

## Exports of Australian waste-derived products and wastes in November 2019

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Blue Environment is commissioned by the Department of the Environment and Energy (now 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 Statistics<sup>1</sup>, 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 recovery<sup>2</sup>, but a small portion is hazardous waste sent for treatment.

### Summary

In November 2019, Australia exported about 371,000 tonnes of waste-derived products and wastes with a value of \$A266 million. This represents increases of 8% in the quantity and 26% in the value of these exports compared with October 2019. The tonnage increase is mainly attributable to a rise in scrap metal and paper and cardboard exports, and the increase in reported value is attributable to ‘copper slag, ash and residues’<sup>3</sup>. Exports of glass and plastics also increased, while exports of waste tyres, hazardous waste and ‘other’ wastes declined.

About 120,000 tonnes of waste-derived products and waste exported in November could be affected by the COAG export ban. This is 32% of the total waste exported in November 2019.

### Comparison by destination

The top 10 recipients of Australian waste-derived products and wastes between July 2018 and November 2019 were Indonesia, Vietnam, China (including Hong Kong and Macau), India, Bangladesh, Malaysia, Thailand, Korea, Taiwan and New Zealand. In November 2019, 86% 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 November and October 2019 and includes each country’s 2018-19 monthly average. November 2019 exports to Indonesia, Bangladesh, Malaysia, Thailand and Taiwan were higher than their 2018-19 monthly averages. Those to Vietnam, China, India, Korea and New Zealand were lower. Exports to Vietnam fell to a monthly low of 6,000 tonnes in November 2019 due to a significant decline in metal exports following Vietnam’s imposition of import restrictions on mixed scrap metals in October 2019.

November 2019 exports of waste-derived products and wastes to Bangladesh and Taiwan were dominated by scrap metals (>90%). Those to India and Indonesia were about two-thirds metals with most of the remainder recovered paper and cardboard. Those to Korea were about half metals. Paper and cardboard was the largest export category (40-70%) to China, Malaysia, Thailand and Vietnam. New Zealand received mostly organic materials waste.

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<sup>1</sup> 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.

<sup>2</sup> 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.

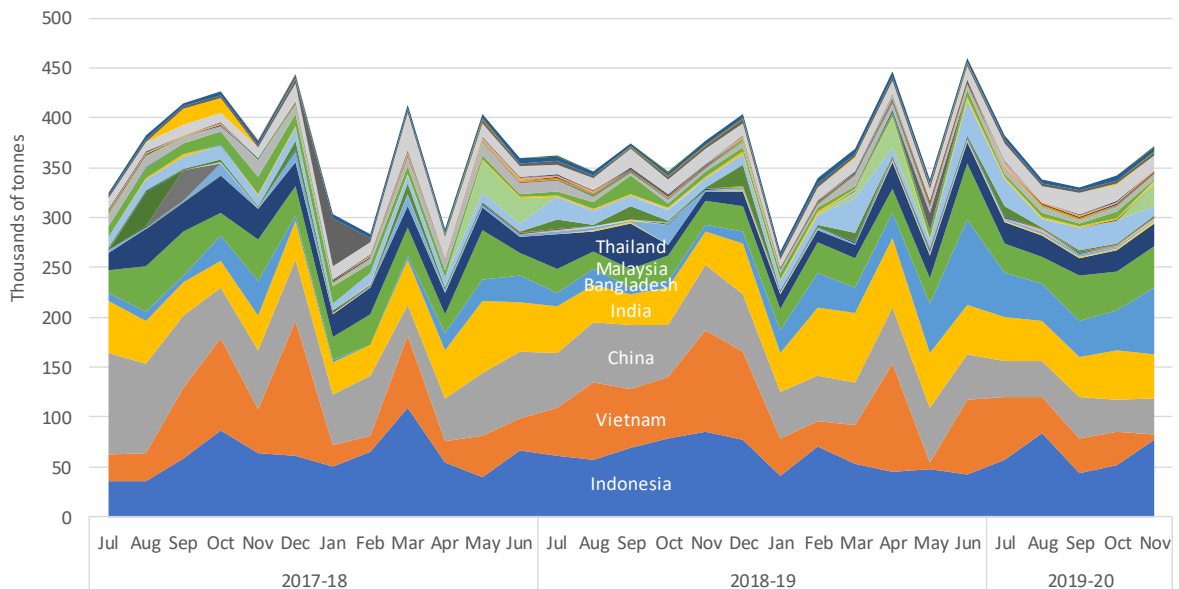
<sup>3</sup> The reported value per tonne of this material is implausibly high and is likely to be a data error by an exporter.

