separating, washing, crushing, grinding, mixing or kneading earth, stone, ores or other mineral substances, in solid (including powder or paste) form; machinery for agglomerating, shaping or molding solid mineral fuels, ceramic paste, unhardened cements, plastering materials or other mineral products in powder or paste form; machines for forming foundry molds of sand	Mixing or kneading machines	847432 -- Machines for mixing mineral substances with bitumen	Machinery of this type is used, mainly in the extractive industries, for the treatment (mixing) of solid mineral products.	<p>Bitumen Mixer:</p> 	200,000 - 1,000,000	544,251,889	Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
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45	8479 - Machines and mechanical appliances having individual functions, not specified or included elsewhere in this Chapter		847910 -- Machinery for public works, building or the like	(i) Power trowels to float and finish concrete; (ii) concrete finishing machines; and (iii) ice breakers designed to remove dangerous ice sheets which can form on road surfaces.	Concrete paver: 	160,000 - 550,000	2,841,529,973	Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
46	8479 - Machines and mechanical appliances having individual functions, not specified or included elsewhere in this Chapter	Other machines and mechanical appliances	847982 - Mixing, kneading, crushing, grinding, screening, sifting, homogenizing, emulsifying or stirring machines	Machinery of this type has individual function it has been designed for, which can only be performed distinctly from and independently of any other machine or appliance. Example: Paddle blender agitator mixers are ideally suited for applications including feed and grain, non-directional liquid or slurry mixes.	Paddle Blender Agitator: 	50,000 - 5,000,000	4,407,709,906	Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
CHAPTER 87 - Vehicles other than railway or tramway rolling stock, and parts and accessories thereof									
47	8701 - Tractors (other than tractors of heading 8709)		870130 -- Track-laying tractors	Tractors and dozers propelled using a track-laying mechanism (i.e. continuous band of treads driven by two or more wheels).	Track-laying dozer: 	350,000 - 700,000	1,242,190,729	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
				Half Track Type Tractors generally used for reclaiming barren lands.		260,000 - 450,000	N/A	Mining Agriculture Construction	N/A
48	8701 - Tractors (other than tractors of heading 8709)		870191 - Not exceeding 18 kW	(i) agricultural tractors, (ii) log skidders which are wheeled tractors with front-mounted dozers and either a rear-mounted grapple or a cable winch; and (iii) tractors used in forestry.	Sub-Compact Utility Tractor: 	5,000 - 16,000	954,551,505	Mining Agriculture Construction	New code created by the HS 2017 edition, inserted by Committee of Governmental Experts; MWG proposed removal as code covers predominantly low value equipment. Secretariat recommends removal.

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
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48	8701 - Tractors (other than tractors of heading 8709)		870192 - Exceeding 18 kW but not exceeding 37 kW	(i) agricultural tractors, (ii) log skidders which are wheeled tractors with front-mounted dozers and either a rear-mounted grapple or a cable winch; and (iii) tractors used in forestry.		20,000 - 34,000	1,438,388,965	Mining Agriculture Construction	New code created by the HS 2017 edition, inserted by Committee of Governmental Experts
49	8701 - Tractors (other than tractors of heading 8709)		870193 - Exceeding 37 kW but not exceeding 75 kW	The same as 870192 except with a larger engine		20,000 - 87,500	4,103,771,901	Mining Agriculture Construction	New code created by the HS 2017 edition, inserted by Committee of Governmental Experts
50	8701 - Tractors (other than tractors of heading 8709)		870194 - Exceeding 75 kW but not exceeding 130 kW	The same as 870193 except with a larger engine		70,000 - 170,000	5,258,809,061	Mining Agriculture Construction	New code created by the HS 2017 edition, inserted by Committee of Governmental Experts
51	8701 - Tractors (other than tractors of heading 8709)		870195 - Exceeding 130 kW	The same as 870194 except with a larger engine		200,000 - 900,000 (Harvesters)	5,805,189,052	Mining Agriculture Construction	New code created by the HS 2017 edition, inserted by Committee of Governmental Experts
				Four wheeled tractors.		200,000 - 900,000 (Tractors)	N/A	Mining Agriculture Construction	N/A
52	8704 - Motor vehicles for the transport of goods		870410 -- Dumpers designed for off-highway use	Off-highway dump trucks that are used strictly off-road for mining and heavy dirt hauling jobs.	Off-highway dumpers: 	700,000 - 7,000,000	6,027,539,621	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts. Proposed by Japan (2017) for addition to Annex 2.
53	8705 - Special purpose motor vehicles, other than those principally designed for the transport of persons or goods (for example, breakdown lorries, crane lorries, fire fighting vehicles, concrete-mixer lorries, road sweeper lorries, spraying lorries, mobile workshops, mobile radiological units)		870510 - Crane Lorries	It includes (i) a mobile crane that is a cable-controlled crane mounted on crawlers or rubber-tired carriers or (ii) a hydraulic-powered crane with a telescoping boom mounted on truck-type carriers or as self-propelled models.	Mobile crane: 	115,000 - 2,200,000	3,223,322,932	Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts

DCME-MAC – DOC. 6 - APPENDIX 1 - LIST OF HS CODES RECOMMENDED FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019									
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54	8705 - Special purpose motor vehicles, other than those principally designed for the transport of persons or goods (for example, breakdown lorries, crane lorries, fire fighting vehicles, concrete-mixer lorries, road sweeper lorries, spraying lorries, mobile workshops, mobile radiological units)		870540 - Concrete-mixer lorries	Includes Motor breakdown lorries, Motor pump vehicles, Lorries fitted with ladders or elevator platform, Lorries used for cleansing streetset, etc..		75,000 - 350,000	996,441,675	Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts
55	8716 - Trailers and semi-trailers; other vehicles, not mechanically propelled; parts thereof		871620 - Self-loading or self-unloading trailers and semi-trailers for agricultural purposes	Includes Self-loading agricultural trailers fitted with automatic loading devices.		80,000 - 300,000	563,171,914	Mining Agriculture Construction	Proposed by MAC Working Group, approved by Study Group and Committee of Governmental Experts

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
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CHAPTER 82 - tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal										
1	8207 - Interchangeable tools for hand tools, whether or not power-operated, or for machine tools (for example, for pressing, stamping, punching, tapping, threading, drilling, boring, broaching, milling, turning or screw driving), including dies for drawing or extruding metal, and rock drilling or earth boring tools	Rock drilling or earth boring tools, and parts thereof	820719 - Other, including parts	Parts of rock drills and earth boring tools.	Part of earth boring machine: 		1,368,887,654	Mining Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; The Explanatory Notes to Chapter 82.07 note that 'this heading covers an important group of tools which are unsuitable for use independently, but are designed to be fitted [into other types of equipment].
CHAPTER 84 - Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof										
2	8407 - Spark-ignition reciprocating or rotary internal combustion piston engines	Reciprocating piston engines of a kind used for the propulsion of vehicles of chapter 87	840731 -- Of a cylinder capacity not exceeding 50 cc	Includes engines that may be used in the manufacture of other machines (e.g. motorized scooters).	Piston engine: 		13,955,601	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
3	8407 - Spark-ignition reciprocating or rotary internal combustion piston engines	Reciprocating piston engines of a kind used for the propulsion of vehicles of chapter 87	840732 -- Of a cylinder capacity exceeding 50cc but not exceeding 250 cc	Same as above but higher capacity.	ATV engine: 		531,696,950	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
4	8407 - Spark-ignition reciprocating or rotary internal combustion piston engines	Reciprocating piston engines of a kind used for the propulsion of vehicles of chapter 87	840733 -- Of a cylinder capacity exceeding 250cc but not exceeding 1,000 cc	Same as above but higher capacity.	Arctic cat engine: 		2,024,075,176	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
5	8407 - Spark-ignition reciprocating or rotary internal combustion piston engines	Reciprocating piston engines of a kind used for the propulsion of vehicles of chapter 87	840734 - of a cylinder capacity exceeding 1,000cc	Same as above but higher capacity.			33,977,087,417	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
6	8407 - Spark-ignition reciprocating or rotary internal combustion piston engines		840790 -- Other engines	Other engines that may be installed in agricultural and horticultural machinery.	Horticultural machine engine: 		2,887,841,873	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
7	8408 - Compression-ignition internal combustion piston engines (diesel or semi-diesel engines)		840810 -- Marine propulsion engines	Marine propulsion engines that power vessels.	CAT marine propulsion engine: 		3,323,401,311	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
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8	8408 - Compression-ignition internal combustion piston engines (diesel or semi-diesel engines)		840820 -- Engines of a kind used for the propulsion of vehicles of chapter 87 (Tractors and other vehicles):	Includes engines that may be power tractors suitable for agricultural use.	Tractor engine: 		30,414,000,556	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
9	8408 - Compression-ignition internal combustion piston engines (diesel or semi-diesel engines)		840890 -- Other engines	Includes engines other than those utilized to power vessels and agricultural/horticultural machinery under the preceding two codes.	Mining equipment engine: 		13,005,690,646	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
10	8409 - Parts suitable for use solely or principally with the engines of heading 8407 or 8408	Other	840991 -- Suitable for use solely or principally with spark-ignition internal combustion piston engines	Includes spark ignition engines that may be used to power vessels, vehicles and machinery.	Rotary engine parts: 		31,269,774,222	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers equipment commonly used outside the MAC industries.
11	8409 - Parts suitable for use solely or principally with the engines of heading 8407 or 8408	Other	840999 -- Other	Includes engines that may be used to power construction machinery.	Construction machinery engine: 		33,419,475,341	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers equipment commonly used outside the MAC industries.
12	8411 - Turbo-jets, turbo propellers and other gas turbines	Other gas turbines	841181 -- Other gas turbines - Of a power not exceeding 5000kW				2,080,021,828	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
13	8411 - Turbo-jets, turbo propellers and other gas turbines	Other gas turbines	841182 - Other gas turbines - Of a power exceeding 5000kW				6,952,192,947	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
14	8412 - Other engines and motors	Hydraulic power engines and motors	841221 -- Linear acting (cylinders)	Includes engines that may be used to provide the force to operate the control valves of a steam turbine.	Steam turbine engine: 		5,272,788,228	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
15	8412 - Other engines and motors	Hydraulic power engines and motors	841229 -- Other	Includes hydrojets (thrusters) that are basically high capacity pumps which draw water into through a special intake, and discharge it at enhanced pressure through a steerable nozzle. They are fast becoming an alternative means of vessel propulsion.	Industrial high capacity pump: 		3,897,999,211	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
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16	8412 - Other engines and motors	Pneumatic power engines and motors	841231 -- Linear acting (cylinders)	Engines that may be used for a wide range of mechanical applications, including machine tools, hoists and davits, farm machinery, construction equipment, robotics, and other industrial machines.	Air car engine: 		1,958,792,073	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
17	8412 - Other engines and motors	Pneumatic power engines and motors	841239 -- Other	Engines that include air driven motors used to start an engine on a dump truck.	Air-powered motor: 		795,769,843	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
18	8412 - Other engines and motors		841280 -- Other	Engines, including a spring-operated mechanism, which is part of an operating mechanism incorporating several components for use with a high voltage circuit breaker (the spring-operated mechanism is the only part of the operating mechanism at issue herein).	Spring-operated brake: 		755,957,162	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries; This code covers predominantly low value equipment.
19	8412 - Other engines and motors		841290 -- Parts	Parts of engines, including stainless steel distance sleeves that are used in marine propulsion systems.	Distance sleeves: 		6,676,848,118	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers equipment commonly used outside the MAC industries.
20	8413 - Pumps for liquids, whether or not fitted with a measuring device; liquid elevators		841330 -- Fuel, lubricating or cooling medium pumps for internal combustion piston engines	Pumps, including (i) components of the fuel delivery system for a fuel-injected diesel internal combustion engine, and (ii) a high pressure fuel pump for use with fuel injected engines of the type used in small unmanned aircraft and are designed to be fitted to small internal combustion engines.	High pressure fuel pump: 		13,273,222,970	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
21	8413 - Pumps for liquids, whether or not fitted with a measuring device; liquid elevators		841350 - Other reciprocating positive displacement pumps	Includes a sucker pump used for pumping the stratum liquid out of an oil well.	Reciprocating positive displacement pump: 		7,039,913,027	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
22	8413 - Pumps for liquids, whether or not fitted with a measuring device; liquid elevators		841360 -- Other rotary positive displacement pumps	Includes water pumps that are used to provide cooling circulation for the hydraulic pumps. Electric motors are used to provide power to the pumps.	Positive displacement rotary pump: 		6,127,928,225	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
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23	8413 - Pumps for liquids, whether or not fitted with a measuring device; liquid elevators		841370 -- Other centrifugal pumps	Any pump, machinery or appliance utilized for raising or otherwise continuously displacing and transferring volumes of liquids. They can either be operated manually or via any kind of power unit, integral or otherwise.			13,238,633,866	Mining	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
24	8413 - Pumps for liquids, whether or not fitted with a measuring device; liquid elevators	Parts	841391 -- Of pumps	Parts of Pumps, including those that primary function is to provide reinforcement in the master cylinder of an automobile's brake booster.	Pump part: 		14,219,551,543	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
25	8414 - Air or vacuum pumps or other gas compressors and fans; ventilating or recycling hoods incorporating a fan, whether or not fitted with filters	Fans	841459 -- Other	Fans, including heater blowers and heater cores that may be used to distribute heat throughout the vehicle's passenger compartment in the form of heated air.	Tractor fan: 		10,096,640,507	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
26	8424 - Mechanical appliances (whether or not hand-operated) for projecting, dispersing, or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; steam or sand blasting machines and similar jet projecting machines		842430 -- Steam or sand blasting machines and similar jet projecting machines	Includes (i) hand-cart mounted units that can be moved by hand and (ii) larger trailer-mounted units capable of supplying high-pressure abrasive streams to multiple workers simultaneously.	Hand-cart mounted: 	4,000 - 40,000	2,813,608,357	Agriculture	Proposed by Japan (2017)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
27	8426 - Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane; Overhead traveling cranes, transporter cranes, gantry cranes, bridge cranes, mobile lifting frames and straddle carriers	Other machinery [Other than: overhead traveling cranes on fixed support, mobile lifting frames on tires and straddle carriers, tower cranes, portal or pedestal jib cranes, and other machinery, self-propelled]	842699 -- Other [other than machinery designed for mounting on road vehicles]	Includes ships' derricks	Ship crane: 	370,000 - 500,000	642,833,934	Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by China (2018)	This code covers equipment commonly used outside the MAC industries.

