

AUGUST 2020

Safeguarding the Plastic Recycling Value Chain: Insights from COVID-19 impact in South and Southeast Asia

The plastics recycling industry was facing significant challenges before COVID-19. The onset of the COVID-19 pandemic has only exacerbated matters and immediate interventions are needed within the next 1-6 months to prevent long-term setbacks for the industry and an increase of plastic waste pollution.

Based on more than 100 interviews, this white paper highlights six key impacts to the recycling value chain in India, Indonesia, Vietnam, Thailand and the Philippines, along with a three-phase plan to prevent lasting damage to the sector and build a stronger, better industry for the long term.





The impacts of COVID-19 on the plastic recycling value chain in South and Southeast Asia

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More than

80% of the recycling value chain

was not operating during the height of the pandemic in Vietnam, India and The Philippines, resulting in an increase of plastic entering landfills and, likely the environment.



More than

40% of actors in the recycling value chain at risk of permanent closure or bankruptcy.



50% drop in demand

for recycled plastics and 21% drop in sales prices experienced by recyclers.



65% reduction in plastic volumes

collected and sorted by the informal sector, affecting the most vulnerable workers in the value chain.

The COVID-19 pandemic has caused severe setbacks to the ongoing global movement to tackle plastic waste and to move towards a circular economy. Circular economy initiatives and commitments by the plastics industry and national-level marine plastic prevention programs, especially those in South and Southeast Asia, rely on recycling value chains to collect, clean and process the plastics for recycling. The abrupt stoppage of the value chain has led to more plastics entering landfills and likely more plastics entering the open environment and waterways, as there have been less formal and informal collectors engaged in waste management and plastic collection.

This white paper is among the first of its kind to identify the impacts of COVID-19 and interventions needed to safeguard the recycling value chain. The five Asian countries of focus in this study - Indonesia, Philippines, Vietnam, Thailand and India - are all among the top 15 countries where plastics leak into the marine environment from their waste management systems.¹

If we continue with business as usual, the value chain in South and Southeast Asia will be weakened, with serious environmental and social consequences. Since the pandemic began in March 2020, recyclers across the five countries have seen on average a 50% drop in demand for their products, 21% drop in sales prices and many recyclers and businesses across the plastics recycling value chain are at risk of insolvency. Interventions are needed before the end of 2020 to ensure that the value chain can endure these setbacks and to safeguard the foundations of a nascent circular economy in the region.

In this paper we detail the impact of COVID-19 on the plastic recycling value chains in these five countries and propose a three-phased approach for interventions in order to prevent lasting damage to the recycling value chain. The time is now to invest in the best of the recycling value chain to help manage this crisis and build a stronger, better industry for the long term.

The three phases are:

- 1. Immediate: Provide short term loans and financial support to operators. Support informal sector workers through leveraging existing grant programs and ensuring essential supplies such as PPE or food assistance is maintained. Recognize the recycling value chain as an essential service. Enable exports of recycled plastic. Accelerate brand owners' commitments to buy recycled materials and provide guarantees for offtake.
- 2. 2021: Accelerate financing to the sector. Establish recycled content targets. Extend vocational skills training programmes and education access programmes to formal and informal sector waste workers and their families. Capacity building to enable recyclers to meet global supply chain due diligence requirements.
- 3. **Beyond One Year:** Establish recycled content usage in food grade applications in Asian markets. Mandate household source segregation to support improving feedstock quality. Develop design-for-recycling policies.

¹"Plastic waste inputs from land into the ocean", *Science*, Jenna Jambeck et al., 2015

Six major impacts of COVID-19 and low oil prices threatening the plastic recycling value chain

01

A significant proportion of the recycling industry is either closed or operating at low capacities, due to COVID-19 lockdowns and lack of essential service status. While the waste management sector was considered an essential service in all five countries, the plastics recycling value chain was not considered an essential service.

This lack of classification meant that stakeholders faced significant movement restrictions, complete closure in some cases, little to no sales or income and lack of resources or support. Less than 20% of recyclers operated during the lockdowns in Vietnam, India and the Philippines, while in Thailand and Indonesia it was less than 60% (Exhibit 1).

