

Exports of Australian waste-derived products and wastes in January 2020

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Blue Environment is commissioned by the Department of Agriculture, Water and the Environment to analyse and report on monthly exports of waste-derived products (e.g. recycled plastic chip) and materials that are still wastes. The data is provided by the Australian Bureau of Statistics¹, and comprises monthly data covering the previous six months, including any updates to previously reported data. On a tonnage basis nearly all these exports are materials recovered from waste streams for recycling or energy recovery², but a small portion is hazardous waste sent for treatment.

Summary

In January 2020, Australia exported about 257,000 tonnes of waste-derived products and wastes with a value of \$A176 million. This represents a reduction of 35% in tonnage and a corresponding decrease of 30% in value compared to the previous month. Glass and paper and cardboard were the only materials for which export quantities increased. The biggest change in total tonnage was for metals, which dropped from 272,000 tonnes to 121,000 tonnes. The largest percentage decrease was hazardous materials, which dropped by 60%. The price per tonne of most materials increased, with the exception of plastics and 'other'.

About 122,000 tonnes of waste-derived products and waste exported in January could be affected by the COAG export ban. This is 47% of the total waste exported in January 2020.

Comparison by destination

The top 10 recipients of Australian waste-derived products and wastes between July 2018 and January 2020 were Indonesia, Vietnam, India, China (including Hong Kong and Macau), Bangladesh, Malaysia, Thailand, the Republic of Korea, Taiwan and New Zealand. In January 2020, 91% by weight of Australia's exported waste-derived products and wastes were sent to these countries.

Table 1 (overleaf) compares exports of waste-derived products and wastes to these top 10 countries in January 2020 and December 2019 and includes each country's 2018-19 monthly average. January 2020 exports to India and Taiwan were higher than their 2018-19 monthly averages, and those to Thailand were the same. Exports to all other countries were lower. Exports to Indonesia increased the most significantly in January 2020 compared to December 2019, from 6,000 tonnes to 46,000 tonnes, mainly due to much greater quantities of paper and cardboard. China and New Zealand were the only other destinations with increases. The largest decreases in exports were to Bangladesh, which dropped 82% and the Republic of Korea, which dropped 75%.

January 2020 exports of waste-derived products and wastes to Bangladesh, Taiwan and Vietnam were dominated by scrap metals (100%, 88% and 85% respectively). Metals also made up the majority of exports received by the Republic of Korea (66%) and India (55%). The remainder to the Republic of Korea was mainly hazardous waste (11%) and paper and cardboard (10%), while for India it was mainly paper and cardboard (36%). Exports to Indonesia and China were predominantly paper and cardboard (79% and 76% respectively) with metals making up most of the remainder. Exports to Malaysia were more varied with 43% paper and cardboard, 30% metals and 16% plastics. Similarly,

¹ Data in these summaries is sourced from the Australian Bureau of Statistics and is originally entered by exporters or their agents. It cannot be guaranteed that exporters use the correct codes or values for their exports, so this data should be used with caution. Data may be revised for up to six months after initial publication as customs declarations are amended by individual traders. Due to these revisions, there may be discrepancies between this and preceding reports.

² Some of these recovered materials contain a proportion of contamination (or 'off-spec' content) that needs to be extracted before the material can be used.