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

Export destination (ranked by tonnes since July 2018)	Nov-19		Oct-19		2018-19 monthly avg	Value		
	tonnes	% of total	tonnes	% change		Nov-19 \$ mil	Oct-19 \$ mil	% change
1 Indonesia	77,000	21%	51,000	51%	60,000	\$25.3	\$15.8	60%
2 Vietnam	6,000	2%	34,000	-84%	61,000	\$3.3	\$15.3	-78%
3 China	35,000	9%	33,000	7%	54,000	\$35.5	\$32.3	10%
4 India	44,000	12%	49,000	-10%	49,000	\$26.8	\$27.9	-4%
5 Bangladesh	67,000	18%	40,000	68%	25,000	\$23.5	\$14.4	64%
6 Malaysia	43,000	12%	39,000	8%	27,000	\$12.4	\$14.6	-15%
7 Thailand	22,000	6%	20,000	9%	20,000	\$7.2	\$7.7	-7%
8 Korea	9,000	2%	23,000	-59%	15,000	\$63.7	\$18.3	249%
9 Taiwan	15,000	4%	17,000	-14%	13,000	\$7.8	\$10.1	-23%
10 New Zealand	2,000	1%	6,000	-69%	6,000	\$5.0	\$7.4	-33%
<b>Top 10 total</b>	<b>320,000</b>	<b>86%</b>	<b>313,000</b>	<b>2%</b>	<b>330,000</b>	<b>\$210.5</b>	<b>\$163.8</b>	<b>29%</b>
<b>Monthly total</b>	<b>371,000</b>	<b>-</b>	<b>342,000</b>	<b>8%</b>	<b>369,000</b>	<b>\$266.0</b>	<b>\$211.9</b>	<b>26%</b>

Figure 1 presents the monthly trend in tonnes of exports of waste-derived materials from Australia by destination between July 2017 and November 2019. Monthly exports to Indonesia have varied between 35,000 and 109,000, both extremes occurring during 2017-18. Monthly exports to Vietnam have been highly variable, ranging between 5,500 tonnes this month and 135,000 tonnes in December 2017. 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 and averaging 36,000 tonnes so far in 2019-20. Overall, no clear trend is apparent in the overall quantity of waste exports over the 29-month timeframe.

**Figure 1** Monthly exports of waste-derived products and wastes from Australia by destination, ranked by total quantity received, July 2017 – November 2019



Over the same time period, the reported value of exports has ranged 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 October and November 2019, the 2018-19 monthly average and the year to date quantities.