The lack of essential service status has had knock-on effects to the percentage of recyclers and value chain stakeholders that are operating post-COVID-19 lockdowns. As seen in Exhibit 1, Indonesia is the least affected country as of June, with more recyclers operating and at slightly higher capacities.

This is believed to be due to two key reasons: the lack of a nationwide lockdown (with decentralised lockdowns instead); and lower levels of enforcement. India, Vietnam and the Philippines are the most affected countries with less recyclers open and operations at much lower capacities.

"It has taken an enormous amount of work and time to get to where we were pre-lockdown. The lockdown has made the value chain & recycling industry fall apart completely. To put it back together again will be tremendously difficult."

EXHIBIT 1: Summary of the continued operation of recyclers during and post COVID-19 lockdowns

	REGIONAL AVERAGE	VIETNAM	INDONESIA	INDIA	THAILAND	PHILIPPINES
DURING LOCKDOWNS	26%	<20%	30 - 60%	<10%	>50%	<5%
	>		% OF RECYCLER	RS OPERATING		
POST LOCKDOWNS	58%	50 - 70%	60 - 80%	20 - 70%	>50%	50 - 80%
(as of June)		OPERATING % AS COMPARED TO INSTALLED CAPACITY				
	46%	20 -50%	40 - 70%	25 - 50%	50 - 60%	30 -60%

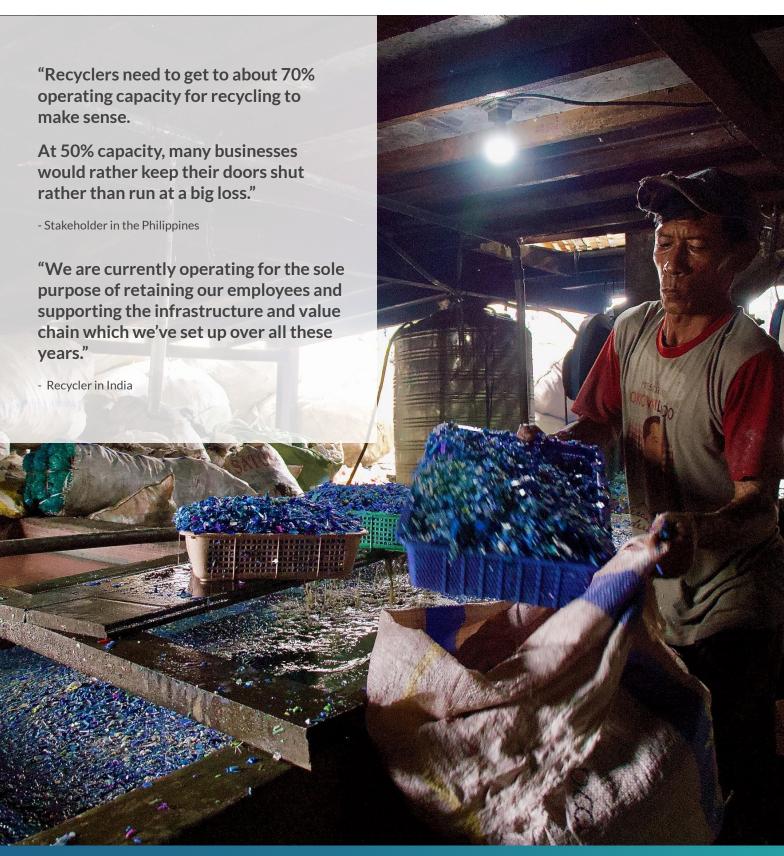
Notes: Operating capacities are the average for the country based on all recyclers and associations interviewed. Whilst some recyclers are operating at 80-90% capacity, these are outliers. The large range for % of recyclers operating in India accounts for the differences between PET recyclers (about 65-70% open) and Polyolefin recyclers (about 20-30% open).

⁻ Multinational conglomerate in India

As of June/July 2020, many recyclers in the five countries were still not open due to:

- A lack of demand for recycled plastic coupled with low sales prices
- A lack of material/feedstock availability
- A lack of workers available or restrictions on workers due to social distancing

Many recyclers that opened during the lockdown or have opened since are running their operations at a loss.