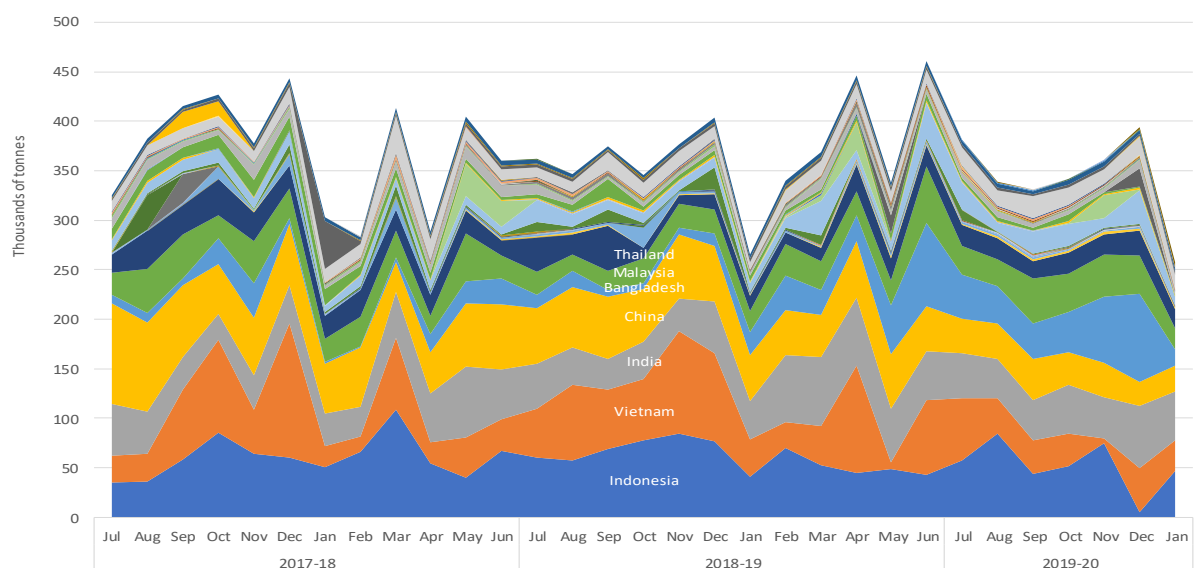
Thailand received 57% paper and cardboard and 34% metals. Exports to New Zealand were 88% organics.

Table 1 Comparison of month-to-month exports of waste-derived products and wastes by destination

Export destination (ranked by tonnes since July 2018)	Tonnes					2018-19 monthly avg	Value			2018-19 monthly avg
	Jan-20	% of total	Dec-19	% change	2018-19 monthly avg		Jan-20	Dec-19	% change	
	Tonnes		Tonnes			\$ mil	\$ mil			
1 Indonesia	46,000	18%	6,000	735%	60,000	\$10.1	\$2.6	286%	\$23.7	
2 Vietnam	31,000	12%	44,000	-30%	61,000	\$11.2	\$16.8	-33%	\$29.8	
3 India	50,000	19%	63,000	-21%	49,000	\$22.5	\$35.2	-36%	\$33.5	
4 China	25,000	10%	24,000	4%	54,000	\$24.1	\$23.2	4%	\$41.6	
5 Bangladesh	16,000	6%	89,000	-82%	25,000	\$6.2	\$33.6	-82%	\$11.2	
6 Malaysia	21,000	8%	38,000	-44%	27,000	\$9.3	\$16.2	-42%	\$10.4	
7 Thailand	20,000	8%	26,000	-22%	20,000	\$6.8	\$9.3	-27%	\$7.9	
8 Korea, Republic of	8,000	3%	34,000	-75%	15,000	\$43.0	\$53.8	-20%	\$32.6	
9 Taiwan	14,000	5%	18,000	-25%	13,000	\$5.3	\$10.1	-48%	\$8.3	
10 New Zealand	2,000	1%	1,000	3%	6,000	\$4.8	\$3.7	28%	\$5.7	
Top 10 total	234,000	91%	343,000	-32%	330,000	\$143.3	\$204.5	-30%	\$204.5	
Monthly total	257,000	-	394,000	-35%	369,000	\$175.9	\$251.2	-30%	\$258.8	

Figure 1 presents the monthly trend in tonnes of exports of waste-derived products and waste from Australia by destination between July 2017 and January 2020. Monthly exports to Indonesia were back up to 46,000 tonnes after falling to a low of 6,000 tonnes in December 2019. Exports to Vietnam decreased somewhat compared to December 2019 but were still much higher than the low of 4,400 tonnes seen in November. Exports to India fell to 50,000 tonnes after peaking at 63,000 tonnes in December 2019 but remain high compared the last half of 2019. Exports to China fell markedly during much of 2017-18, reaching a low of 31,000 tonnes in March 2018. They subsequently recovered to 66,000 tonnes in June 2018 but declined again over 2019. In January they stood at 25,000 tonnes, similarly to December 2019. Exports to Bangladesh reached their lowest value since 2018 at just 16,000 tonnes after peaking at 89,000 tonnes in December 2019. Overall, no clear trend is apparent in the overall quantity of waste exports over the 30-month timeframe.

Figure 1 Monthly exports of waste-derived products and waste from Australia by destination, ranked by total quantity received, July 2018 to January 2020



The reported value of exports for January 2020 was \$A176 million, dropping from \$A250 million in December 2019. This is within the range over the considered time period, which was between \$A159 million to \$A321 million per month.