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
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28	8427 - Fork-lift trucks; other works trucks fitted with lifting or handling equipment		842710 -- Self-propelled trucks powered by an electric motor	It includes (i) forklift trucks that consist of a four-wheeled chassis with a front mounted mast assembly to which the forks are attached and (ii) automated guided vehicles (AGVs) capable of holding articles weighing up to 3 tons and incorporate lift tables.	Forklift truck: 		8,290,175,023	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries; This code does not cover parts (parts for 8425-8430 are covered by 8431).
29	8427 - Fork-lift trucks; other works trucks fitted with lifting or handling equipment		842720 -- Other self-propelled trucks	It includes (i) a wheeled, self-propelled lifting platform generally used to raise and lower produce in a harvesting operation and (ii) hydraulic power unit designed to lift the tongue of a trailer from a towing vehicle, usually a heavy-duty pick-up truck, and move the trailer as a portable unit to a parking location.	Hydraulic power unit: 		8,572,823,154	Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by China (2018)	This code covers equipment commonly used outside the MAC industries; This code does not cover parts (parts for 8425-8430 are covered by 8431).
					Fork-lift truck: 		N/A	Agriculture Construction	N/A	N/A
30	8427 - Fork-lift trucks; other works trucks fitted with lifting or handling equipment		842790 -- Other trucks	It includes (i) pallet trucks that are used to lift and transport palletized loads weighing up to 5000 pounds and (ii) mini lifter/skip hoist that can be used in a variety of general purpose lifting and short distance transport activities.	Pallet truck: 		1,048,057,962	Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries; This code does not cover parts (parts for 8425-8430 are covered by 8431).
31	8428 - Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics)	Other continuous-action elevators and conveyors, for goods or materials	842833 - Other, belt type	Includes mobile transfer belt conveyors and radial stacking belt conveyors.	Mobile telescoping radial stacking belt conveyor: 	10,000 - 300,000	3,308,370,634	Mining	Proposed by U.K. (2018)	This code covers equipment commonly used outside the MAC industries.
32	8428 - Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics)		842890 -- Other Machinery	Includes (i) woodland log handling equipment and (ii) a pallet lift which handles the vertical transportation of pallets into and out of the warehouse; and retrieving pallets from the various levels as required.	Conveyor system: 		10,373,485,509	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2018)	This code covers equipment commonly used outside the MAC industries; This HS code does not cover parts (parts for machinery 8425-8430 are covered by 8431).
					Excavator type magnetic lifter: 	300,000 - 600,000	N/A	Mining Agriculture Construction	N/A	N/A

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
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33	8430 - Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-excavators; snow ploughs and snow-blowers		843020 -- Snowplows and snowblowers	Includes snowblowers mounted on tractors.	Snowblower: 	1,000 - 15,000	481,946,913	Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers equipment commonly used outside the MAC industries; This HS code does not cover parts (parts for machinery 8425-8430 are covered by 8431).
34	8431 - Parts suitable for use solely or principally with the machinery of headings 8425 to 8430		843110 -- of machinery of heading 8425	Includes a trailer landing gear designed to be assembled onto trailers. They are composed of hot-rolled, cold-finished non-alloy steel.	Trailer landing gear: 		1,401,562,704	Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
35	8431 - Parts suitable for use solely or principally with the machinery of headings 8425 to 8430		843120 -- Of machinery of heading 8427	It includes (i) a forklift set intended for use on or in conjunction with an all-terrain vehicle and (ii) a pallet saver that is made of carbon steel in the shape of an inverted T, and is used to prevent damage to wood pallets.	Forklift set: 		4,872,337,958	Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
36	8431 - Parts suitable for use solely or principally with the machinery of headings 8425 to 8430	Of machinery of heading 8428	843139 -- Other	Includes (i) flight bars and E-bolts are components of armored face chain conveyors used in underground longwall mining applications and (ii) items for use with roller conveyors. Covers parts for other lifting, handling, loading or unloading machinery (for example, elevators, escalators, conveyors, teleferics); Other covers parts other than those for lifts, skips, hoists or escalators (which are covered by 843131).	Roller conveyor parts: 		7,197,811,957	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
37	8431 - Parts suitable for use solely or principally with the machinery of headings 8425 to 8430	Of machinery of heading 8426 [e.g. Ship's derricks, cranes, etc.], 8429 [e.g. Self-propelled bulldozers, angledozers, graders, etc.] or 8430 [e.g. Other moving, grading, leveling, etc.]:	843141 -- Buckets, shovels, grabs and grips	Includes cutterheads and buckets that may be attached to backhoes.	Shovel bucket: 	10,000 - 100,000	1,973,878,047	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
					Bulldozer shovel: 		N/A	Mining Agriculture Construction	N/A	N/A

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
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38	8431 - Parts suitable for use solely or principally with the machinery of headings 8425 to 8430	Of machinery of heading 8426 [e.g. Ship's derricks, cranes, etc.], 8429 [e.g. Self-propelled bulldozers, angledozers, graders, etc.] or 8430 [e.g. Other moving, grading, leveling, etc.]:	843142 -- Bulldozer or angledozer blades	Includes blades that belong to the class or kind that are principally used on bulldozers and angledozers.	Bulldozer blades: 		178,184,648	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised.
39	8431 - Parts suitable for use solely or principally with the machinery of headings 8425 to 8430	Of machinery of heading 8426 [e.g. Ship's derricks, cranes, etc.], 8429 [e.g. Self-propelled bulldozers, angledozers, graders, etc.] or 8430 [e.g. Other moving, grading, leveling, etc.]:	843143 -- Parts for boring or sinking machinery of subheading 8430.41 or 8430.49	Includes (i) drill collar bars that may be used principally on offshore drilling platforms and (ii) non-magnetic drill collars that are solely or principally used on oil and gas well drilling machinery.	Drill collar bars: 		10,458,312,268	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised.
40	8431 - Parts suitable for use solely or principally with the machinery of headings 8425 to 8430	Of machinery of heading 8426 [e.g. Ship's derricks, cranes, etc.], 8429 [e.g. Self-propelled bulldozers, angledozers, graders, etc.] or 8430 [e.g. Other moving, grading, leveling, etc.]:	843149 -- Other	Includes (i) straddle carriers that are self-propelled machines used in container terminals to load, unload, stack, and transport containers over short distances and (ii) jarret shock absorbers that absorb energy in order to reduce shock forces, thus protecting equipment against excessive impact loads.	Straddle carrier: 		22,927,423,625	Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
				Parts, other than buckets, shovels, grabs and grips, for machinery of heading 8426 [Ship's derricks, cranes, etc.], 8429 [self-propelled bulldozers, angledozers, graders, etc.] or 8430 [other moving, grading, leveling, etc.] - it includes tracks and tyres for objects of these codes.	Track for track-laying bulldozers and excavators: 	Low-value parts		Construction	N/A	N/A
41	8432 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers		843280 -- Other machinery	It includes tow behind spreaders, aerators, and de-thatchers used in agriculture.	Dethatcher: 	10,000 - 20,000	1,083,753,847	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers predominantly low value equipment; This code does not cover parts (parts for 8432 is covered by 843290).
					Tow behind aerator: 	10,000 - 20,000		Agriculture	N/A	N/A

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
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42	8432 - Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers		843290 -- Parts	It includes a (i) hub that is specifically designed and marketed for installation on disc harrows, cultivators, rippers and moldboard ploughs, all of which are used in farming and agriculture and (ii) two wheel and tire assemblies designed and imported in order to be installed and used on agricultural spreaders.	Agricultural spreader: 		2,805,014,711	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised.
43	8433 - Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 8437	Mowers for lawns, parks or sports grounds	843311 -- Powered, with the cutting device rotating in a horizontal plane	They are always motorized in some way, powered either by gas, petrol or electrically.		2,000 - 9,000	4,138,687,989	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries; This code does not cover parts (parts for 8433 is covered by 843390).
				Riding mowers (ride-on mowers and lawn tractors): Instead of walking with the machine, these mowers have a seat and the operator controls and steers the machine while riding it. Suitable for larger lawns with not too many trees or other obstacles on the lawn. These machines have a mower mounted between the front and rear wheel axes. Lawn tractors can easily be equipped with e.g. carts or aerators, some even with snow plow blades.			N/A	Agriculture	N/A	N/A
44	8433 - Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 8437	Mowers for lawns, parks or sports grounds	843319 -- Other	It includes a push reel lawn mower that is constructed of steel and has two plastic wheels and two foam handle grips.	Push reel lawn mower: 	10,000 - 75,000	547,332,594	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries; This code does not cover parts (parts for 8433 is covered by 843390).
					Greens mower (reel type): 	10,000 - 75,000	N/A	Agriculture	N/A	N/A
45	8433 - Harvesting or Threshing Machinery, including Straw or Fodder Balers; Grass or Hay Mowers; Machines for Cleaning, Sorting or Grading Eggs, Fruit or other Agricultural Produce; Other than Machinery of Heading 8437	Other harvesting machinery; threshing machinery:	843352 -- Other threshing machinery	Includes threshing equipment other than combine harvesters (which are included in 843351). It includes powered and unpowered objects, typically mounted on hand-carts.	Rice and wheat thresher: 	100.00 - 3,000	258,704,202	Agriculture	Proposed by Japan (2017)	This code covers predominantly low value equipment that may not be individually serialised

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code	Rationale for recommending the HS code as unsuitable for inclusion in the MAC Protocol annexes
46	8433 - Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 8437		843390 -- Parts	Parts for the mowers described above under heading 8433.	Grooming mower: 	0.00 - 5,000	5,282,269,194	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers low value parts which may not be individually serialised.
					Parts for forage harvester: 	100.00 - 5,000	N/A	Agriculture	N/A	N/A
47	8436 - Other agricultural, horticultural, forestry, poultry-keeping or bee-keeping machinery, including germination plant fitted with mechanical or thermal equipment, poultry incubators and brooders	Parts	843699 -- Other	It includes (i) bee-keeping machinery; (ii) machinery for preparing animal feeds; (iii) and forestry machinery.	Food processing machinery: 		1,386,428,446	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised.
48	8437 - Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables, and parts thereof; machinery used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm type machinery		843780 -- Other machinery [other than machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables]	Includes mobile and stationary equipment used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm type machinery.	Grain crushing mill: 	2,000 - 20,000	910,798,705	Agriculture	Proposed by Japan (2017)	This code covers predominantly low value equipment.
49	8467 - Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motors	Pneumatic	846711 -- Rotary type (including combined rotary-percussion):	It includes a (i) sanding system; (ii) pneumatic die grinder kit; and (iii) grinders, polishers and sanders suitable for metal working.	Pneumatic vane gearmotor: 		1,014,192,074	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries; This code does not cover parts (parts for 8467 is covered by 846792).
50	8467 - Tools for working in the hand, pneumatic, hydraulic or with self-contained electric or non-electric motors	Pneumatic	846719 -- Other	It includes (i) an air nibbler which is a sheet metal cutting tool; (ii) a spring blade that is used to affix drywall to light gauge steel; and (iii) pruning tying machine used to tie bundled nursery stock such as fruit trees and grape vines.	Pruning machine: 		860,516,039	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries; This code does not cover parts (parts for 8467 is covered by 846792).
							N/A	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016)	N/A

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code	Rationale for recommending the HS code as unsuitable for inclusion in the MAC Protocol annexes
51	8474 - Machinery for sortings, screening, separating, washing, crushing, grinding, mixing or kneading earth, stone, ores or other mineral substances, in solid (including power or paste) form; machinery for agglomerating, shaping or molding solid mineral fuels, ceramic paste, unhardened cements, plastering materials or other mineral products in powder or paste form; machines for forming foundry molds of sand		847490 -- Parts	It includes parts for (i) a machine that is used in gold plant slurry screening operations to help remove wood fibers and other foreign objects from the slurry before it goes into the leaching tanks and other refining processes and (ii) a glass washing machine and a glass tempering oven of a kind mainly used in the extractive industries.	Glass washing machine: 		6,414,165,502	Mining Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised.
52	8479 - Machines and mechanical appliances having individual functions, not specified or included elsewhere in this Chapter	Other machines and mechanical appliances	847989 -- Other	It includes (i) dehumidifiers used in applications such as water damage restoration and humidity control and are said to be ideal for industrial drying applications; (ii) floor polishers designed for commercial use in locations such as hospitals/healthcare facilities; (iii) trash compactors for industrial use that compact trash; and (iv) floor sweepers for industrial use.	Trash compactor: 		41.170.062.770	Mining Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Poland (2019)	This code covers equipment commonly used outside the MAC industries; This code does not cover parts (parts for 8479 is covered by 847990).
					Mobile hydraulic powered mine roof support: 	1,500,000 - 25,000,000	N/A	Mining Construction	N/A	N/A
53	8479 - Machines and mechanical appliances having individual functions, not specified or included elsewhere in this Chapter		847990 -- Parts	It includes parts related to (i) submersible remote operated vehicle (ROV) used in the oil and gas industry to facilitate deepwater repairs on their facilities and (ii) fan guards generally attached to the exterior of electromechanical machines with a self-contained motor and fan and are designed to match the sizes of the standard fans used in various appliances/machines and (iii) aluminum sunshade blades that may be mounted or welded to the building.	ROV: 		19,759,264,896	Mining Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
54	8483 - Transmission shafts (including cam shafts and crank shafts) and cranks; bearing housings and plain shaft bearings; gears and gearing; ball or roller screws; gear boxes and other speed changers, including torque converters; flywheels and pulleys, including pulley blocks; clutches and shaft couplings (including universal joints)		848310 -- Transmission shafts (including camshafts and crankshafts) and cranks	Includes a (i) transmission shaft which is a rotating shaft that transmits rotary motion from the engine to the differential; (ii) spark plugs and crankshafts for internal combustion engines for motorcycles; and (iii) crankshafts used to power chainsaws.	Transmission shaft: 		9,785,619,477	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.