*Table 2 Comparison of export tonnage and value by material*

Material	Tonnes					Value				
	Nov-19 tonnes	% of total	Oct-19 tonnes	% change	2018-19 monthly avg	Nov-19 \$ mil	% of total	Oct-19 \$ mil	% change	2018-19 monthly avg
Glass	2,400	1%	2,200	9%	1,300	\$0.06	<1%	\$0.13	-51%	\$0.1
Paper & card	98,000	26%	84,000	18%	93,000	\$13.6	5%	\$13.8	-2%	\$19.5
Plastics	12,000	3%	11,000	5%	16,000	\$3.2	1%	\$3.1	6%	\$3.6
Tyres	7,400	2%	8,200	-10%	10,000	\$1.6	<1%	\$1.3	22%	\$1.8
Metals	225,000	61%	202,000	12%	220,000	\$166.5	63%	\$162.5	2%	\$180.3
Hazardous	4,700	1%	6,400	-26%	5,600	\$60.7	23%	\$11.7	420%	\$33.2
Other	21,000	6%	29,000	-26%	24,000	\$20.5	8%	\$19.5	5%	\$20.3
<b>Total</b>	<b>371,000</b>	<b>-</b>	<b>342,000</b>	<b>8%</b>	<b>369,000</b>	<b>\$266.0</b>	<b>-</b>	<b>\$211.9</b>	<b>26%</b>	<b>\$258.8</b>

### *Comparison with the previous month –*

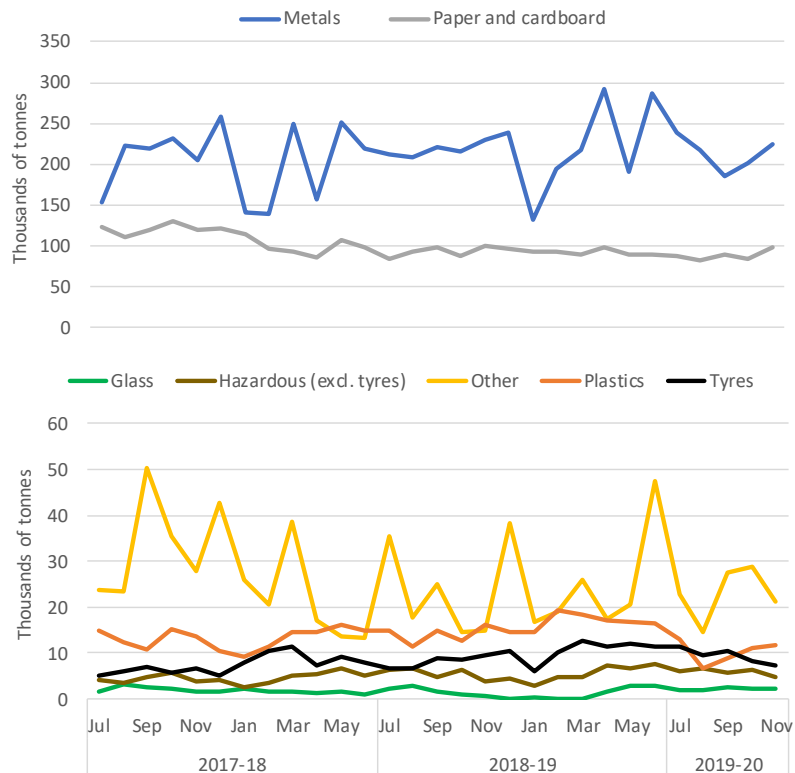
- November 2019 saw a 9% increase in the export of **glass** compared to the month of October but despite this, reported values fell by 51%. Malaysia received 94% of our glass exports.
- **Paper and cardboard** quantities were 18% higher than the previous month. Exports of unbleached kraft (old corrugated containers) declined by 7%. Exports of other grades increased. Unbleached kraft and mixed paper made up 85% of scrap paper and cardboard exports. China and Indonesia received 52% of our scrap paper and cardboard exports in November 2019. Paper and cardboard exports were valued at \$A13.6 million, which represented 5% of the total value of waste exports in November. This is slightly lower than the previous month.
- Exports of waste **plastics** increased by 5% in November. Malaysia and Indonesia have received most of Australia's waste plastics since China implemented its import restrictions, but in the last four months Indonesia's scrap plastic receipts from Australia have plummeted to a few hundred tonnes per month. This appears to be linked to new Indonesian import rejections and restrictions. Malaysia received 49% of our scrap plastic exports in November and China was second at 12%. Mixed plastics represented 69% of the total plastics exported. In November 2019, plastic exports were valued at \$A3.2 million, which was 6% higher than in October.
- Exports of waste **tyres** in November fell by 10%. About 7,400 tonnes were exported in the codes known to be dominated by waste tyres. India and Malaysia received 75% of our waste tyre exports for the month. Exports of waste tyres were valued at \$A1.6 million which is 22% higher than the previous month.
- Monthly **metal** exports rose by 12% in November. Most of this increase was in the 'cast iron' and 'ferrous waste and scrap' categories. Metal exports contributed to 63% (\$A166.5 million) of the total waste exports for the month. Bangladesh, Indonesia and India received 63% of the total tonnes exported.
- Exports of **hazardous waste** (excluding tyres) declined in November by 26%. The largest fraction was lead waste and scrap (2,700 tonnes) followed by lead slag, ash and residues. Exports of hazardous waste were valued at \$A60.7 million which represented 23% of the total reported value of waste exports in November. The increase in value can be traced to the export of copper slag, ash and residues but appears to be a data error as the reported value is about \$500/kg, whereas the value of pure copper is around \$9/kg.
- Exports in the **other wastes** category fell in November. Organic materials made up most of the other wastes exported. Exports of other wastes rose compared to the previous month to \$A20.5 million.