Comparison by material

Table 2 presents a comparison of export tonnage and value by material type between December 2019 and January 2020, the 2018-19 monthly average and the year to date quantities.

Table 2 Comparison of export tonnage and value by material

	Jan-20		Dec-19		2018-19 monthly avg	Jan-20		Dec-19		2018-19 monthly avg
	tonnes	% of total	tonnes	% change	tonnes	\$ mil	% of total	\$ mil	% change	\$ mil
Glass	3,400	1%	400	848%	1,300	\$0.21	<1%	\$0.01	2994%	\$0.06
Paper & cardboard	105,000	41%	84,000	26%	93,000	\$14.8	8%	\$10.0	48%	\$19.5
Plastics	9,000	4%	12,000	-26%	16,000	\$2.1	1%	\$3.4	-39%	\$3.6
Tyres	4,300	2%	7,600	-43%	10,000	\$1.1	<1%	\$1.6	-34%	\$1.8
Metals	121,000	47%	272,000	-56%	220,000	\$106	60%	\$178	-40%	\$180.3
Hazardous (excl. tyres)	1,800	1%	4,700	-60%	5,600	\$35.1	20%	\$39.0	-10%	\$33.2
Other	13,000	5%	14,000	-7%	24,000	\$16.7	9%	\$19.6	-15%	\$20.3
Total	257,000	-	394,000	-35%	369,000	\$175.9	-	\$251.2	-30%	\$258.8

Comparison with the previous month –

- **Glass** exports increased to 3,400 tonnes after dipping to just 360 tonnes in December 2019. Exports were split between India (70%) and Thailand (30%).
- **Paper and cardboard** exports increased by 26% in January 2020. Exports were split between Indonesia (35%), China (18%), India (17%) and Thailand (11%). The category consisted of an almost even split between mixed waste paper and corrugated containers, both significantly up from December 2019. Paper and cardboard exports were valued at \$A14.8 million, representing 8% of the value of January's waste exports (but 41% of tonnage).
- Exports of waste **plastics** fell by 26% in January 2020. Malaysia remained the largest recipient with 40% of Australia's waste plastics. China received 17%, Taiwan 10%, and small amounts went to many other countries. Export plastics comprised mixed plastics (68%) and ethylenes (32%). Exports of waste plastics were valued at \$2.1 million, 39% less than December 2019. This is due to the tonnage decline and a fall in the unit value reported for mixed polymers.
- Exports of waste **tyres** in January 2020 fell by 43% compared with the previous month to 4,300 tonnes. India and Malaysia continued to receive the most at 42% and 23% respectively, and 12% went to the US. Exports of waste tyres were valued at \$A1.1 million, some 34% less than December 2019.
- Monthly **metal** exports decreased by 56% in January 2020 but still made up the largest portion of all export waste and waste-derived products at 60%. The total value of metal exports was \$106 million, 40% lower than December 2019. The fall in value follows the lower total tonnage tempered by an increase in the reported value of some common scrap metals. Metal exports were spread over various countries with India and Vietnam receiving the largest share at 23% and 22% respectively.
- Exports of **hazardous waste** (excluding tyres) declined by 60% in January 2020. The largest fraction was lead waste and scrap, which accounted for 78%. Exports of hazardous waste were valued at \$A35.1 million, representing 20% of the total reported value of waste exports in January. The reported value per tonne of some common hazardous waste categories remains anomalously high, as reported in the November and December 2019 versions of this analysis.
- Exports in the **other wastes** category fell by 7% in January 2020. Correspondingly, the value fell by 15% to \$16.7 million. The greater significance of the value drop is due to a decrease in the per tonne value of the dominant materials in the other category, animal products at 32% and worn clothing and other textiles at 39%.

Comparison with the 2018-19 monthly average – January 2020 exports of paper and cardboard, and glass were higher than their 2018-19 monthly average; all others were lower. Correspondingly, overall, exports of waste in January 2020 were lower than the monthly average for 2018-19. Glass and hazardous were the only categories with value above the 2018-19 average, all others were lower, leading to an overall value lower than the 2018-19 average.

Figure 2 presents the monthly trend in exports of waste from Australia in tonnes by material type between July 2017 and January 2020. Scrap metal exports remain volatile. Exports of scrap paper and cardboard and tyres have remained fairly stable since January 2018. Exports of recovered plastics fell during early 2017-18 then recovered to peak in early 2019, before falling to a low in August. Exports then increased to December before dropping again in January 2020.