DCME-MAC DOC. 6 APPENDIX 1 - LIST OF HS CODES DEEMED UNSUITABLE FOR INCLUSION IN THE MAC PROTOCOL ANNEXES - JULY 2019										
No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code	Rationale for recommending the HS code as unsuitable for inclusion in the MAC Protocol annexes
CHAPTER 85 - Electrical Machinery and equipment and parts thereof; sounds recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles										
55	8501 - Electric motors and generators (excluding generating sets)	Other AC motors, multi-phase:	850153 -- Of an output exceeding 75 kW		745 kW multi-phase AC motor: 	10,000 - 150,000	3,889,963,717	Mining	Proposed by Japan (2017)	This code covers equipment commonly used outside the MAC industries.
56	8501 - Electric motors and generators (excluding generating sets)	AC generators (alternators)	850161 -- Of an output not exceeding 75 kVA	It includes (i) generators and motors for AC units; (ii) alternators used in motor vehicles; (iii) fuel cell generators which are inverters used to produce AC power.	AC single phase alternator: 		938,569,302	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
57	8501 - Electric motors and generators (excluding generating sets)	AC generators (alternators)	850162 -- Of an output exceeding 75 kVA but not exceeding 375 kVA	It includes (i) electric generators that include a rotor which is turned by a mechanical device like an internal combustion engine, or steam or water turbines and(ii) a cell power plant makes use of a fuel processor to extract hydrogen from natural gas.	AC generator – 250 kVa: 		1,298,639,684	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
58	8501 - Electric motors and generators (excluding generating sets)	AC generators (alternators)	850163 -- Of an output exceeding 375 kVA but not exceeding 750 kVA	Same as above but higher capacity.	AC generator – 500kVa: 		356,508,658	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
59	8501 - Electric motors and generators (excluding generating sets)	AC generators (alternators)	850164 -- Of an output exceeding 750kVA	Same as above but higher capacity.	AC generator – 1000kVa: 		3,265,347,937	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
60	8502 - Electric generating sets and rotary converters	Generating sets with compression-ignition internal combustion piston engines(diesel or semi-diesel engines)	850211 -- Of an output not exceeding 75 kVA	It includes power generating sets that may be installed underneath a truck frame between the truck cab and trailer and is fueled by the truck's fuel tank.	Diesel generating set – 50kVa: 	10,000 - 50,000	1,707,403,846	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
61	8502 - Electric generating sets and rotary converters	Generating sets with compression-ignition internal combustion piston engines(diesel or semi-diesel engines)	850212 -- Of an output exceeding 75 kVA but not exceeding 375 kVA	Same as above but higher capacity.	Diesel generating set – 150 kVa: 	50,000 - 150,000	1,485,032,599	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.

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No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code	Rationale for recommending the HS code as unsuitable for inclusion in the MAC Protocol annexes
62	8502 - Electric generating sets and rotary converters	Generating sets with compression-ignition internal combustion piston engines(diesel or semi-diesel engines)	850213 -- Of an output exceeding 375kVA	Same as above but higher capacity.	Diesel generating set – 2500kVA: 	150,000 - 1,000,000	4,184,573,970	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers equipment commonly used outside the MAC industries.
63	8502 - Electric generating sets and rotary converters		850220 -- Generating sets with spark-ignition internal combustion piston engines	It includes (i) a portable generator for consumer use to supply electrical power and (ii) a heat recovery system to the generator set that may be attached to a heat recovery system to produce heat that is captured and used to heat water.	Portable generator: 		3,387,011,241	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
64	8503 - Parts suitable for use solely or principally with the machines of heading 8501 or 8502		850300 -- Parts suitable for use solely or principally with the machines of heading 8501				17,229,581,211	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
65	8526 - Radar apparatus, radio navigational aid apparatus and radio remote control appliances	Other	852691 - Radio navigational aid apparatus				11,960,389,092	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment; This code covers equipment commonly used outside the MAC industries.
66	8544 - Insulated (including enameled or anodized) wire, cable, (including co-axial cable) and other insulated electric conductors, whether or not fitted with connectors; optical fiber cables, made up of individually sheathed fibers, whether or not assembled with electric conductors or fitted with connectors.	Other Electrical Conductors for a voltage not exceeding 1000V	854449 -- Other	It includes (i) telecommunications cables used with computers and computer equipment to allow for the transfer/communication of information/data and (ii) insulated electric cable, used in fire or security alarm applications.	Insulated electric cable: 		27,570,856,188	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers predominantly low value equipment which may not be individually serialised; This code covers equipment commonly used outside the MAC industries.
CHAPTER 86 - Railway or tramway locomotives, rolling stock and parts thereof; railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic slowing equipment of all kinds										
67	8602 - Rail locomotives and locomotive tenders other than rail locomotives powered from an external source of electricity or by electric accumulators (batteries)		860290 - Other than diesel-electric locomotives	Suspended locomotives and monorails, suspended man-riding units, suspended material transport units, floor-mounted railways		6,000 - 330,000	126,418,041	Mining	Proposed by Poland (2019)	This code predominantly covers equipment likely to be covered by the Luxembourg Rail Protocol; This code covers equipment commonly used outside the MAC industries.
CHAPTER 87 - Vehicles other than railway or tramway rolling stock, and parts and accessories thereof										
68	8701 - Tractors (other than tractors of heading 8709)		870110 -- Single axle tractors		Single-axle tractor: 	700.00 - 1,200	126,454,143	Agriculture	Proposed by Japan (2017)	This code covers predominantly low value equipment.

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69	8701 - Tractors (other than tractors of heading 8709)		870120 -- Road tractors for semi-trailers			25,000 - 200,000	29,821,116,953	Agriculture Construction	Proposed by Japan (2017); Proposed by Cameroon (2018)	This code covers equipment commonly used outside the MAC industries.
70	8704 - Motor vehicles for the transport of goods	Other [than dumpers designed for off-highway use], with compression-ignition internal combustion piston engine (diesel or semi-diesel)	870421 -- G.V.W. not exceeding 5 metric tons	Includes trucks designed to transport goods, including delivery vans, cab chassis, pickup trucks, box trucks, and flat bed trucks.	Light goods vehicle - 2 axles: 	30,000 - 50,000	45,659,815,953	Agriculture	Proposed by Japan (2017)	This code covers equipment commonly used outside the MAC industries.
71	8704 - Motor vehicles for the transport of goods	Other [than dumpers designed for off-highway use], with compression-ignition internal combustion piston engine (diesel or semi-diesel)	870422 -- G.V.W. exceeding 5 metric tons but not exceeding 20 metric tons	Includes trucks designed to transport heavy loads, including cab chassis, box trucks, dump trucks, and flat bed trucks.	Box truck: 	20,000 - 100,000	21,461,904,112	Agriculture	Proposed by Japan (2017)	This code covers equipment commonly used outside the MAC industries.
72	8704 - Motor vehicles for the transport of goods	Other [than dumpers designed for off-highway use], with compression-ignition internal combustion piston engine (diesel or semi-diesel)	870423 -- G.V.W. exceeding 20 metric tons	Includes trucks designed to transport heavy loads, including cab chassis, box trucks, dump trucks, and flat bed trucks; special purpose vehicles for transporting goods, including log forwarders used for loading logs and hauling logs for short distances.	Heavy duty dump truck: 	150,000 - 250,000	16,483,975,256	Agriculture	Proposed by Working Group, deemed unsuitable by Study Group (2016); Proposed by Japan (2017)	This code covers equipment commonly used outside the MAC industries.
					Timberjack forwarded: 		N/A	Agriculture	N/A	N/A
73	8705 - Special purpose motor vehicles, other than those principally designed for the transport of persons or goods (for example, breakdown lorries, crane lorries, concrete-mixer lorries, road sweeper lorries, spraying lorries, mobile workshops)		870590 -- Other [than mobile cranes, mobile drilling derricks, and concrete mixers]	Concrete pumping trucks include a concrete pump and an extendable boom or hose to deliver concrete to the desired location.	Concrete Pumping Truck 	150,000 - 600,000	6,071,357,822	Agriculture Construction	Proposed by Japan (2017); Proposed by Cameroon (2018)	This code covers equipment commonly used outside the MAC industries.
74	8706 - Chassis fitted with engines, for the motor vehicles of headings 8701 to 8705		870600 -- Chassis fitted with engines, for the motor vehicles of headings 8701 to 8705	It includes dump carriers that can be used to haul materials such as earth, gravel, concrete, etc.	Chassis: 		3,401,769,481	Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.

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No.	4 Digit HS Code and Name	Additional sub-grouping	6 Digit HS Code and Name	Examples and Uses	Images	Approximate Range of List Prices for New Equipment (\$USD)	Comtrade Statistics - Global Value of Exports (\$USD) in 2017	Annex	Process for submission of code	Rationale for recommending the HS code as unsuitable for inclusion in the MAC Protocol annexes
75	8707 - Bodies (including cabs), for the motor vehicles of headings 8701 to 8705		870790 - Other	It includes (i) a sleeper cab shell that is essentially the sleeper cab structure with cutouts made for the windows, door, speakers, etc. and (ii) mobile horseboxes built to house persons and horses when attached to an automotive cab and chassis.	Tractor cabin: 		5,234,512,923	Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers equipment commonly used outside the MAC industries.
76	8708 - Parts and accessories of the motor vehicles of headings 8701 to 8705		870850 -- Drive-axles with differential, whether or not provided with other transmission components, and non-driving axles; parts thereof	It includes (i) steel carrier assemblies used in the geared, electric drive system of off-highway dump trucks; (ii) a differential that is used with four wheel drive (4 x 4) All Terrain Vehicles (ATV) (Outlander and Renegade) and Side by Side Vehicles (Commander) to constantly monitor wheel speed; and (iii) a lift axle assembly used on a heavy duty truck as a steerable, air lift, non-driving axle.	Drive axle with differential: 		24,924,347,793	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
77	8708 - Parts and accessories of the motor vehicles of headings 8701 to 8705		870870 -- Road wheels and parts and accessories thereof	It includes (i) wheels for undercarriages of tractors that acting as contact points and guides, help to distribute the machine weight evenly across the ground through the tracks; (ii) wheel rims used on a railcar mover not designed for public road use but will be used to move the rail car off road while at the job site; and (iii) wheel hub and spoke wheel assemblies used on road tractors for semi-trailers.	Road wheels: 		19,042,069,702	Mining Agriculture Construction	Proposed by Working Group, deemed unsuitable by Study Group (2016)	This code covers low value parts which may not be individually serialised; This code covers parts commonly used in equipment outside the MAC industries.
78	8709 - Works trucks, self-propelled, not fitted with lifting or handling equipment, of the type used in factories, warehouses, dock areas or airports for short distance transport of goods; tractors of the type used on railway station platforms	Vehicles	870919 -- Other [than electrical]	Includes self-propelled works trucks not electrically powered, with or without provision for the operator to ride on board.	Airport tractor: 	Variable Prices	703,995,006	Agriculture	Proposed by Japan (2017)	This code covers equipment commonly used outside the MAC industries.
79	8716 - Trailers and semi-trailers; other vehicles, not mechanically propelled	Trailers and semi-trailers for the transport of goods other than self-loading or self-unloading trailers and semi-trailers for agricultural purposes	871631 - Tanker trailers and tanker semi-trailers	Includes tanker trailers for transporting liquids (such as water, fuel, and bitumen) and dry bulk solids (such as cement, lime, and flyash).	Dry bulk solids tanker semi-trailer: 	50,000 - 150,000	931,573,573	Construction	Proposed by Cameroon (2018)	This code covers equipment commonly used outside the MAC industries.
					Heated bitumen (asphalt) tanker semi-trailer: 		N/A	Construction	N/A	N/A

APPENDIX 2

Evaluation and recommendations for HS codes proposed in 2018

1. Pursuant to a request by CGE2,⁸ in June 2018 the Secretariat established a process for States to propose additional HS codes for inclusion in the MAC Protocol Annexes. The Secretariat wrote to all United Nations member States inviting proposals. States were requested to provide certain information⁹ in making proposals, which were due by 30 November 2018.
2. Appendix 2 provides an individual analysis of each code proposed during the 2018 process and provides the Secretariat's recommendation in relation to that code. Further information on the process and evaluation criteria used is available in paragraphs 8 - 13 of this document.