Sales prices for recycled plastics have reduced by 21% on average year-on-year (YoY). Long before COVID-19 became a global pandemic, low crude oil prices were already posing significant downward pressures on post-consumer resin prices. Assuming the status quo, to enable recycled plastics to compete with virgin resins, crude oil prices should be at least USD 70-80 / barrel. However, prices have not been seen at that level since September 2018. As of April 2020, oil prices declined to all-time lows of nearly USD 18 / barrel and as of July 2020, are leveling out at USD 42 / barrel. As of April/May 2020, YoY virgin prices had reduced by 30% as compared to April/May 2019, forcing recyclers interviewed to reduce prices by 21% as compared to 2019 prices to attempt to remain competitive against virgin resins (Exhibit 2).

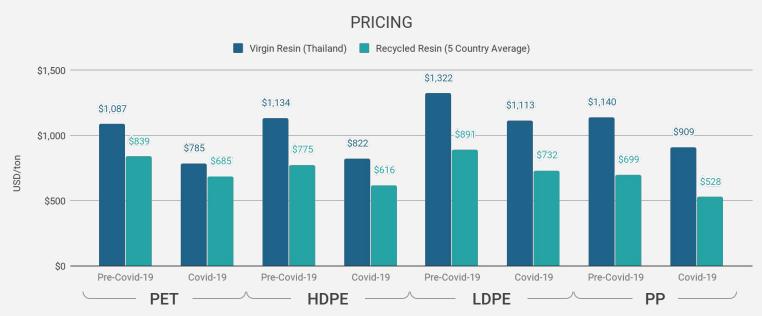
During 2019, the average pricing differential between virgin and recycled resins was at least USD 230 / ton for most plastics. Due to oil price drops and COVID-19 induced demand drops, the pricing differential has narrowed across all the resins.

PET has faced the largest reduction in price gap with only a USD 100 / ton price differential now remaining between virgin and recycled PET since the lockdown period began across the five countries.

This translates to roughly a 13% price difference between the virgin and recycled PET, thus well below the 15%-30% price differential recyclers need in order for recycled resins to remain competitive. A number of recyclers interviewed are selling at loss-making prices and yet are unable to compete with virgin resins.

These impacts highlight the need for investment in the recycling value chain: to support improvements in efficiency and deploy new technologies, advance and safeguard the sector, and ultimately build a stronger and more resilient industry for the long term.

EXHIBIT 2: Virgin prices have fallen by 30% forcing recyclers to slash prices by 21% on average



Sources: Recycler interviews throughout 5 focus countries (recycled resin pricing), Plastic Institute of Thailand (virgin resin prices). **Note:** Recycled Resin prices are based on data from recyclers and may not represent average recycled resin prices throughout the 5 countries, however, the recycled resin prices do represent the trend in price reductions from 2019 to during/post Covid lockdowns

The volume of recycled plastics traded has reduced 50-65% on average along key stages of the value chain (recyclers, aggregators, junk shops, collectors), due to two key reasons: a) lack of demand for recycled plastics and b) other impediments such as lack of feedstock supply and worker shortages.

- **A.** Lack of demand for recycled plastics from SSEA Markets. There are two key reasons (Exhibit 3) for the lack of demand for recycled plastics, being:
 - The low oil pricing and thus low virgin pricing has forced substitution back to virgin.
 - COVID-19 lockdowns and the induced economic downturn has led to less consumption of products which utilise plastics.

EXHIBIT 3:

The two key reasons for lack of demand for recycled plastic in 2020

FACTOR	IMPACT ON PLASTIC DEMAND	VIRGIN PLASTIC DEMAND	RECYCLED PLASTIC DEMAND
OIL PRICES	Reduced oil prices have led to reduced virgin plastic prices . This has reduced recycled plastic consumption and increased virgin plastic consumption, as stakeholders have transitioned to virgin plastic due to its significant price discount.	↑	↓
COVID LOCKDOWNS & COVID-INDUCED ECONOMIC DOWNTURN	The lockdowns and continued restrictions on industries/consumers globally, in addition to the economic downturn/low consumer confidence, have reduced demand for plastics overall.	\downarrow	↓