Figure 3 presents monthly trends in the average unit prices of key waste exports between July 2017 and December 2019. Over this timeframe prices for:

- metals have been volatile but without clear trend
- paper and cardboard have been fairly stable but recently declining
- glass rose sharply in February 2019 but, overall, have been fairly stable
- plastics have been driven mainly by the low-grade mixed materials that comprise most of the exported tonnes – prices for this grade fell from an average of \$263/t over 2017-18 to a low of \$137/t in February 2019 then climbed back, standing at \$211/t in January 2020.

Figure 2 Monthly exports of waste-derived products and wastes from Australia by material type, July 2017 – January 2020

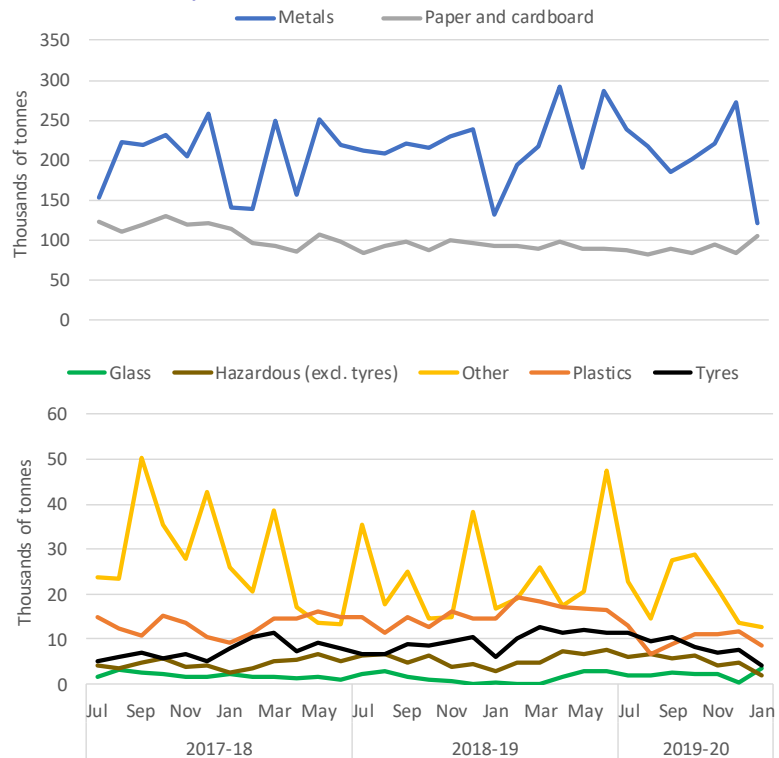
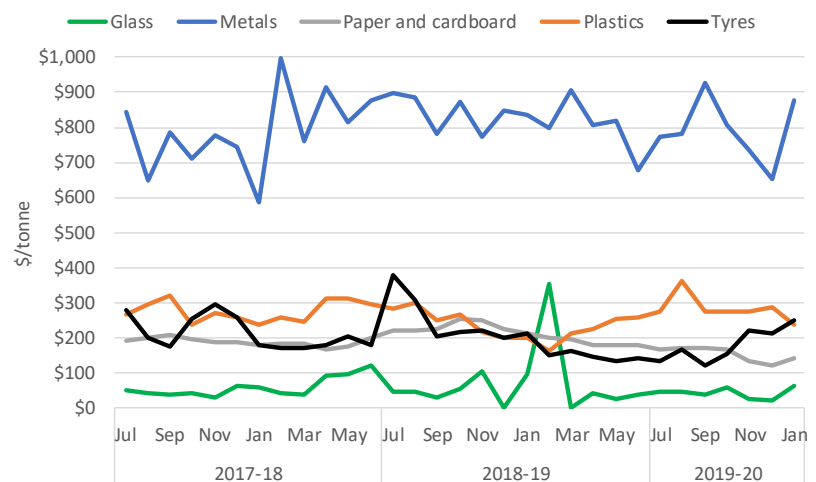


Figure 3 Comparison of unit prices by material (in \$/t), July 2017 – January 2020



COAG waste export ban

The November 2019 Meeting of Environment Ministers agreed to proceed with bans on the export of waste glass, paper, plastics and tyres that have not been processed into a value-added material. The banned materials, ban dates and codes where they are known to be present are shown in Table 3. Note this may not reflect the final ban design.