Code 1 of 42: 841340	
Full Description: Pumps for liquids, whether or not fitted with a measuring device; liquid elevators - Concrete pumps.	
Proposed by Japan in October 2017 (CGE2)	For Construction Annex
Proposed by China in September 2018	For Construction Annex
Valuation: USD 100,000 – USD 700,000 (provided by China).	
Pictures:	
	
Analysis: Concrete pumps provide a continuous flow of concrete at construction sites. In the construction of high-rise buildings, concrete pumps can deliver concrete at a higher rate than can be achieved by crane-hoisted buckets. Concrete pump manufacturers assemble concrete pumps with accessories and sell them as integrated units ready to pump concrete to a location on a construction site. These integrated systems include either an electric motor, or, more often, an internal combustion engine and gearbox to power the pump. The rate and pressure at which concrete can be pumped, as well as the distance and height to which it can be delivered, depends on the capacity of the pump and the power of the drivetrain. Largely used in construction. This code was originally proposed by the MAC Working Group (MWG) during Study Group negotiations but was considered unsuitable due to a lack of evidence regarding whether the HS code covered high value objects. (listed as Item 58 in document S72K - CGE2 - Doc. 5). The selling price for used stationary trailer mounted concrete pumps in good condition ranges from USD 52,500 to USD 300,000. The HS code does also exceptionally cover smaller, lower value concrete pumps with individual unit values of USD 10,000 - USD 20,000.	

⁸ <https://www.unidroit.org/english/documents/2017/study72k/cqe02/s-72k-cqe02-report-e.pdf>, paragraph 166.

⁹ <https://www.unidroit.org/english/documents/2018/study72k/s-72k-inf02-e.pdf>.

Recommendation: Include

Based on the additional input from China and the MWG clarifying that the HS code predominantly covers high value equipment, it is recommended that HS code 841340 be included in Annex 3 of the future MAC Protocol.

Code 2 of 42: 842430

Full Description:

Mechanical appliances (whether or not hand-operated) for projecting, dispersing or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; steam or sand blasting machines and similar jet projecting machines - Steam or sand blasting machines and similar jet projecting machines.

Proposed by Japan in October 2017 (CGE2)

For **Agriculture** Annex

Valuation:

The selling prices for new and reconditioned sand blasting equipment, of the type used in construction, range from new hand-cart mounted units listed from USD 4,400 to reconditioned large capacity trailer mounted units listed for USD 36,790.

Pictures:



Analysis:

Abrasive media blasting machines, such as sand blasters, are used to clean, descale, and etch steel, glass, and concrete. They are widely used for surface preparation of metallic structures prior to applying paint or other anticorrosive coatings. They are also used to change the texture and appearance of concrete and other hard surfaces. Their use in the construction industry is wide ranging - from steel bridges to concrete surfaces. Portable sand blasting machines include hand-cart mounted units that can be moved by hand and larger trailer-mounted units capable of supplying high-pressure abrasive streams to multiple workers simultaneously. However, blasting machines are also commonly used outside the MAC sectors, especially in manufacturing.

Recommendation: Exclude

It is recommended that HS code 842430 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is (i) predominantly used outside the MAC sectors and (ii) of predominantly low value.

Code 3 of 42: 842449

Full Description:

Mechanical appliances (whether or not hand-operated) for projecting, dispersing or spraying liquids or powders; fire extinguishers, whether or not charged; spray guns and similar appliances; steam or sand blasting machines and similar jet projecting machines - Agricultural or horticultural sprayers - - Other.

Proposed by the United Kingdom in October 2018

For **Agriculture** Annex

Valuation:

List prices for base model tractor drawn sprayers from these two manufacturers ranged from USD 13,800 to USD 66,200¹⁰ and from USD 52,900 to USD 105,400¹¹ respectively.¹²

Pictures:



Analysis:

Agricultural sprayers are used for irrigation. Mobile sprayers can be self-propelled or drawn behind a tractor, although this HS code does not cover self-propelled sprayers (the explanatory notes for 8424 explain that “the heading also includes mobile spraying machines in which the motor providing the power for pumping or spraying can also be geared to provide a limited movement of the apparatus for working purposes, but it does not include machines constituting true vehicles within the meaning of heading 87.05.”). Liquid nutrients are applied from a tank and sprayed from a spray bar or injected directly into the soil, which is often accomplished simultaneous to seed planting. Irrigation sprayers include center-pivot, linear, and corner systems. These are typically self-propelled by an electric motor and may include GPS control. Center-pivot sprayers rotate around a central water supply point. Linear systems travel in straight lines and can be supplied by hose or by pumping water from an irrigation ditch. Some center pivot equipment systems are trailer-mounted.

The equipment covered under this code was originally deemed suitable to be part of Annex 2 of the future MAC Protocol as 842481 (listed as Item 2 in document S72K - CGE2 - Doc. 5). As part of the 2017 HS Revision, 842481 was split into 842441, 842449, and 842482. Of the three new codes, 842482 is already listed in Annex 2 of the draft MAC Protocol.

Recommendation: Include

Based on the input from the United Kingdom, it is recommended that HS code 842449 be included in Annex 2 of the future MAC Protocol, as it covers high value, uniquely identifiable agricultural equipment.

¹⁰ Case, Build and Price: Pull-Type Fertilizer, (2018), <https://www.caseih.com/northamerica/en-us/Pages/Build-and-Price-Iframe.aspx?series=PATRIOT%20SPRAYERS> (last accessed Apr. 19, 2018).

¹¹ John Deere, Build Your Own: Agriculture – Application Equipment, (2018), https://configure.deere.com/cbyo/#/en_us/products/agriculture/application_equipment (last accessed Apr. 19, 2018).

¹² An internet search for used equipment pricing for pivot and linear irrigation systems less than 20 years old returned prices ranging from USD 7,000 to USD 55,000. Many of these used listings included the equipment’s serial number. See Pivots Plus, Used Center Pivot and Linear Listings, (no date), <http://www.pivotsplus.com/used-irrigation-equipment/pivots-linears/>, (last accessed Apr. 19, 2018); Quality Irrigation, Used Equipment (2017), <https://www.qualityirrigation.com/used-equipment-1> (last accessed Apr. 19, 2018).

Code 4 of 42: 842620	
Full Description: Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane – Tower cranes.	
Proposed by MWG	For Construction Annex
Valuation: Tower cranes tend to be very high value, ranging from USD 100,000 to over USD 1,000,000.	
Picture:	 A photograph of a large red tower crane at a construction site. The crane is positioned on a concrete base and has a long horizontal jib extending across the frame. In the background, there are construction materials, scaffolding, and a city skyline under a clear blue sky.
Analysis: This code was originally proposed by the MAC Working Group (MWG) during Study Group negotiations but was considered unsuitable due to a lack of evidence regarding whether the HS code covered high value objects. (listed as Item 59 in document S72K - CGE2 - Doc. 5). However, it has become apparent from subsequent consultations with the industry that tower cranes made up of interchangeable parts can still be subject to a serial number covering the entire crane.	
Recommendation: Include	
It is recommended that HS code 842620 be included in Annex 3 of the future MAC Protocol.	

Code 5 of 42: 842699

Full Description:

Ships' derricks; cranes, including cable cranes; mobile lifting frames, straddle carriers and works trucks fitted with a crane - Other machinery -- Other.

Proposed by China in September 2018

For **Construction** Annex

Valuation:

USD 370,000 – USD 500,000 (provided by China).

Examples given by China: dockside crane/reach stacker, telehandler, stone forklift and truck-mounted crane.

Pictures:



Analysis:

The proposal to include 842699 within the scope of the future MAC Protocol would cover reach stackers (used to move international shipping containers over short distances). Although these might sometimes be used to transport MAC equipment and supplies as well as agricultural outputs, they cannot be said to be predominantly used in the MAC industries.

This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable because it covers equipment commonly outside the MAC sectors (listed at Item 60 in document S72K - CGE2 – Doc. 5).

Recommendation: Exclude

It is recommended that HS code 842699 be excluded from the MAC Protocol Annexes on the basis that it covers equipment which is (i) predominantly used outside the MAC industries.

Truck-mounted cranes noted in China's proposal used in the MAC industries will still be within the scope of the future MAC Protocol to the extent they are covered by HS codes 842641 and 870510.

Code 6 of 42: 842720	
Full Description: Fork-lift trucks; other works trucks fitted with lifting or handling equipment – Other self-propelled trucks.	
Proposed by China in September 2018	For Construction Annex
Valuation: USD 30,000 – USD 500,000 (provided by China)	
Pictures:	
<p>Analysis:</p> <p>The example provided in the proposal lists port forklifts, which are designed to move shipping containers. Although these objects might be used to transport MAC equipment and supplies as well as agricultural outputs, they cannot be said to be predominantly used in the MAC industries.</p> <p>This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable due to concerns that it covered equipment predominantly used outside the MAC industry (listed as Item 27 in document S72K - CGE2 - Doc. 5).</p>	
Recommendation: Exclude	
It is recommended that HS code 842720 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

Code 7 of 42: 842831	
Full Description: Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics) - Other continuous-action elevators and conveyors, for goods or materials -- Specifically designed for underground use.	
Proposed by the United Kingdom in October 2018	For Mining Annex
Proposed by Poland in January 2019	For Mining Annex
Valuation: USD 300,000 – USD 10,000,000 depending on the length of conveyor (provided by Poland).	
Examples given by the United Kingdom: Armoured Face Conveyors (AFCs) used as part of a longwall mining system and generally used in coal applications.	
Examples by Poland: Belt conveyors, main haulage belt conveyors, man riding belt conveyors, special purpose belt conveyors, mobile conveyors, reversible conveyors and others	
Pictures: 	
Analysis: Subheading 842831 includes conveyors and continuous-action elevators (e.g., bucket elevators) specially designed for underground use, such as the armored face conveyors (AFCs) incorporated into longwall mining systems, which run along the working face to transport material, typically coal, to other conveyors that carry it out of the mine. AFCs are essentially one-sided trough scraper conveyors, with the mining face providing the trough’s second side. An electrically powered rotary shearer travels along track mounted to the AFC, cutting material from the working face. The cut material, falls into the trough where a drag chain, equipped with scraper flights, drags it through the trough along the AFC’s base plate. AFCs are comprised of numerous sections joined with flexible couplings, allowing the AFC to bend, or “snake”, along the working face. After each cut, hydraulic rams advance the AFC toward the newly exposed working face. The maximum length of an AFC is generally limited by the size (power) of the motors driving its chain conveyor. AFCs capable of transporting 5,000 metric tons per hour are available.	
Recommendation: Include	
Based on the input from the United Kingdom and Poland, it is recommended that HS code 842831 be included in Annex 1 of the future MAC Protocol, as it covers high value, uniquely identifiable mining equipment.	

Code 8 of 42: 842833

Full Description:

Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics) - Other continuous-action elevators and conveyors, for goods or materials -- Other, belt type.

Proposed by the United Kingdom in October 2018

For **Mining Annex**

Valuation:

Used automated telescoping radial stackers, suitable for transporting rock sell for USD 120,000 - USD 250,000 (provided by the MWG).

Examples given by the United Kingdom: Belt-type conveyor systems used to conveyor material away from the mine, quarry, port, plant, etc.

Pictures:



Analysis:

Belt conveyors are widely used in the mining industry to transport material from the mining face, as well as to and from, crushers, screeners, sorters, stock-piles, and trucks. Mobile belt conveyors are widely used in quarries to transport crushed rock and sand, they are also often used in agriculture to move grain and other goods. They may have wheels or continuous tracks allowing them to be positioned where needed and may include hydraulic rams to raise the conveyor to the desired angle. Telescoping conveyors provide the ability to adjust the reach of the conveyor to deliver material where needed. Radial stacking conveyors (radial stackers) are capable of pivoting in a horizontal arc around their base to create separated (or continuous) stockpiles of material. They are commonly used in the mining industry.

This code also covers equipment with extremely wide application outside the MAC industries, such as elevators and conveyers used in manufacturing activities.

Recommendation: Exclude

While HS code 842833 does in part cover high value, serialised equipment predominantly used in the mining industry, it is recommended that the HS code be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.

Code 9 of 42: 842890	
Full Description: Other lifting, handling, loading or unloading machinery (for example, lifts, escalators, conveyors, teleferics) - Other machinery.	
Proposed by Japan on 10/09/2018	For Construction Annex
Valuation: USD 300,000 - USD 600,000 (provided by the MWG).	
Examples given by Japan: Excavators primarily designed for excavation, loading and handling of materials.	
Pictures:	
	
Analysis: Sub-heading HS 842890 is a catchall for “other machinery” under heading HS 8428 that is itself a catchall heading of “other lifting, handling, loading or unloading machinery”. Although several subheadings under HS 8428 narrow the range of objects included under HS 842890, the range of “other” objects is undefined except that it specifically includes “woodland log handling equipment (other than skidders),” which are likely suitable MAC objects, and “industrial robots,” which would not be MAC objects. Therefore, much of the equipment of HS 842890 are objects predominantly used outside the MAC industries. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable because it covers equipment commonly outside the MAC sectors (listed at Item 29 in document S72K - CGE2 – Doc. 5)	
Recommendation: Exclude	
It is recommended that HS code 842890 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

Code 10 of 42: 842940	
Full Description: Self-propelled bulldozers, angledozers, graders, levellers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers - Tamping machines and road rollers	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Proposed by China in September 2018	For Construction Annex
Proposed by Cameroon in September 2018	For Construction Annex
Valuation: USD 100,000 – USD 300,000 (provided by China). Wheeled self-propelled road rollers sell for USD 27,000 to USD 230,000 ¹³ (provided by MWG).	
Example provided by China: soil mixing plant-cold recycler	
Pictures:	
	
Analysis: Tamping (compacting) equipment used primarily in the construction industry includes large wheeled rollers and railroad track tampers. Wheeled rollers are used to compact sub-soil, roller-compacted concrete, and asphalt for roads and runways. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable due the fact that track tamping machines ride on the rails they are servicing and therefore would be within the scope of the Rail Protocol (listed at Item 61 in document S72K - CGE2 - Doc. 5). However, this HS code would apply to wheeled road rollers which do not run on rails and are important high value machinery used in the agriculture and construction sectors.	
Recommendation: Include	
Based on the input from China and Cameroon, it is recommended that HS code 842940 be included in Annexes 2 and 3 of the future MAC Protocol, as it covers high value, uniquely identifiable agricultural and construction equipment.	