- **B.** Other impediments include feedstock shortages, cash flow issues, worker shortages, fear of catching COVID-19, lack of government support and logistics barriers (Exhibit 4).
 - **Feedstock shortages**, both in terms of quantity and quality, is a major issue. Specifically, for certain widely recycled resins such as PET, on average, the feedstock supply has fallen by 80% in some markets compared to pre-COVID-19 levels, due to reduced product sales. Meanwhile, the quality and quantity of feedstock has been challenged by the changes in the location of consumption (less consumption in hospitality and commercial channels which would generally supply source segregated materials and more consumption via household channel where recyclables are generally disposed in mixed waste).
 - Cash flow issues due to a host of factors such as delayed payments from buyers, reduced demand, reduced sales prices and the cash burn during the lockdowns. Many businesses have used most or all of their savings and have had to lay off workers and/or reduce salaries, take loans to cover expenses and find other ways to reduce operating expenses, etc to survive. All this means there is less money available at each stage of the value chain to purchase material. There is also concern about receiving payments, thus some trading has been limited to businesses with which there is high levels of trust.

- o **Worker shortages** are a challenge particularly for India and the Philippines. In India, up to 60-80% of workers within the plastic value chain left urban areas over April to June to go back to their hometown well above the 20-30% normal for this period. The impact of worker shortages is the highest at the collection stage of the value chain. In the Philippines, there has been limited reverse migration and instead the issue of worker shortages is related to a government mandate limiting the on-site workforce to 50%.
- **Fear of catching COVID-19** has been reported in every market to some level with the degree of fear reported in India being extremely high. This is affecting the volume of plastic collected, traded and recycled along the value chain. Multiple recyclers have reported that employees do not want to handle feedstock, even after it has been put aside for ten days.
- Logistics barriers were an issue for almost all countries during the lockdowns, due to border closures and lack of transportation. Most of these issues have been resolved as of June, however, logistical barriers continue to be an issue in the Philippines, where post-consumer plastics can only be transported by land (not by sea or air). With 7,641 islands in the Philippines, this is a major challenge for recyclers as historically they obtained 50% or more of their feedstock from other islands. The requirement for IDs and tight city borders also limits the movement of feedstock.
- o Lack of government support has compounded the severity of all these challenges. Across most countries, stakeholders have struggled to access loans due to both lack of clear communications and the challenging process. In Indonesia, stakeholders have struggled with income tax payment burdens which have not been eased to the degree needed, along with high interest rates where the decision authority is with each bank on a case-by-case basis, thus for most stakeholders, the interest rates will continue at or close to the market rate of 12%.

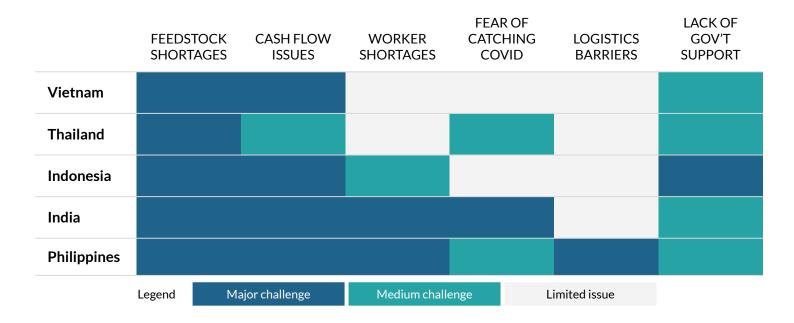


"Fortunately, we had a decent cash position before COVID-19 so we've been able to survive. We were just lucky that before the lockdown we received a few payments, so we had cash/liquidity when the market had no cash."

- Aggregator in India

"I've heard the announcement about loans for MSMEs and I've enquired about the loans, but I don't know who to ask. I think there is more talk than actual money in the market. I hope the SME support announced becomes available for businesses and is distributed."

EXHIBIT 4: Impediments (other than demand and price) affecting volumes traded



The volume reductions experienced by the value chain are: 51% for recyclers; 50% for aggregators; 54% for junk shops; and 65% for informal sector collectors. This represents a 50-65% reduction in volume across the portion of the value chain currently operating. It does not include volume reductions due to ceased operations. If all recyclers and value chain stakeholders were operating, this average reduction would be higher per stakeholder.