Table 3 Material types facing export bans

Material	Ban date	AHECC code	AHECC description	Dec-19 exports in this code (tonnes)	Estimated % of tonnes to be banned
Glass	Jul 2020	70010000	Cullet and other waste and scrap of glass; glass in the mass	3,400	100%
Paper and cardboard	Jul 2022	47071000	Recovered (waste and scrap), unbleached, kraft paper or paperboard or corrugated paper or paperboard	52,000	100%
		47072000	Recovered (waste and scrap) paper or paperboard, made mainly of bleached chemical pulp, not coloured in the mass	0	
		47073000	Recovered (waste and scrap) paper or paperboard, made mainly of mechanical pulp (e.g. newspapers, journals and similar)	3,100	
		47079000	Waste and scrap paper or paperboard (incl. unsorted waste & scrap) (excl. unbleached kraft or corrugated (470710); that made mainly from bleached chemical pulp, not coloured in the mass; or made mainly of mechanical pulp)	50,000	
Plastics	Jul 2022	39151000	Waste, parings and scrap, of polymers of ethylene	2,800	100%
		39152000	Waste, parings and scrap, of polymers of styrene	0	
		39153000	Waste, parings and scrap, of polymers of vinyl chloride	0	
	Jul 2021	39159092	Waste, parings and scrap, of plastics (excl. those of polymers of ethylene, styrene or vinyl chloride)	5,900	
Whole tyres	Dec 2021	40040000	Waste, parings and scrap of rubber (excl. of hard rubber) and powders and granules obtained therefrom	2,700	44% ³
		40122000	Used pneumatic rubber tyres, whether or not subject to recutting or regrooving	850	100% ³
		40129000	Solid or cushion rubber tyres, rubber tyre treads (incl. interchangeable tyre treads) and rubber tyre flaps	790	6% ³

Tonnes have been rounded

In January 2020, about 122,000 tonnes of waste-derived products and wastes were exported that could be affected by the COAG export ban⁴, up from 116,000 in December. This represents about 47% of the total waste exported for the month.

³ Based on an analysis of Australian Border Force exports data for 2018-19. This data set contained differences from the ABS data analysed here, and neither are consistent with industry-reported export quantities. Further investigations are underway at the time of writing.

The current status of waste import restrictions

Following China's lead, other Asian countries have flagged or implemented restrictions on the import of waste-derived products and wastes. These are described in Table 4. The information presented has been compiled based on publicly available sources, sometimes translated from languages other than English.

Table 4 Status of waste import restrictions

Country	Scope of restrictions	Announced & implemented	Associated exports (tonnes)			Impact and uncertainties
			Types	2018-19	Nov 19	
China	<p>Restricted the import of certain materials covering specific commodity codes, mainly by specifying a threshold contamination rate of 0.5%⁵.</p> <p>A ban (issued in April 2018) on the import of 32 varieties of solid waste codes which were previously restricted. 16 of these are banned from 31 December and the other 16 to take effect from 31 December 2019⁶.</p> <p>From 1 July 2019, import restrictions extended to eight solid waste codes pertaining to metals⁷. China are reviewing the revised Solid Waste Management and Pollution Prevention Law that covers waste imports, which reiterates the complete ban of solid waste import by 2020⁸. Possible import ban on old corrugated cardboard and other fibre grades by 2021⁹. The Ministry of Ecology and Environment's Solid Waste and Chemicals Management Centre announced the first 2020 batch of quotas on 24 December 2019 which allows 270,885 tonnes of copper scrap and 275,465 tonnes of aluminium scrap to be imported¹⁰. The second batch of quotas announced on 8 January 2020 allows 26,566 tonnes of copper scrap, 7,544 tonnes of aluminium scrap and 3,180 tonnes of steel scrap to be imported^{11,12}.</p>	<p>Ann.: Jul & Nov-17, Apr-18, Jul-19, Dec-19, Jan-20</p> <p>Imp.: Jan & Mar-18, Dec-18, Dec-19</p>	Plastic, paper, metals, other	643,000 (53,600/month)	35,200	Impact evident (2016-17 exports averaged 105,300/month and averaged 62,000/month in 2017-18).
India	Import of scrap plastics banned from August 2019 ¹³ . Also covers areas previously exempt under the 2016 ban such as special economic zones (SEZ) and export-oriented units (EOU) ¹⁴ . Excludes electrical/electronic assemblies or components that	<p>Ann.: Mar-19</p> <p>Imp.: Mar-19, Aug-19 for</p>	Plastic	700 (60/month)	0	Impact uncertain.