¹³ Machinery Trader, Smooth Drum Compactors for Sale, (2018), <https://www.machinerytrader.com/listings/construction-equipment/for-sale/list/category/1013/compactors-smooth-drum?mdlx=Contains&Cond=New&SortOrder=3&scf=False#full-text> (last accessed Apr. 2, 2018); see also Bomag, BOMAG Used Equipment, (2018), <https://www.bomag.com/world/en/used-equipment.htm> (last accessed Apr. 2, 2018); see also Machinery Trader, Padfoot Compactors for Sale, (2018), <https://www.machinerytrader.com/listings/construction-equipment/for-sale/list/category/1011/compactors-padfoot?mdlx=Contains&Cond=New&SortOrder=3&scf=False#full-text> (last accessed Apr. 2, 2018).

Code 11 of 42: 843020	
Full Description: Other moving, grading, levelling, scraping, excavating, tamping, compacting, extracting or boring machinery, for earth, minerals or ores; pile-drivers and pile-extractors; snow-ploughs and snow-blowers - Snow-ploughs and snow-blowers.	
Proposed by Japan in October 2017 (CGE2)	For Construction Annex
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Pictures:	
Analysis: HS 843020 covers snow ploughs and snow blowers which are typically used to clear snow from roads and walkways. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable because it covers equipment predominantly outside the MAC sectors (listed at Item 30 in document S72K - CGE2 – Doc. 5)	
Recommendation: Exclude	
It is recommended that HS code 843020 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

Code 12 of 42: 843141	
Full Description: Parts suitable for use solely or principally with the machinery of headings 84.25 to 84.30 - - Of machinery of heading 84.26, 84.29 or 84.30 -- Buckets, shovels, grabs and grips.	
Proposed by Japan in October 2017 (CGE2)	For Construction Annex
Valuation: Examples of equipment in this category include a used 3 cubic meter excavator bucket priced at USD 12,000 and a used 6.5 cubic meter shovel bucket available for USD 90,000 ¹⁴ (provided by MWG).	
Pictures:	
Analysis: Similar to agricultural implements for tractors, attachments for other MAC equipment, such as backhoes, shovels, and draglines, and cranes are designed to be easily detachable and interchangeable for different tasks or for repair and replacement. A variety of grab designs are used to enable cranes to move different types of products produced in the MAC industries, such as logs, crushed rock, and grain. High value attachments, such as large earthmoving buckets, may be individually serialised. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable due to a lack of evidence regarding whether the HS code covered high value objects. (listed as Item 62 in document S72K - CGE2 - Doc. 5). Some parts covered by this HS code may be serialized, of high value, and used predominantly in the MAC industries – for example large shovels for draglines and excavators. However, the HS code predominantly covers parts and attachments that are not individually financed and are attached to equipment that is commonly used outside the MAC sectors.	
Recommendation: Exclude	
It is recommended that HS code 843141 be excluded from the future MAC Protocol Annexes on the basis that it predominantly covers parts and attachments rather than complete equipment.	

¹⁴ See <http://www.machinefinder.com/ww/en-US/machines/2017-tag-470-bucket-5835794>, (last accessed May 14, 2018); see also <http://www.machinefinder.com/ww/en-US/machines/hitachi-ex1200-bucket-5054894>, (last accessed May 14, 2018).

Code 13 of 42: 843149	
Full Description: Parts suitable for use solely or principally with the machinery of headings 84.25 to 84.30 - - Of machinery of heading 84.26, 84.29 or 84.30 - - Other.	
Proposed by Japan in October 2017 (CGE2)	For Construction Annex
Analysis: HS 843149 essentially covers parts for the three HS headings: 8426, 8429, and 8430. It is unlikely that these parts are individually financed. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable due to a lack of evidence regarding whether the HS code covered high value objects. (listed as Item 65 in document S72K - CGE2 - Doc. 5). The HS code predominantly covers parts and attachments that are not individually financed.	
Recommendation: Exclude	
It is recommended that HS code 843149 be excluded from the future MAC Protocol Annexes on the basis that it predominantly covers parts and attachments rather than complete equipment.	

Code 14 of 42: 843229	
Full Description: Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers - Harrows, scarifiers, cultivators, weeders and hoes - - Other.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: List prices for new base model disc harrows, from the same manufacturer ranged from USD 20,000 to USD 77,000. ¹⁵ Used equipment on the secondary market is in the range of USD 5,000 - USD 20,000 (provided by the MWG). ¹⁶	
Picture:	
Analysis: Harrows, scarifiers, cultivators, weeders, and hoes are types of agricultural equipment used to prepare the soil for planting after ploughing. They use discs, tines, teeth, prongs, shanks, or spikes to loosen the soil, break up the remaining clods of soil, mix the soil, and remove weeds. Harrows and cultivators used in commercial agriculture are typically mounted on heavy frames that are drawn behind a tractor. Walk-behind rotary tillers are also called cultivators. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable due to a lack of evidence regarding whether the HS code covered high value objects. (listed as Item 66 in document S72K - CGE2 - Doc. 5). However, based on the additional input on individual unit prices from the MWG, it appears that equipment covered under this HS code is sufficiently high value to warrant inclusion in the future MAC Protocol.	
Recommendation: Include	
Based on the additional input from MWG, it is recommended that HS code 843229 be included in Annex 2 of the future MAC Protocol.	

¹⁵ John Deere, Build Your Own – Agriculture: Tillage Equipment: Discs, (2018), https://configure.deere.com/cbyo/#/en_us/products/agriculture/tillage_equipment/discs (last accessed Apr. 18, 2018).

¹⁶ Machinefinder, Used-field-cultivators, (2018), <http://www.machinefinder.com/ww/en-US/categories/used-field-cultivators> (last accessed Apr. 18, 2018).

Code 15 of 42: 843280	
Full Description: Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers – Other machinery.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: USD 10,000 - USD 20,000.	
Picture:	
Analysis: This code covers “other machinery” in the category of “Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground roller”. It covers a broad range of equipment used for sports-ground preparation and maintenance. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable on the basis that it covered equipment predominantly used outside the MAC sectors (listed as Item 67 in document S72K - CGE2 - Doc. 5).	
Recommendation: Exclude	
It is recommended that HS code 843280 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is (i) predominantly used outside the MAC sectors and (ii) of predominantly low value.	

Code 16 of 42: 843311

Full Description:

Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37 - Mowers for lawns, parks or sports-grounds -- Powered, with the cutting device rotating in a horizontal plane.

Proposed by Japan in October 2017 (CGE2)

For **Agriculture** Annex

Picture:



Analysis:

The equipment in HS codes 843311 and 843319 is not intended for use in the MAC industries but rather for lawn maintenance, and it is of low value.

This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable on the basis that it covered equipment predominantly low value equipment used outside the MAC sectors (listed as Item 35 in document S72K - CGE2 - Doc. 5).

Recommendation: Exclude

It is recommended that HS code 843311 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is (i) predominantly used outside the MAC sectors and (ii) of predominantly low value.

Code 17 of 42: 843319	
Full Description: Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37 - Mowers for lawns, parks or sports-grounds - - Other.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Picture:	
Analysis: This code covers equipment used primarily for lawns, parks, and sports-grounds, rather than in the MAC industries. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable on the basis that it covered equipment predominantly low value equipment used outside the MAC sectors (listed as Item 36 in document S72K - CGE2 - Doc. 5).	
Recommendation: Exclude	
It is recommended that HS code 843319 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is (i) predominantly used outside the MAC sectors and (ii) of predominantly low value.	

Code 18 of 42: 843320	
Full Description: Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37 - Other mowers, including cutter bars for tractor mounting.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: List prices USD 8,000 - USD 22,000 for new base model tractor drawn disc mowers and USD 43,000 - USD 52,000 for new base model tractor drawn disc mower conditioners. ¹⁷ List prices for new base model windrower heads (the mowing attachment for a windrower tractor), USD 30,000 - USD 77,000 (provided by MWG). ¹⁸	
Pictures:	
Analysis: HS 8433 includes 843320 under the subheading, "other mowers" which covers cutter bars and rotary cutters that are "tractor drawn or for tractor mounting." The Subheading, "other mowers," is at the same level as, and parallel to, the subheading "Mowers for lawns, parks or sports grounds." Reading these subheadings together, and with the heading for 8433, suggests that "other" means "grass or hay mowers" other than "mowers for lawns, parks or sports grounds." Therefore, equipment used in agriculture for cutting grass or hay would fall under HS code 843320. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable on the basis that it covered equipment predominantly low value equipment (listed as Item 68 in document S72K - CGE2 - Doc. 5). However, based upon the additional input received, it appears that this HS code does predominantly cover high value equipment.	
Recommendation: Include	
Based on the additional input from the MWG clarifying that the HS code covers predominantly high value equipment, it is recommended that HS code 843320 be included in Annex 2 of the future MAC Protocol.	

¹⁷ Case, Build and Price – Disc Mower, <https://www.caseih.com/northamerica/en-us/Pages/Build-and-Price-Iframe.aspx?line=DISC%20MOWER%20CONDITIONERS>, (last accessed May 7, 2018); Case, Build and Price – Disc Mower Conditioner, <https://www.caseih.com/northamerica/en-us/Pages/Build-and-Price-Iframe.aspx?line=DISC%20MOWER%20CONDITIONERS> (last accessed May 7, 2018).

¹⁸ Case, Build and Price – SP Windrowers & Heads: Heads, <https://www.caseih.com/northamerica/en-us/Pages/Build-and-Price-Iframe.aspx?series=SP%20WINDROWERS%20AND%20HEADS> (last accessed May 7, 2018).

Code 19 of 42: 843330	
Full Description: Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37 - Other haymaking machinery.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Proposed by the United Kingdom in October 2018	For Agriculture Annex
Valuation: USD 5,000 - USD 50,000 (provided by the United Kingdom). List prices for new rakes ranged from USD 7,000 to USD 39,000. ¹⁹ New mergers listed for USD 25,000 to USD 36,000. (provided by MWG). ²⁰	
Pictures:	
Analysis: Subheading 8433.30 encompasses “other haymaking machinery”, which does not include mowers or balers which are covered in separate codes. This code includes rakes and mergers. Rakes gather and roll the partially dry hay into a windrow, allowing the underside of the hay to dry. It also allows the baler to efficiently pick up the crop for harvest. There are three types of hay rakes: parallel bar, rotary and wheel. The parallel bar has the lowest amount of hay loss, particularly with legumes. They run on a ground or variable speed hydraulic drive system. Rotary rakes will sometimes come with dual functions. They can be used to rake or ted the hay. Wheel rakes save time because they can be operated at a higher speed than other rake types. One drawback to the wheel rake is that it has a higher potential for rock collection. While the individual unit values for equipment covered by this code are within the lower range, it does appear that the equipment covered is individually financed and used commercially.	
Recommendation: Include	
Based on the additional input from the United Kingdom and the MWG clarifying that the HS code covers predominantly high value equipment, it is recommended that HS code 843330 be included in Annex 2 of the future MAC Protocol.	

¹⁹ Case, Build and Price – Rakes, <https://www.caseih.com/northamerica/en-us/Pages/Build-and-Price-Iframe.aspx?series=RAKES> (last accessed May 7, 2018).

²⁰ Case, Build and Price – Mergers, <https://www.caseih.com/northamerica/en-us/Pages/Build-and-Price-Iframe.aspx?series=MERGERS> (last accessed May 7, 2018).

Code 20 of 42: 843352	
Full Description: Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37 - Other harvesting machinery; threshing machinery -- Other threshing machinery.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: List prices for new rice and wheat threshing machines range around USD 3,000 for diesel powered units capable of processing up to 1000kg per hour ²¹ (provided by MWG).	
Picture: 	
Analysis: Threshing is the process of separating grain or seed from a plant – typically a cereal plant such as wheat or rice. Commercial farmers typically use combine harvesters that integrate the harvesting and threshing operations into a single machine that accomplishes threshing while harvesting the crop. In the context of the HS classifications, “other threshing machinery” refers to threshing equipment other than combine harvesters, which have their own HS code (843351). It appears that HS code 843352 covers predominantly low value equipment which is not used commercially.	
Recommendation: Exclude	
It is recommended that HS code 843352 be excluded from the future MAC Protocol Annexes on the basis that it covers predominantly low value equipment.	

²¹ See <https://www.alibaba.com/showroom/rice-and-wheat-threshing-machine-on-sale.html> (last accessed May 8, 2018).

Code 21 of 42: 843353	
Full Description: Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37 - Other harvesting machinery; threshing machinery -- Root or tuber harvesting machines.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Proposed by the United Kingdom in October 2018	For Agriculture Annex
Valuation: USD 100,000 - USD 650,000 (provided by the United Kingdom). Prices for used root and tuber harvesting equipment range from USD 35,000 for an 8-year old sugar beet harvester to USD 50,000 for a 20-year carrot harvester (provided by the MWG). ²²	
Examples given by the United Kingdom: Potato harvester, Sugar beet harvester, Machines can be self-propelled or trailed	
Pictures:	
Analysis: Harvesting machines for root or tuber crops include equipment for harvesting potatoes, beets, and carrots. This equipment is typically tractor drawn and includes defoliators or shredders, diggers and windrowers for tubers, and lifters for root crops. Typically, the harvesting process begins by using defoliating equipment to remove and shred foliage. Harvesters (lifters) for root crops that grow close to the surface, such as carrots and beets, lift the crop from the soil and deliver it into a truck or trailer moving alongside the harvester. For tubers, such as potatoes, a windrower machine digs up the tubers and collects them into windrows. The harvester follows the windrower, collecting the tubers from the windrows and delivering them into a truck or trailer moving alongside the harvester. HS code 843353 covers complete high value agricultural equipment which is individually financed and therefore is appropriate for inclusion in the future MAC Protocol.	
Recommendation: Include	
Based on the additional input from the United Kingdom and the MWG, it is recommended that HS code 843353 be included in Annex 2 of the future MAC Protocol.	