*Comparison with the 2018-19 monthly average* – Exports of plastics, tyres, hazardous and other wastes were lower in November than their monthly average for 2018-19. Exports of glass and paper and cardboard were higher and scrap metals very slightly higher. Overall, exports of waste in November 2019 were 0.6% higher than the monthly average for 2018-19. The reported value of waste exports for paper and cardboard, plastics, tyres, metals and other waste in November were lower than their monthly average for 2018-19, while glass was about the same and hazardous waste considerably higher (but probably due to a data error).

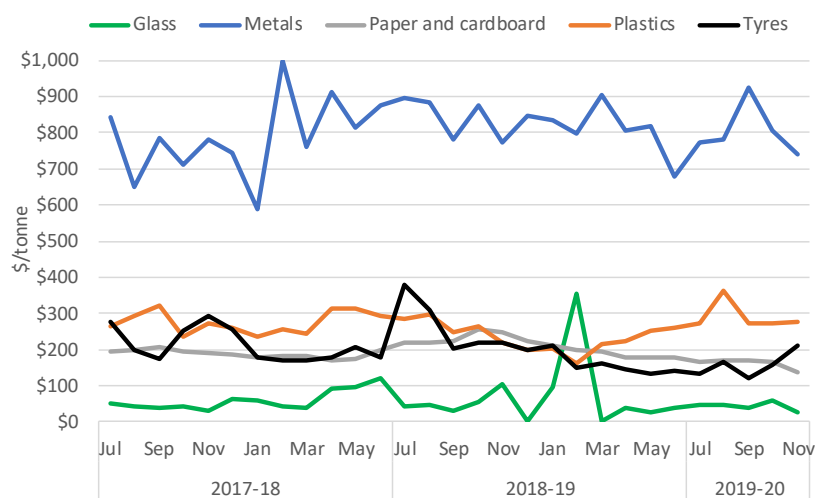
Figure 2 presents the monthly trend in exports of waste from Australia in tonnes by material type between July 2017 and November 2019. Scrap metal exports remain volatile. Exports of scrap paper and cardboard and tyres have remained fairly stable since January 2018. Exports of recovered plastics fell during early 2017-18 then recovered to peak in early 2019 before falling again. The last three months of the data series shows a rising trend.

Figure 3 presents monthly trends in the unit prices of key waste exports between July 2017 and November 2019. Over this timeframe, average unit prices for metals and paper and cardboard have remained fairly stable. Average unit prices for glass rose sharply in February 2019 but overall have been fairly stable. Average prices for waste plastics are driven mainly by the low-grade mixed materials grade, which represent most of the exported tonnes and includes process engineered fuel. Prices for this grade fell from an average of \$263/t over 2017-18 to a low of \$137/t in February 2019 and stood at \$236/t in November 2019.