"70% of the Polyolefin recycling industry is not operating today because most Polyolefin recyclers are unorganised or informal... So whatever demand these recyclers used to have has shifted to us.

That's why our demand is at 60-70% (i.e has only reduced 30-40%). If the whole recycling industry was open, then demand would be lower."

- Recycler in India

The most vulnerable have been the most affected.

The situation is extremely dire for the informal sector which makes up the base of the value chain as they rely on daily incomes from collecting recyclables for their day-to-day expenses. They are especially at stake as there is limited or no income due to reduced demand and prices for their recyclables (they are always the most vulnerable stakeholder to price fluctuations) or they are unable to work due to respective lockdowns. This study found that their volumes on average have reduced by 65%. Additionally, informal sector collectors lack the income to protect themselves via PPE, thus are at higher exposure risk of COVID-19.

Safeguarding informal sector collectors is crucial for the entire value chain as the informal sector is the backbone for recyclables collection in all the five countries of focus. There have been commendable efforts to support this sector by NGOs, the private sector and by governments, but these efforts are merely reaching the tip of the iceberg in terms of the number of informal sector collectors that need help.

Meanwhile, collection of low value plastics, which is the most vulnerable to any price adjustments or structural changes, has been the most affected. For example, in India, most multi-layer plastic (MLP) collection and processing is dependent on economic incentives provided by brand owners in order to achieve their collection and/or recycling targets per the EPR system. Recyclers have expressed concern that brand owners will cut their EPR commitment goals and budgets.

Additionally, MLP processing was severely impacted by the closure of cement kilns and/or additional payments required by cement kilns to process the MLPs.

"Of all plastics, MLPs are the most heavily impacted by COVID-19, as there are limited budgets from brand owners for EPR. With no EPR fee/credit, we can't collect MLPs."



There is a lack of confidence amongst the value chain for a swift or smooth recovery. COVID-19 induced restrictions on businesses and citizens are a short to medium term concern and almost all recyclers peg some amount of the recovery to the launch of an effective vaccine, as they know this will provide some level of economic rebound and thus increased demand for plastics, however recyclers stress that this will not be enough. Their major concern and reason for lack of confidence is the projections of a low crude oil price for the foreseeable future.

While the more optimistic recyclers hope for a 6-month recovery period, the extent and severity of a prolonged impact to the recycling value chain will be directly determined by the pace of recovery to reach pre-COVID-19 sales prices and demand levels.

The current outlook for many recyclers as well as other sectors of the economy is grim for the next 18 months without interventions to support a faster return to recovery.

There is an opportunity for governments to support this recovery and help combat the lack of confidence across the sector by recognising and including all aspects of the recycling value chain as an essential service, as well as prioritising these businesses for relief support.

"Even before COVID-19, players started buying less recycled plastics and recycled plastics prices had fallen. So many recyclers and value chain stakeholders were already hurting before COVID-19. Additionally, there was uncertainty for HDPE/LDPE recyclers due to plastic bag bans and taxes. Now we are also being hammered by COVID-19."

- Stakeholder in Indonesia

EXHIBIT 5: Crude oil price forecast as compared to historical pricing

Historical and Forecast Crude Oil Pricing



Table: Historical and forecasted crude oil prices (and future price and 95% confidence intervals), based on the best case of West Texas Intermediate (WTI) prices, by US Energy Information Administration (FIA)

The value chain is cash-strapped and the outlook is poor, thus further bankruptcies and closures are projected. Through the course of this study, it became evident that many of the value chain stakeholders are in survival mode and are "buying time" in hopes that demand will pick up. Recyclers are willing to sell well below optimal prices to ensure the survival of their businesses. Many of the recyclers interviewed have loans for previous investments in their operations and are now highly concerned about defaulting if the cash crunch continues. With a recovery period of any longer than 3-6 months, market sources expect that many recyclers and value chain stakeholders will go bankrupt or go out of business.