⁵ Blue Environment (2018) [Data on exports of recyclables from Australia to China](#)

⁶ Ministry of Commerce, State Development & Reform Commission (incl. former State Development Planning Commission), General Administration of Customs (2018) *Announcement No. 6 [2018] of the Ministry of Ecology and Environment, the Ministry of Commerce, the National Development and Reform Commission and the General Administration of Customs*

⁷ Ministry of Ecology and Environment of the People's Republic of China (2018) [Announcement on adjusting the catalogue of imported waste management](#)

⁸ Closed Loop Partners (6 October 2019) [The latest insights and analysis from Chris Cui, Director of Asia Programs](#)

⁹ Resource Recycling (3 December 2019) [Signals point to all-out recycled fiber ban in China](#)

¹⁰ Bureau of International Recycling (24 December 2019) [Chinese quotas for waste & scrap imports: full list of 1st batch 2020](#)

¹¹ Bureau of International Recycling (8 January 2020) [Chinese quotas for waste & scrap imports: full list of 2nd batch 2020](#)

¹² Recycling Today (10 January 2020) [China issues second batch of scrap import quotas](#)

¹³ Business Today, (24 June 2019) [India bans import of plastic waste from August this year to curb pollution](#)

¹⁴ Ministry of Environment, Forest and Climate Change (2019) [Amendment in Hazardous Waste \(Management & Transboundary Movement Rules, 2016\)](#)

Country	Scope of restrictions	Announced & implemented	Associated exports (tonnes)			Impact and uncertainties
			Types	2018-19	Nov 19	
	are defective which can be imported within a year of export. A six-month extension has been granted to three SEZs which allows plastic scrap to be imported until May 31 2020 ¹⁵ . India set a contamination limit of 1% for recovered paper years ago. It now intends to enforce this by randomly expecting 5 mixed paper bales per container. ¹⁶	importers currently exempt under SEZs and EOUs.				
Indonesia	Temporary moratorium on all waste scrap imports commenced 23 November 2019 as the new Ministerial Regulation No. 84/2019 on the <i>Provisions on the import of non-hazardous and non-toxic waste for industrial purposes</i> is implemented ¹⁷ . All shipments subject to inspection dates after 22 November 2019 have been stopped. Under the new regulation, transshipments are banned. Only direct shipments from exporters that have obtained a permit (which would be subject to occasional verification) and have inspected containers prior to shipment would be allowed. Scrap imports to be restricted to arrive at eight ports only in Jakarta, Semarang, Surabaya (2), Makassar, Medan, Batam and Cilegon. The set contamination thresholds are unclear with industry interpretation suggesting it could be 0% which contradicts the previous suggestion of 2% with a two-year transition to 0.5%. Illegally imported plastic waste to be returned back to exporters ¹⁸ . Reportedly rejected eight containers of 'contaminated' paper and plastic material in July 2019. Announced in September 2019 that another 100 containers of contaminated plastic material to be sent back to Australia ¹⁹ . Determined in February 2020 to ease the rules on metal scrap imports due to mill supply shortages ²⁰ .	Ann.: Apr-19 Imp.: Nov-19	Plastics, Paper and cardboard, metals, glass, hazardous waste, tyres, other.	725,700 (60,500/month)	77,300	Impact uncertain.
Malaysia	Import permits revoked from 114 factories that process imported plastic waste ^{21,22} . Import of non-recyclable plastic waste to be banned by 2021 ²³ . Contaminated, mislabelled or illegally imported plastic waste loads to be sent back to source ^{24 25} . Malaysia has continued returning contaminated containers of plastic waste to countries of origin with 150 returned and another 110 to be sent back by midyear.	Jul-18.	Plastic	55,200 (4,600/month)	5,800	No impact apparent.