²² Machine Finder, Beet Harvesting, <http://www.machinefinder.com/ww/en-US/categories/used-beet-harv>, (last accessed May 8, 2018); Northern Equipment, Used Carrot Equipment, <https://www.northernequipment.ca/used-carrot-equipment> (last accessed May 8, 2018).

Code 22 of 42: 843359	
Full Description: Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37 - Other harvesting machinery; threshing machinery -- Other.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Proposed by China in September 2018	For Agriculture Annex
Proposed by the United Kingdom in October 2018	For Agriculture Annex
Valuation: USD 40,000 - USD 350,000 (provided by the United Kingdom). Cotton picker USD 250,000 - USD 450,000; Sugarcane harvesters USD 190,000 – USD 300,000 (provided by China). List prices for new base model self-propelled forage harvesters USD 310,000 - USD 571,000 (provided by the MWG). ²³	
Pictures:	
Analysis: This category includes equipment used to harvest livestock forage, other than hay, from field crops. Hay is made from long grass stalks; forage is made from plant matter cut into small pieces. Forage can be created from grass, corn, or other crops, by chopping the crop into small pieces. The forage is then collected and processed by drying or fermenting and mixed with additives to improve its nutrition value and storage life. Forage harvesters use cutters to cut plant stems and rollers to crush seed kernels and thick stalks. The finely cut forage is then blown through a chute into a truck or trailer. Self-propelled units generally offer higher production rates than tractor drawn equipment. This code was originally proposed by the MAC Working Group (MWG) during Study Group negotiations but was considered unsuitable due to a lack of evidence regarding whether the HS code covered high value objects. (listed as Item 69 in document S72K - CGE2 - Doc. 5). However, on the basis of the input provided, it appears to satisfy this criterion.	
Recommendation: Include	
Based on the additional input from China, the United Kingdom and the MWG clarifying that the HS code covers predominantly high value equipment, it is recommended that HS code 843359 be included in Annex 2 of the future MAC Protocol.	

²³ See <https://www.deere.com/en/hay-forage/harvesting/self-propelled-forage-harvesters/> (last accessed May 8, 2018).

Code 23 of 42: 843360	
<p>Full Description:</p> <p>Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37 - Machines for cleaning, sorting or grading eggs, fruit or other agricultural produce.</p>	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
<p>Valuation:</p> <p>Used potato cleaning equipment designed to be used at or near the harvest site sells for USD 14,000 to USD 50,000.²⁴ Some listings included serial numbers (provided by the MWG).²⁵</p>	
<p>Pictures:</p> 	
<p>Analysis:</p> <p>Cleaning, sorting, and grading of produce at the farm can increase market value and reduce transportation costs. Organic material removed from the produce can be used for soil nutrients. Separating produce such as tubers and nuts from soil, rocks, and organic matter increases product quality and reduces transportation and storage costs by reducing the total weight and volume of product transported to market or storage sites. Trailer mounted cleaning, sorting, and grading equipment is designed to be used at the harvest site.</p>	
<p>Recommendation: Include</p>	
<p>Based on the input from the MWG clarifying that the HS code covers predominantly high value, serialised equipment used in the agricultural sector, it is recommended that HS code 843360 be included in Annex 2 of the future MAC Protocol.</p>	

²⁴ Berry Machinery, Double L 807 Dirt Eliminator, <https://www.berrymachinery.com/listing.php?id=2701>, (last accessed May 9, 2018); Berry Machinery, Double L 620 Dirt Eliminator, <https://www.berrymachinery.com/listing.php?id=1974>, (last accessed May 9, 2018); Quarter Circle LLC, Used Potato Equipment, <https://quartercirclellc.com/used-equipment/> (last accessed May 9, 2018).

²⁵ SpudEquipment.com, Dirt Eliminator, <http://www.spudequipment.com/dirteliminator/25> (last accessed May 9, 2018).

Code 24 of 42: 843390	
Full Description: Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce, other than machinery of heading 84.37 – Parts.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Analysis: HS code 843390 covers replacement parts for equipment covered by the HS heading 8433. This code was originally proposed by the MAC Working Group (MWG) during Study Group negotiations but was considered unsuitable due to it predominantly covering parts rather than complete equipment (listed as Item 37 in document S72K - CGE2 - Doc. 5).	
Recommendation: Exclude	
It is recommended that HS code 843390 be excluded from the future MAC Protocol Annexes on the basis that it predominantly covers parts and attachments rather than complete equipment.	

Code 25 of 42: 843710

Full Description:

Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables; machinery used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm-type machinery - Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables.

Proposed by Japan in October 2017 (CGE2)

For **Agriculture** Annex

Valuation:

The price for colour sorters for cereal grains ranges between USD 30,000 and USD 50,000 (provided by the MWG).²⁶

Pictures:



Analysis:

Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables include de-stoners, gravity separators, and air cleaners to separate undesirable material that has a different density or diameter than the desired product, including sticks, stones, pods, and chaff. Airflow and vacuum suction is used to remove material lighter or heavier material than the targeted grain. Vibrating screens are used to remove undesired material that has a smaller or larger diameter material than the desired product. Colour sorters can remove foreign matter, sort grains and legumes by type, and separate seed with colour defects caused by immaturity, disease, or moisture.

This equipment is typically used in the seed and produce processing industries, including mobile machines designed for farm use.

Recommendation: Include

Based on the input from the MWG clarifying that the HS code covers predominantly high value, serialised equipment used in the agricultural sector, it is recommended that HS code 843710 be included in Annex 2 of the future MAC Protocol.

²⁶ https://www.alibaba.com/product-detail/China-factory-price-corn-wheat-grain_60499581003.html?spm=a2700.7724857.main07.372.27332e8f8FIJtH (last accessed May 9, 2018).

Code 26 of 42: 843780	
Full Description: Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables; machinery used in the milling industry or for the working of cereals or dried leguminous vegetables, other than farm-type machinery – Other machinery.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: USD 5,000 - USD 20,000.	
Pictures: 	
Analysis: This equipment is predominantly used in the processing of agricultural produce. It does not appear to cover high value MAC equipment.	
Recommendation: Exclude	
It is recommended that HS code 843780 be excluded from the future MAC Protocol Annexes on the basis that it covers predominantly low value equipment.	

Code 27 of 42: 847410	
Full Description: Machinery for sorting, screening, separating, washing, crushing, grinding, mixing or kneading earth, stone, ores or other mineral substances, in solid (including powder or paste) form; machinery for agglomerating, shaping or moulding solid mineral fuels, ceramic paste, unhardened cements, plastering materials or other mineral products in powder or paste form; machines for forming foundry moulds of sand - Sorting, screening, separating or washing machines.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Proposed by MWG	For Mining Annex
Proposed by MWG	For Construction Annex
Valuation: Powered or motorized screening equipment in good condition sells for prices ranging from USD 13,000 to USD 365,000 (provided by the MWG). ²⁷	
Pictures: 	
Analysis: In the mining and construction industries, sand and crushed stone (aggregate) as well as crushed recycled concrete and asphalt pavement is routinely sorted into products of the different sizes required to meet the raw material specifications for concrete and asphalt construction projects. This is typically accomplished by screening. When necessary, fine particulate matter may be separated from the aggregate by washing. This equipment is typically mounted on wheels, tracks (continuous track not rail), or skids. Screening involves passing the unclassified aggregate over vibrating screen decks consisting of one or more wire mesh screens with openings sized to allow the passage of the desired aggregate which is then transported by conveyors to a stock pile. Washers remove fine particles, such as clay or lime, from aggregate. Rotary scrubbers are used to remove water soluble impurities from hard aggregates. Fine particles may be extracted from a slurry by means of inclined screws that move the slurry up an incline. Centrifugal separators, including cyclones and hydrocyclones, are typically components of a larger installation. Centrifugal separators separate fine lightweight particulates from heavier ones by rotating flow about the vertical axis of a cone shaped vessel oriented with its apex pointing downwards.	
Recommendation: Include	
Based on the additional input from the MWG, it is recommended that HS code 847410 be included in Annex 1 and Annex 3 of the future MAC Protocol. Further evidence would be required in relation to equipment under this code being used in the agricultural sector for it also to be added to Annex 2.	

²⁷ Machinery Trader, Screen Aggregate Equipment for Sale, (2018), <https://www.machinerytrader.com/listings/construction-equipment/for-sale/list/category/1005/aggregate-equipment-screen?mdlx=Contains&Cond=New&SortOrder=3&scf=False&HP=1&PF=1000&page=1> (last accessed Apr. 2, 2018).

Code 28 of 42: 847420	
Full Description: Machinery for sorting, screening, separating, washing, crushing, grinding, mixing or kneading earth, stone, ores or other mineral substances, in solid (including powder or paste) form; machinery for agglomerating, shaping or moulding solid mineral fuels, ceramic paste, unhardened cements, plastering materials or other mineral products in powder or paste form; machines for forming foundry moulds of sand – Crushing or grinding machines.	
Proposed by Cameroon in September 2018	For Construction Annex
Proposed by MWG	For Mining Annex
Valuation: Used crushers in good condition sell for prices up to USD 797,900. ²⁸ Used mills range from USD 1,500 to USD 500,000 (provided by the MWG). ²⁹	
Pictures:	
	
Analysis: In the aggregate mining (quarrying) industry, large rocks are routinely crushed to produce the smaller diameter stone required as raw materials for concrete and asphalt construction projects. In the construction industries, existing concrete and asphalt pavement is often crushed for easier transport and to produce raw materials for concrete and asphalt construction projects. Impact crushers, jaw crushers, and cone crushers are the most common. This equipment may be anchored to concrete footings or mounted on wheels, tracks (continuous track not rail), or skids. Portable crushers are often sold as a trailer mounted system that includes one or more hoppers, conveyors, and screens mounted on the same trailer. A grinding mill is typically used when grinding is required to produce a marketable mineral product. Different types of mills are used depending on the mineral involved and how coarse or fine the end product must be. This code was originally proposed by the MAC Working Group (MWG) during Study Group negotiations but was considered unsuitable due to uncertainty regarding whether it covered equipment commonly used outside the MAC sectors (listed as Item 72 in document S72K - CGE2 - Doc. 5). However, from the additional information provided, it appears that it is predominantly used in the mining and construction sectors. While this HS code was proposed in relation to Annex 3, it might also be appropriate for inclusion in Annex 1.	
Recommendation: Include	
Based on the additional input from Cameroon and the MWG, it is recommended that HS code 847420 be included in Annexes 1 and 3 of the future MAC Protocol.	

²⁸ Machinery Trader, Crusher Aggregate Equipment for Sale, (2018) (last accessed Apr. 3, 2018).

<https://www.machinerytrader.com/listings/construction-equipment/for-sale/list/category/1003/aggregate-equipment-crusher?mdlx=Contains&Cond=New&SortOrder=3&scf=False&PF=1&page=1>

²⁹ Machinio.com, Grinding Mill, (2018), https://www.machinio.com/cat/grinding-mill?sortBy=price_desc#results (last accessed Apr. 3, 2018).

Code 29 of 42: 847989

Full Description:

Machines and mechanical appliances having individual functions, not specified or included elsewhere in this Chapter - Other machines and mechanical appliances -- Other.

Proposed by Poland in January 2019

For **Mining** Annex

Valuation:

USD 1,500,000 – USD 25,000,000 (provided by Poland).

Examples: Mobile hydraulic powered mine roof supports (provided by Poland).

Pictures:



Analysis:

Mobile hydraulic powered mine roof supports are an integral part of longwall mining systems, typically used in conjunction with the armoured face conveyors (AFCs), described above under HS 842831. These supports protect the AFCs and miners by advancing with the AFCs as the working surface advances.

Without a specific 6-digit HS code to cover them, mobile hydraulic powered mine roof supports fall under the HS subheading 847989. While these machines are extremely important to the Mining sector and are also predominantly high-value and serialised; this HS Code is a 'catch-all' code and encompasses a broad variety of equipment that falls outside the scope of the future MAC Protocol.

This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable because it covers equipment commonly outside the MAC sectors (listed at Item 40 in document S72K - CGE2 – Doc. 5).

Recommendation: Exclude

It is recommended that HS code 847989 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.

Code 30 of 42: 850153	
Full Description: Electric motors and generators (excluding generating sets) - Other AC motors, multi-phase -- Of an output exceeding 75 kW	
Proposed by Japan in October 2017 (CGE2)	For Mining Annex
Valuation: New 185 kW totally enclosed, fan cooled, general purpose, multi-phase, alternating current (AC) motors sell for USD 12,000 and similar motors rated at 745 kW for USD 147,000 (provided by the MWG).	
Picture: 	
Analysis: Large electric motors are used to operate industrial machinery that operate under heavy loads such as rock crushers. Prices of electrical motors depend on ratings such as power output and efficiency as well as features such as the ability to operate at variable speeds, in hazardous conditions, or outdoors. These motors are commonly used in a wide variety of circumstances and industries.	
Recommendation: Exclude	
It is recommended that HS code 850153 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

Code 31 of 42: 850211

Full Description:

Electric generating sets and rotary converters - Generating sets with compression-ignition internal combustion piston engines (diesel or semi-diesel engines) -- Of an output not exceeding 75 kVA.

Proposed by Japan in October 2017 (CGE2)

For **Construction Annex**

Valuation:

Portable units with diesel engines prices range from USD 10,000 for a 17.5 kVA model, to USD 76,000 for a 125-kVA unit, and USD 656,000 for a 2,500-kVA unit housed in a semi-trailer (provided by MWG).