**Figure 2** Monthly exports of waste-derived products and wastes from Australia by material type, July 2017 – November 2019



**Figure 3** Comparison of unit prices by material (in \$/t), July 2017 – November 2019



### 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	Nov-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	2,400	100%
Paper and cardboard	Jul 2022	47071000	Recovered (waste and scrap), unbleached, kraft paper or paperboard or corrugated paper or paperboard	40,000	100%
		47072000	Recovered (waste and scrap) paper or paperboard, made mainly of bleached chemical pulp, not coloured in the mass	860	
		47073000	Recovered (waste and scrap) paper or paperboard, made mainly of mechanical pulp (e.g. newspapers, journals and similar)	14,000	
		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)	44,000	
Plastics	Jul 2022	39151000	Waste, parings and scrap, of polymers of ethylene	3,700	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)	8,100	
Whole tyres	Dec 2021	40040000	Waste, parings and scrap of rubber (excl. of hard rubber) and powders and granules obtained therefrom	4,600	44% <sup>4</sup>
		40122000	Used pneumatic rubber tyres, whether or not subject to recutting or regrooving	1,800	100% <sup>4</sup>
		40129000	Solid or cushion rubber tyres, rubber tyre treads (incl. interchangeable tyre treads) and rubber tyre flaps	1,000	6% <sup>4</sup>

*Tonnes have been rounded*

In November, about 120,000 tonnes of waste-derived products and wastes were exported that could be affected by the COAG export ban<sup>5</sup>. This represents about 32% of the total waste exported for the month.

<sup>4</sup> 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 the lead of China, several 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) Types	2018-19		Impact and uncertainties
				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%<sup>6</sup>.</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 2019<sup>7</sup>.</p> <p>From 1 July 2019, import restrictions extended to eight solid waste codes pertaining to metals<sup>8</sup>. 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 2020<sup>9</sup>. Possible import ban on old corrugated cardboard and other fibre grades by 2021<sup>10</sup>. 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 imported<sup>11</sup>. 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<sup>12,13</sup>.</p>	<p>Ann.: Jul &amp; Nov-17, Apr-18, Jul-19, Dec-19, Jan-20</p> <p>Imp.: Jan &amp; 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	<p>Import of scrap plastics banned from August 2019<sup>14</sup>. Also covers areas that were previously exempt under the 2016 ban such as special economic zones (SEZ) and export-oriented units (EOU)<sup>15</sup>. Excludes electrical/electronic assemblies or components that are defective which can be imported within a year of export. A</p>	<p>Ann.: Mar-19</p> <p>Imp.: Mar-19, Aug-19 for importers</p>	Plastic	700 (60/month)	0	Impact uncertain.

<sup>6</sup> Blue Environment (2018) [Data on exports of recyclables from Australia to China](#)

<sup>7</sup> 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*

<sup>8</sup> Ministry of Ecology and Environment of the People's Republic of China (2018) [Announcement on adjusting the catalogue of imported waste management](#)

<sup>9</sup> Closed Loop Partners (6 October 2019) [The latest insights and analysis from Chris Cui, Director of Asia Programs](#)

<sup>10</sup> Resource Recycling (3 December 2019) [Signals point to all-out recycled fiber ban in China](#)

<sup>11</sup> Bureau of International Recycling (24 December 2019) [Chinese quotas for waste & scrap imports: full list of 1<sup>st</sup> batch 2020](#)

<sup>12</sup> Bureau of International Recycling (8 January 2020) [Chinese quotas for waste & scrap imports: full list of 2<sup>nd</sup> batch 2020](#)

<sup>13</sup> Recycling Today (10 January 2020) [China issues second batch of scrap import quotas](#)

<sup>14</sup> Business Today, (24 June 2019) [India bans import of plastic waste from August this year to curb pollution](#)