¹⁵ Business Standard, (2 December 2019) [Govt grants six month extension to plastic scrap imports in three SEZs](#)

¹⁶ Waste Dive, (15 January 2020), [India to enforce 1% contamination rate on paper imports, conduct random inspections](#)

¹⁷ Argus (21 November 2019), [Indonesia suspends scrap imports amid new policy](#)

¹⁸ VOA news (2019) [Indonesia vows to send back illegal plastic waste](#)

¹⁹ Sydney Morning Herald (18 September 2019), [Indonesia to ship 100 containers of contaminated waste to Australia](#)

²⁰ Indonesia will ease rules on scrap metal imports, <https://www.wastetodaymagazine.com/article/indonesia-will-ease-rules-on-import-of-scrap-metal/>

²¹ FMT News (2018) [Permits to import plastic waste for 114 factories revoked](#)

²² Waste Management Review (2018) [Malaysia, Thailand and Vietnam waste imports crackdown](#)

²³ The Star Online (2018) [Govt to ban import of all non-recyclable waste](#)

²⁴ The Australian (2019) [Australia would vet any waste returns, says Ley](#)

²⁵ Malaymail (2019) [Yeo Bee Yin moots RM1,500 charge per shipping container to cut illegal imported plastic waste](#)

Country	Scope of restrictions	Announced & implemented	Associated exports (tonnes)			Impact and uncertainties
			Types	2018-19	Nov 19	
	Enforcement at ports has improved and over 200 illegal plastic recycling facilities closed down in a bid to crackdown on illegal waste imports. ²⁶					
Philippines	To issue a 3-month moratorium on recyclable waste imports including scrap metals, plastics, electronic waste, used oil and fly ash. ²⁷	Ann.: Aug 19	Plastic, metals	18,800 (1600/mth)	600	Impact uncertain.
Taiwan	Import of plastic waste is banned. Exceptions are made to licensed local firms that import plastic waste originating from their own overseas production processes or are a single material, but not from original production processes ²⁸ . Paper imports restricted to only deinked paper, kraft paper, corrugated paper or cardboard that is not bleached. Import of waste newspapers and magazines banned.	Ann.: Aug-18 Imp.: Oct-18	Plastic, paper	17,700 (1,500/month)	1,000	No impact apparent.
Thailand	Revoked a broad plastic scrap import allowance, meaning plastic waste and scrap is banned from import by 2021 ^{29,30,31} . Looking to ban e-waste imports within 2 years ²² .	Ann. Aug-18, plastic imp. Aug-18, e-waste <2 yrs.	Plastic	11,200 (900/month)	1,000	No impact apparent Announcement available in Thai only.
Vietnam	Tighter controls over imports of plastic, paper and metals. Accepted only if importers prove their shipment meets specified environmental standards and there is capacity to process the materials ³² . No new licences issued for waste imports ²² . Plastic scrap imports to be banned by 2025 ³³ . Under new national standard QCVN 32: 2019/BTNMT, import of e-waste plastics (e.g. cases of TVs and computers) would be forbidden ³⁴ . From 22 February 2019, all imports through road and railway border gates to be banned ³⁵ . Import of mixed metal waste (containing any plastic, paper, other non-metallic metals) now understood to be restricted. Composition of metal waste needs to be 99% metal to be allowed in ³⁶ .	Ann. in Aug-18 apparently implemented. Mixed metal waste restricted from Oct 2018.	Plastic, paper, metals	732,600 (61,100/month)	5,500	Has apparently affected imports of scrap plastic and metal from Australia. Environmental reference standards are unavailable in English.

²⁶ EcoWatch (21 January 2020) [Malaysia sends plastic waste back to 13 wealthy countries, says it won't be 'the rubbish dump of the world'](#).

²⁷ ABS-CBN News (11 August 2019) ['Pirma na lang kulang': DENR all set to implement ban on waste imports](#)

²⁸ Taipei Times (2018) [New waste plastic, paper import rules to take effect](#)

²⁹ The Nation (2018) [Import of plastic waste banned](#)

³⁰ CIWM (2018) [Thailand set to ban plastic waste imports by 2021](#)

³¹ [Government Gazette Thailand](#) (2018)

³² Vietnam Briefing (2018) [Vietnam to Restrict Surging Scrap Imports](#)

³³ VN Express International (2019) [Vietnam to end plastic scrap imports from 2025](#)

³⁴ Ministry of Natural Resources and Environment of the Socialist Republic of Vietnam (2018) [Vietnam to ban imports of plastic from used electronics](#)

³⁵ VietnamPlus (2019) [Scrap imports through road, railway border gates to be banned](#), Ministry of Information and Communications

³⁶ S&P Global Platts (2019) [Vietnam's Jan scrap imports plunge amid stricter government rules](#)