Picture:



Analysis:

Many construction projects begin before utility supplies are installed, or in remote locations where there is no demand for long term electrical power service. Portable electrical generating sets are essential at these sites. Small units may be used to power tools and lighting, very large units are required to power heavy machinery such as portable asphalt and concrete plants. Portable generators are typically mounted on trailers with large models often enclosed in semi-trailers. Diesel combustion engines are the most common power source.

This code was originally proposed by the MAC Working Group (MWG) during Study Group negotiations but was considered unsuitable due to uncertainty regarding whether it covered equipment commonly used outside the MAC sectors (listed as Item 47 in document S72K - CGE2 - Doc. 5). These generators are commonly used in a wide variety of circumstances and industries.

Recommendation: Exclude

It is recommended that HS code 850211 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.

Code 32 of 42: 850212

Full Description:

Electric generating sets and rotary converters - Generating sets with compression-ignition internal combustion piston engines (diesel or semi-diesel engines) -- Of an output exceeding 75kVA but not exceeding 375kVA.

Proposed by Japan in October 2017 (CGE2)

For **Construction** Annex

Valuation:

Portable units with diesel engines USD 10,000 for a 17.5 kVA model, USD 76,000 for a 125-kVA unit, and USD 656,000 for a 2,500-kVA unit housed in a semi-trailer (provided by MWG).

Picture:



Analysis:

Many construction projects begin before utility supplies are installed, or in remote locations where there is no demand for long term electrical power service. Portable electrical generating sets are essential at these sites. Small units may be used to power tools and lighting, very large units are required to power heavy machinery such as portable asphalt and concrete plants. Portable generators are typically mounted on trailers with large models often enclosed in semi-trailers. Diesel combustion engines are the most common power source.

This code was originally proposed by the MAC Working Group (MWG) during Study Group negotiations but was considered unsuitable due to uncertainty regarding whether it covered equipment commonly used outside the MAC sectors (listed as Item 48 in document S72K - CGE2 - Doc. 5). These generators are commonly used in a wide variety of circumstances and industries.

Recommendation: Exclude

It is recommended that HS code 850212 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.

Code 33 of 42: 850213

Full Description:

Electric generating sets and rotary converters - Generating sets with compression-ignition internal combustion piston engines (diesel or semi-diesel engines) -- Of an output exceeding 375kVA.

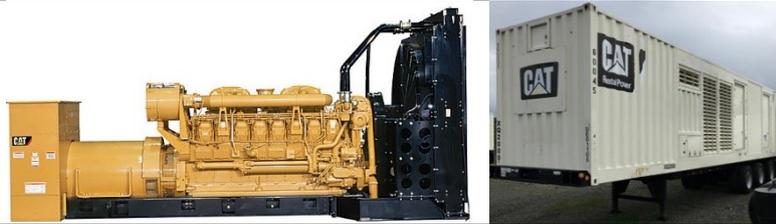
Proposed by Japan in October 2017 (CGE2)

For **Construction** Annex

Valuation:

Portable units with diesel engines prices range from USD 10,000 for a 17.5 kVA model, to USD 76,000 for a 125-kVA unit, and USD 656,000 for a 2,500-kVA unit housed in a semi-trailer (provided by MWG).

Pictures:



Analysis:

Many construction projects begin before utility supplies are installed, or in remote locations where there is no demand for long term electrical power service. Portable electrical generating sets are essential at these sites. Small units may be used to power tools and lighting, very large units are required to power heavy machinery such as portable asphalt and concrete plants. Portable generators are typically mounted on trailers with large models often enclosed in semi-trailers. Diesel combustion engines are the most common power source.

This code was originally proposed by the MAC Working Group (MWG) during Study Group negotiations but was considered unsuitable due to uncertainty regarding whether it covered equipment commonly used outside the MAC sectors (listed as Item 49 in document S72K - CGE2 - Doc. 5). These generators are commonly used in a wide variety of circumstances and industries.

Recommendation: Exclude

It is recommended that HS code 850213 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.

Code 34 of 42: 860290	
Full Description: Other rail locomotives; locomotive tenders – Other.	
Proposed by Poland in January 2019	For Mining Annex
Valuation: USD 6,000 – USD 330,000 (provided by Poland).	
Examples given by Poland: Suspended locomotives and monorails, suspended man-riding units, suspended material transport units, floor-mounted railways.	
Pictures: 	
Analysis: HS code 860290 covers rail locomotives other than diesel-electric locomotives and those powered from an external source of electricity or by electric batteries. It appears these objects would be covered by the Rail Protocol. While it may be high value equipment used in the mining sector, by virtue of Article II(4) of the draft MAC Protocol the Protocol will not apply to objects that are within the scope of the Rail Protocol.	
Recommendation: Exclude	
It is recommended that HS code 860290 be excluded from the future MAC Protocol Annexes on the basis that it predominantly covers equipment within the scope of the Rail Protocol.	

Code 35 of 42: 870110	
Full Description: Tractors (other than tractors of heading 87.09) – Single Axle tractors.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: New single axle agricultural tractors with engine outputs of 8 to 10 kW are available for approximately USD 1,000 (provided by MWG). ³⁰	
Picture:	
Analysis: Tractors are vehicles designed primarily for hauling or pushing another vehicle, appliance, or load. Tractors are equipped with a mechanism to attach a trailer or other equipment which the tractor can haul or push. Tractors may have wheels or continuous tracks, or both, but the proposed HS codes include wheeled tractors only. Tractors designed for agricultural purposes typically have a three-point hitch to attach towed equipment, a power take-off (PTO) and hydraulic connections to operate agricultural implements, a rugged construction, and agricultural tires. Single axle tractors, also called pedestrian tractors or walking tractors, have only one axle, typically with two wheels.	
Recommendation: Exclude	
It is recommended that HS code 870110 be excluded from the future MAC Protocol Annexes on the basis that it covers predominantly low value equipment.	

³⁰ See <https://tractor9.en.made-in-china.com/product/SKHnyAMDLIWO/China-12HP-Walking-Tractor.html>, (last accessed May 9, 2018); see also https://www.alibaba.com/product-detail/China-tractors-for-sale-12hp-farm_60575462523.html?spm=a2700.7724857.main07.48.7b31772czBaGaP, (last accessed May 9, 2018).

Code 36 of 42: 870120	
Full Description: Tractors (other than tractors of heading 87.09) – Road tractors for semi-trailers.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Proposed by Cameroon in September 2018	For Construction Annex
Valuation: Used semi-trailer road tractors, less than ten years old, sell for USD 25,000 - USD 110,000. ³¹	
Picture: 	
Analysis: Road tractors for semi-trailers are large trucks designed to pull heavy trailers on roads and highways. While these tractors are used quite extensively throughout the agriculture, construction and mining sectors they are a general use piece of equipment which is also largely used in other industries, such as transportation.	
Recommendation: Exclude	
It is recommended that HS code 870120 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

³¹ See https://www.machinerypete.com/listings/trucks-and-trailers/semi-trucks?custom_search=&limit=12&manual_sort=&old_location_str=&price%5Bmax%5D=&price%5Bmin%5D=&sort_term=listing_price_low_to_high&year%5Bmax%5D=2018&year%5Bmin%5D=2008&zip_code=&zip_miles=100000, (last accessed May 10, 2018).

Code 37 of 42: 870421	
Full Description: Motor vehicles for the transport of goods - Other, with compression-ignition internal combustion piston engine (diesel or semi-diesel) -- g.v.w. not exceeding 5 tonnes.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: Trucks covered by these HS codes range in value between USD 20,000 - USD 100,000 (provided by the MWG).	
Picture:	
Analysis: These HS codes include a wide range of diesel-powered trucks commonly used for transporting goods.	
Recommendation: Exclude	
It is recommended that HS code 870421 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

Code 38 of 42: 870422	
Full Description: Motor vehicles for the transport of goods - Other, with compression-ignition internal combustion piston engine (diesel or semi-diesel) -- g.v.w. exceeding 5 tonnes but not exceeding 20 tonnes.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: Trucks covered by this HS code range in value between USD 20,000 - USD 100,000 (provided by the MWG).	
Analysis: This HS code include a wide range of diesel-powered trucks commonly used for transporting goods.	
Recommendation: Exclude	
It is recommended that HS code 870422 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

Code 39 of 42: 870423	
Full Description: Motor vehicles for the transport of goods - Other, with compression-ignition internal combustion piston engine (diesel or semi-diesel) -- g.v.w. exceeding 20 tonnes.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: Trucks covered by this HS code range in value between USD 150,000 - USD 250,000 (provided by the MWG).	
Analysis: This HS code include a wide range of diesel-powered trucks commonly used for transporting goods. This code was originally proposed by the MWG during Study Group negotiations but was considered unsuitable because it covers equipment commonly outside the MAC sectors (listed at Item 73 in document S72K - CGE2 – Doc. 5)	
Recommendation: Exclude	
It is recommended that HS code 870423 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

Code 40 of 42: 870590	
Full Description: Special purpose motor vehicles, other than those principally designed for the transport of persons or goods (for example, breakdown lorries, crane lorries, fire fighting vehicles, concrete- mixer lorries, road sweeper lorries, spraying lorries, mobile workshops, mobile radiological units) – Other.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Proposed by Cameroon in September 2018	For Construction Annex
Valuation: Medium capacity trailer mounted stationary concrete pumps can exceed USD 100,000 while truck mounted concrete pumps can exceed USD 300,000 (provided by MWG). ³²	
Pictures: 	
Analysis: This code includes mobile or truck (lorry) mounted pumps that are a type of concrete pump. These include a hopper to receive concrete and either include a boom that delivers the pumped concrete to the desired location or require the connection of hoses at the output of the pump. This code is a 'catch all' code that covers a wide variety of equipment commonly used outside the MAC sectors, including mobile laboratories.	
Recommendation: Exclude	
It is recommended that HS code 870590 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

³² Schwing, Concrete Pumps.com, (2018) <http://concretepumps.com/listing-search-results/> (last visited Mar. 30, 2018); Don Carlson, Concrete Pump Broker, (2018), <http://concretepumpbroker.com/InventoryItems/Boom>, (last visited Mar. 30, 2018); Schwing, Concrete Pumps.com, (2018) <http://concretepumps.com/listing-search-results/> (last visited Mar. 30, 2018); Don Carlson, Concrete Pump Broker, (2018), <http://concretepumpbroker.com/InventoryItems/Boom>, (last visited Mar. 30, 2018).

Code 41 of 42: 870919	
Full Description: Works trucks, self-propelled, not fitted with lifting or handling equipment, of the type used in factories, warehouses, dock areas or airports for short distance transport of goods; tractors of the type used on railway station platforms; parts of the foregoing vehicles – Vehicles -- Other.	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Valuation: Variable	
Analysis: Works trucks are motorized vehicles designed for transporting goods over short distances, not on public roads, but primarily on private property such as in factories, warehouses, airports, and railway stations.	
Recommendation: Exclude	
It is recommended that HS code 870919 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.	

Code 42 of 42: 871631

Full Description:

Trailers and semi-trailers; other vehicles, not mechanically propelled; parts thereof - Other trailers and semi-trailers for the transport of goods - - Tanker trailers and tanker semi-trailers.

Proposed by Cameroon in September 2018

For **Construction** Annex

Valuation:

Prices for new tanker trailers range from USD 50,000 to USD 150,000 (provided by MWG).

Pictures:



Analysis:

Tanker trailers are used to transport liquids, as well as solids in the form of fine particulates. Light-weight aluminium trailers are often used for non-corrosive liquids and solids while stainless steel trailers are used for carrying corrosive chemicals. Tanker trailers and tanker semi-trailers are commonly used in all three MAC industries for transporting a wide range of liquids and solids. In the construction industry, liquid applications include water, fuel, and asphalt (bitumen). Dry bulk solids widely transported by trailer in the construction industry include lime, cement, and fly ash. However, tanker trailers and tanker semi-trailers are commonly used in other industries such as oil and gas, and chemical production. The predominant owners and operators of tanker trailers and tanker semi-trailers are likely to be entities in the transportation sector.

Recommendation: Exclude

It is recommended that HS code 871631 be excluded from the future MAC Protocol Annexes on the basis that it covers equipment which is predominantly used outside the MAC sectors.

Proposal for existing code to be added to new Annex: 870410	
Full Description: Motor vehicles for the transport of goods - Dumpers designed for off-highway use	
Proposed by Japan in October 2017 (CGE2)	For Agriculture Annex
Analysis: Off-highway dumpers are already included in Annexes 1 and 3 of the MAC Protocol, as they are most commonly used in the mining and construction sectors. However, off-highway dumpers are also used in the agriculture industries, and therefore should also be added to Annex 2.	
Recommendation: Include	
HS code 870410 should be included in Annex 2 of the future MAC Protocol.	

Proposal for existing code to be added to new Annex: 842920	
Full Description: Self-propelled bulldozers, angledozers, graders, levellers, scrapers, mechanical shovels, excavators, shovel loaders, tamping machines and road rollers – Graders and levellers.	
Proposed by Japan in October 2017 (CGE2)	For Mining Annex
Analysis: Graders and levellers are already included in Annexes 2 and 3 of the MAC Protocol, as they are commonly used in the agriculture and construction sectors. Motor graders are used in agriculture for levelling fields to precise slopes to optimize drainage and minimize irrigation runoff. They may also be used by mining companies to create an easier access to the mine, and therefore it would be appropriate to add the HS code to Annex 1.	
Recommendation: Include	
HS code 842920 should be included in Annex 1 of the future MAC Protocol.	