<sup>15</sup> 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	
	six-month extension has been granted to three SEZs which allows plastic scrap to be imported until May 31 2020 <sup>16</sup> .	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 <sup>17</sup> . 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: Tanjung Priok in Jakarta, Tanjung Emas in Semarang, Tanjung Perak in Surabaya, Soekarno Hatta in Makassar, Belawan in Medan, Batu Ampar in Batam, Teluk Lamong in Surabaya and Peacock in 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 <sup>18</sup> . 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 <sup>19</sup> . Determined in February 2020 to ease the rules on metal scrap imports due to mill supply shortages <sup>20</sup> .	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 <sup>21,22</sup> . Import of non-recyclable plastic waste to be banned by 2021 <sup>23</sup> . Contaminated, mislabelled or illegally imported plastic waste loads to be sent back to source <sup>24 25</sup> .	Jul-18.	Plastic	55,200 (4,600/month)	5,800	No impact apparent

<sup>16</sup> Business Standard, (2 December 2019) [Govt grants six month extension to plastic scrap imports in three SEZs](#)

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

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

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

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

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

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

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

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

<sup>25</sup> 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) Types	2018-19		Impact and uncertainties
				2018-19	Nov 19	
Philippines	To issue a 3-month moratorium on recyclable waste imports including scrap metals, plastics, electronic waste, used oil and fly ash. <sup>26</sup>	Ann.: Aug 19	Plastic, metals	18,800 (1,600/month)	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 <sup>27</sup> . 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 <sup>28,29,30</sup> . Looking to ban e-waste imports within 2 years <sup>22</sup> .	Both ann. Aug-18, plastic imp. Aug-18, e-waste within 2 years.	Plastic	11,200 (900/month)	1,000	No impact apparent Government announcement available in Thai only.
Vietnam	Tighter controls over imports of plastic, paper and metals. Only accepted if importers can prove that their shipment meets the specified environmental standards and there is capacity in the country to process the materials <sup>31</sup> . No new licences issued for waste imports <sup>22</sup> . Plastic scrap imports to be banned by 2025 <sup>32</sup> . Under the new national standard QCVN 32: 2019/BTNMT, import of e-waste plastics (e.g. cases of TVs and computers) would be forbidden <sup>33</sup> . From 22 February 2019, all imports through road and railway border gates to be banned <sup>34</sup> . 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 <sup>35</sup> .	Ann. in Aug-18, appears to be implemented. Mixed metal waste restricted from October 2018.	Plastic, paper, metals	732,600 (61,100/month)	5,500	Apparent impact evident for plastic and scrap metal exports from Australia. Environmental standards used to determine when shipments are acceptable or when the ban on e-waste plastic imports would take effect unavailable in English.

<sup>26</sup> ABS-CBN News (11 August 2019) [‘Pirma na lang kulang’: DENR all set to implement ban on waste imports](#)

<sup>27</sup> Taipei Times (2018) [New waste plastic, paper import rules to take effect](#)

<sup>28</sup> The Nation (2018) [Import of plastic waste banned](#)

<sup>29</sup> CIWM (2018) [Thailand set to ban plastic waste imports by 2021](#)

<sup>30</sup> [Government Gazette Thailand](#) (2018)

<sup>31</sup> Vietnam Briefing (2018) [Vietnam to Restrict Surging Scrap Imports](#)

<sup>32</sup> VN Express International (2019) [Vietnam to end plastic scrap imports from 2025](#)

<sup>33</sup> Ministry of Natural Resources and Environment of the Socialist Republic of Vietnam (2018) [Vietnam to ban imports of plastic from used electronics](#)

<sup>34</sup> VietnamPlus (2019) [Scrap imports through road, railway border gates to be banned](#), Ministry of Information and Communications

<sup>35</sup> S&P Global Platts (2019) [Vietnam’s Jan scrap imports plunge amid stricter government rules](#)