Proposal for <u>removal</u> of existing code from Annexes: 870191	
Full Description: Tractors (other than tractors of heading 8709) - Not exceeding 18 kW.	
Proposal for removal from the draft MAC Protocol Annexes from the MWG.	Removal from Agriculture and Construction Annexes
Analysis: HS code 870191 was included in the draft MAC Protocol Annexes 2 and 3 by the Committee of Governmental Experts at its second session in October 2017. It is a new HS code that was included in the HS in the 2017 edition. Due to the small capacity of the engines of this category of tractor, it applies only to low value machines (approximately USD 12,000 – USD 16,000). As the code applies to predominantly low value equipment, it would be appropriate to remove it from Annexes 2 and 3.	
Recommendation: Remove	
HS code 870191 should be removed from Annexes 2 and 3 of the future MAC Protocol.	

APPENDIX 3**MAC Protocol HS code evaluation process 2013 – 2017***Preliminary phase (2013 – 2014)*

1. The first list of HS codes proposed for inclusion in the MAC Protocol Annexes was prepared by the private sector during consultations in Washington DC in 2013 and 2014. The initial list was comprised of 97 codes. In proposing codes, manufacturers were asked to identify HS codes under which their MAC equipment was traded. It does not appear that the initial list was scrutinised in relation to whether the HS codes covered high value, mobile or uniquely identifiable equipment used predominantly in the MAC sectors.

Study Group phase (2014 – 2016)

2. The initial list of 97 HS codes prepared during the Washington consultations was presented to the MAC Study Group for consideration at its first session (Rome, 15-17 December 2014).

3. In March 2015, the MAC Working Group was established. The MAC Working Group took responsibility for undertaking broader consultations with industry in relation to the proposed HS codes and for providing information and data in relation to those codes.

4. At the second Study Group session (Rome, 8-10 April 2015), on the basis of consultations undertaken by the Working Group, the list of HS codes was expanded to include additional six codes suggested by General Electric mining. Further detail on the nature of equipment was also added to the list:

- (a) Examples of types of MAC equipment covered by the listed HS codes, focusing primarily on their use. This information was based on U.S. Customs and Border Protection rulings in relation to MAC equipment being imported into the US under the relevant HS codes.
- (b) Images of the types of equipment covered by the listed HS codes.
- (c) Annual import and export data for the listed HS codes sourced from the Canadian and the European Union databases (publicly accessible).

5. Working Group consultations with German industry in August 2015 led to the inclusion of 7 additional HS codes in the preliminary list (HS codes 841370, 843049, 847431, 847432, 847982, 870540, 871620). Further HS codes were suggested by members of the Working Group in September 2015, bringing the total number of HS codes presented to the Study Group at its third meeting to 113.

6. In preparation for the third Study Group session, the UNIDROIT Secretariat further refined the preliminary list:

- (a) Where applicable, subcategories were added for HS codes covering several different types of MAC equipment.
- (b) Expanded descriptions with more information about the various types of equipment included under the listed HS codes.
- (c) Additional comments taken from the official HS system Explanatory Notes.
- (d) Additional columns indicating whether each listed HS code covered equipment that could be considered an accession, affixable to immovable property or commonly used outside the MAC sectors.
- (e) An additional column indicating whether each listed HS code covered equipment used in one or more of the MAC sectors.

7. At its third session (Rome, 19-21 October 2015), the Study Group undertook its first in-depth evaluation of the list of proposed HS codes. A senior Technical Officer from the World Customs Organisation (WCO) also participated in the session to provide advice. The Study Group considered the following factors in deciding whether an HS code was appropriate for inclusion in the preliminary draft MAC Protocol Annexes:

- (a) Whether the HS code covered equipment used primarily in the MAC sectors. Where the equipment was commonly used outside these industries, it was deemed multiple purpose equipment and was excluded from the Annexes.
- (b) Whether the HS code covered equipment that was of high value. The Study Group noted that an HS code did not need to cover exclusively high value equipment to be included in the Annexes. Individual unit prices for new equipment covered by the HS codes listed in the Annexes to the preliminary draft MAC Protocol ranged from USD 10,000 – USD 7,000,000, however most HS codes had a minimum individual unit value of at least USD 100,000.
- (c) Whether the HS code covered equipment that was financed individually (subject to asset-based finance as an individual unit of equipment). Where the equipment was not individually financed, the Study Group decided that it was inappropriate for it to be included under the scope of a preliminary draft MAC Protocol.
- (d) Whether the HS code covered equipment that had manufacturer-issued serial numbers, as required for registration in the International Registry of an interest in MAC equipment.
- (e) Whether the HS code covered parts as well as equipment or only parts. The Study Group decided that HS codes explicitly covering only parts should be excluded from the Annexes, as parts to the relevant types of equipment were generally not of sufficiently high individual value or the subject of asset-based financing separate from the main objects.
- (f) Whether the HS code covered equipment with significant volume of international trade. The Study Group considered 2014 global export data for the HS codes identified for the inclusion in the Annexes to the preliminary draft MAC Protocol, which had been extracted from the Comtrade database. Certain HS codes were of particular importance to the private sector as they covered a large volume of international trade in agricultural, construction and mining equipment, which made their inclusion essential to the economic viability of the preliminary draft MAC Protocol (on the basis that they satisfied the other criteria for inclusion as listed in sub-points (a)-(e) above).

8. On the basis of the above criteria, the Study Group categorised the HS codes suggested by the Working Group into three tiers of suitability (Tier 1), possible (Tier 2) and unsuitable (Tier 3) codes. Tier 1 codes were included in the Annexes to the preliminary draft MAC Protocol on the basis that they were suitable for inclusion under its scope. Tier 2 codes were considered to have some merit, however failed to satisfy one or two of the criteria and required further evidence from the Working Group to demonstrate they did meet all relevant criteria for inclusion. Tier 3 codes failed to meet several key criteria and were excluded from consideration.

9. Further data was gathered by the Secretariat between the third and fourth Study Group meetings. This information included:

- (a) Updated global export and import data for the list of HS codes extracted from the Comtrade database. This information provided a more accurate measurement of global trade values for the listed HS codes.³³

³³ In international trade statistics, exports may not coincide with imports (called trade asymmetries) due various methodological reasons: (a) time of recording, (b) trade system [or territorial coverage], (c) incorrect

- (b) Information provided by the Working Group:
- (i) Approximate range of unit prices for new equipment under each code (provided by a range of manufacturers and aggregated to be anonymous by the Working Group).
 - (ii) Whether the equipment under each code was individually financed or leased (provided by the financiers).
 - (iii) Practical information on whether the equipment under each code was affixed to movable property or installed on other equipment to function.
 - (iv) Whether the equipment under each code had unique manufacturer serial numbers and whether the manufacturer serial numbers were recycled.
 - (v) Whether the equipment under each code had model designations.
 - (vi) The Working Group requested the addition of 5 previously unlisted HS codes to Tier 1 (HS codes 842959, 843031, 843049, 843340 and 843351).
 - (vii) The Working Group requested three HS codes be elevated from Tier 2 to Tier 1 (HS codes 847982, 843680 and 870190), and provided additional information to justify the proposed changes.

10. At the fourth Study Group session (Rome, 7-9 March 2016), the Working Group provided four additional previously unlisted HS codes which they requested be added to Tier 1 (HS codes 843031, 843049, 843340 and 843351). The Study Group also considered additional input from Japanese manufactures. Of the 8 HS codes suggested by the Japanese manufacturers all of them were already on the list; 6 were already in Tier 1 and 2 were already listed in Tier 2. The two Tier 2 codes (843149 and 843141) appeared to cover attachments/implements.

11. At its fourth session, the Study Group agreed to add HS codes 843031, 843049, 843340, 843351 to Tier 1, upgrade HS codes 847982, 870190 and 843680 from Tier 2 to Tier 1 and downgrade HS codes 842620 (Tower Cranes) from Tier 1 to Tier 3. At the conclusion of the fourth session, 36 HS codes were classified as Tier 1 (suitable) codes, 18 were classified as Tier 2 (possible codes) and 57 were classified as Tier 3 (unsuitable) codes.

Committee of Governmental Experts

12. At its first session (CGE1, Rome, 20-24 March 2017), the CGE considered the list of HS codes as prepared by the Study Group. To simplify matters, in the document provided to the Committee of Governmental experts, the Tier 1 'suitable' HS codes were identified by green, and the former Tier 2 and Tier 3 codes were combined into a second section with orange shading of 'unsuitable' HS codes. The codes were set out in [UNIDROIT 2017 - Study 72K - CGE1 - Doc. 5 corr.](#) The list contained 36 suitable codes (shaded in green) and 73 unsuitable codes (shaded in orange). No modifications to the 36 HS codes listed in the preliminary draft Protocol Annexes were made during CGE1.

13. The 36 codes listed in the preliminary draft MAC Protocol Annexes approved at CGE1 were based on the fifth edition of the HS (HS 2012). CGE2 decided to update the HS codes in the Annexes to be consistent with the sixth edition of the HS, which entered into force on 1 January 2017 (HS 2017). Table 1 below sets out the changes made to the listed HS codes.

classification, (d) imports include freight and insurance whereas exports not, etc. More information available at: <http://unstats.un.org/unsd/trade/events/2014/mexico/documents/session4/Asymmetries%20in%20official%20ITS%20and%20analysis%20of%20globalization%20-%20V%20Markhonko%20-%202018%20Sep%202014.pdf>.

Table 1 – Changes to HS codes in preliminary draft MAC Protocol Annexes made at CGE2

HS 2012	HS 2017	WCO Remarks ³⁴	UNIDROIT comments
842481	842441 842449 842482	<p>Creation new subheadings 842441 and 842449 for agricultural and horticultural sprayers, separating portable sprayers (i.e., operator carried sprayers) from other sprayers (e.g., tractor mounted, trailer-mounted or self-propelled sprayers). As a consequence, subheading 842481 has been renumbered.</p> <p>Amendment adopted as a result of the FAO proposal to enhance the data on trade and use of agricultural machinery.</p>	<p>At CGE2 (October 2017), the Committee agreed to replace 842481 with code 842482 in the MAC Protocol Annexes, in consistency with the HS 2017. No decision was made in relation to 842441 and 842449.</p> <p>On proposal from the United Kingdom in 2018, the UNIDROIT Secretariat is recommending that 842449 also be included, as it covers mobile sprayers (that are not self-propelled).</p> <p>As 842441 covers sprayers carried by hand, it covers predominantly low value objects are is not appropriate for inclusion in the MAC Protocol Annexes.</p>
843230	843231 843239	<p>Subheading 843230 has been subdivided to create new subheading 843231 for no-till direct seeders, planters and transplanters.</p> <p>Amendment adopted as a result of the FAO proposal to enhance the data on trade and use of agricultural machinery.</p>	<p>At CGE2 (October 2017), the Committee agreed to replace 843230 with codes 843231 and 843239 in the MAC Protocol Annexes, in consistency with the HS 2017.</p>
843240	843241 843242	<p>Subheading 843240 has been subdivided to create new subheadings 843241 and 843242 for manure spreaders and fertiliser distributors, respectively.</p> <p>Amendment adopted as a result of the FAO proposal to enhance the data on trade and use of agricultural machinery.</p>	<p>At CGE2 (October 2017), the Committee agreed to replace 843240 with codes 843241 and 843242 in the MAC Protocol Annexes, in consistency with the HS 2017.</p>
870190	870191 870192 870193 870194 870195	<p>Subheading 870190 has been subdivided to introduce further detail on the engine power of other tractors.</p> <p>Amendment adopted as a result of the FAO proposal to enhance the data on trade and use of agricultural machinery.</p>	<p>At CGE2 (October 2017), the Committee agreed to replace 870190 with codes 870191, 870192, 870193, 870194 and 870195 in the MAC Protocol Annexes, in consistency with the HS 2017.</p> <p>On proposal from the MAC Working Group, the UNIDROIT Secretariat is recommending that 870191 be removed from the MAC Protocol Annexes, on the basis that it covers predominantly low value equipment.</p>

14. As a result of the changes, the number of HS codes listed in the draft MAC Protocol Annexes increased from 36 to 42. The 42 HS codes approved at CGE2 reflect the codes listed in the draft MAC Protocol Annexes in [DCME-MAC – Doc. 3](#) for consideration by the Diplomatic Conference.

³⁴ WCO, (2016) *Amendments to the Harmonized System Nomenclature*, Correlation tables.

APPENDIX 4**Table of HS codes listed in the MAC Protocol Annexes**

1. Codes in boxes shaded in grey are those codes recommended for inclusion in the draft MAC Protocol Annexes, on the basis of the proposals made by States in 2018. Codes in red text are recommended for removal from the draft MAC Protocol Annexes.

	Annex 1 (Mining)	Annex 2 (Agriculture)	Annex 3 (Construction)
1.	820713		820713
2.		842482	
3.			842641
4.			842649
5.	842911	842911	842911
6.	842919	842919	842919
7.	842920	842920	842920
8.		842930	842930
9.	842951	842951	842951
10.	842952	842952	842952
11.	842959	842959	842959
12.	843010		843010
13.	843031		843031
14.	843039		843039
15.	843041		843041
16.	843049	843049	843049
17.	843050	843050	843050
18.	843061		843061
19.			843069
20.		843210	
21.		843221	
22.		843231	
23.		843239	
24.		843241	
25.		843242	
26.		843340	
27.		843351	
28.		843680	
29.	847431		847431
30.			847432
31.			847910
32.			847982
33.	870130	870130	870130
34.	870191	870191	870191
34.	870192	870192	870192
35.	870193	870193	870193
36.	870194	870194	870194
37.	870195	870195	870195
38.	870410	870410	870410
39.			870510
40.			870540
41.	871620	871620	871620

	Annex 1 (Mining)	Annex 2 (Agriculture)	Annex 3 (Construction)
42.			841340
43.		842449	
44.			842620
45.	842831		
46.		842940	842940
47.		843229	
48.		843320	
49.		843330	
50.		843353	
51.		843359	
52.		843360	
53.		843710	
54.	847410		847410
55.	847420		847420