Market sources have confirmed that already a number of businesses have been forced to or have chosen to permanently close due to the poor outlook. In Indonesia, some junk shops have already permanently closed their business. A PE/PP aggregator in Bali reported that 25% (4 out of 20) of their junk shop suppliers have permanently gone out of business. In India, it has been reported that several small-scale recyclers and aggregators have already permanently closed.

Based on all interviews conducted, this research team estimates that throughout the five countries, less than 10-20% of recyclers and value chain businesses are in a healthy financial position, 30-50% can continue operations with limited impact and 40-60% are at risk of permanent closure or bankruptcy. The attributes of each of these groups are highlighted in the table below (Exhibit 6). Like for any sector going through this global economic crisis, the best in class operators are best positioned to weather the storm. However, interventions across the value chain are needed to avoid further plastic pollution, support the most vulnerable and keep progressing on advancing the circular economy in the region.

"Several small-scale recyclers and aggregators have closed shop or wound up. There is potential they will resurface again in the future years, but for now they've permanently closed."



EXHIBIT 6:

Financial situation of Recyclers and Value Chain stakeholders across the five markets

Less than 10 - 20%

Healthy financial position

- Operating at 75-100% of installed capacity
- Sales are less impacted for various reasons such as: sales to less impacted sectors/industries (e.g. packaging sectors, particularly food grade packaging, or agriculture); and stronger relationships / contracts with buyers or superior products which sets them apart from the market.

About 30 - 50%

Can continue operations

- Operating at 50-75% of installed capacity
- Selling to industries which have continued to buy recycled plastics and/or have adjusted outputs to sell to sectors/industries which have higher demand
- Reduction in sales prices, although still able to sell at or above break-even
- Have used business savings to survive the last 3 months and can use savings or a loan and some cost reductions (reducing workforce) to stay in business
- Have minimal expense exposure (minimal to low loans, low interest rates or renegotiated interest rates, no rental costs) enabling them to overcome the liquidity crunch that many players have

About 40 - 60%

Critical financial positions

(risk of bankruptcy or permanent closure)

- Operating at less than 50% capacity or operation remains closed
- Significant reduction in sales prices, may be selling below breakeven
- Have experienced revenue drops of more than 50% and/or experiencing more severe delayed payments from their customers
- Have run out of/are running out of business savings
- Have high expense exposure (larger loans which they are not able to service, generally higher interest rates, have rent expenses)
- Laying off staff to reduce expenses, but still have rent and/or interest to pay
- Feedstock supply has been more heavily impacted - e.g. was more reliant on the hospitality/commercial sectors or has been heavily impacted by reduced consumption of key resins such as PET.

"We have depleted 100% of our savings and we were forced to apply for a bank loan. Our employees received government assistance, but businesses didn't receive any assistance.

Because of our bank loan and low sales, we are losing money at the moment. If demand doesn't pick up or if there is another lockdown, we will go bankrupt."

- Recycler in the Philippines

"If things continue like this, I think many recyclers and aggregators will have to shut their business permanently.

We can survive without business for 3 months as most businesses keep about 3 months reserves - but going beyond 3 months is an issue. Businesses have to start trading again."

- Aggregator in India

We are at a crossroads. The time is now to invest in the best of the recycling value chain to help avert this crisis and build a stronger, better industry for the long term.

Three-phased approach to prevent lasting damage to the recycling industry

Whilst most of the stakeholders in the plastics recycling value chain are already struggling to withstand the initial economic shock, all will now need to prepare for the longer-lasting effects, including an erosion in demand for recycled plastics due to the projection of low oil prices. Those interviewed have taken drastic measures to preserve their cash reserves, including but not limited to workforce reduction, reduction in sales prices to stir demand and taking on loans. However, if there is no external intervention implemented before the end of 2020, it is expected that many of the weaker stakeholders in the value chain will become insolvent within the next three months.

Interventions are recommended in a three-phase approach to ensure the highest priority challenges are immediately addressed to stem the impact and support the recycling industry through this unprecedented crisis. The table below (Exhibit 7) summarizes the interventions required over the three phases.

EXHIBIT 7: Priority Matrix for Interventions

	PHILANTHROPIC SECTOR	INDUSTRY + BRAND OWNERS	INVESTORS	GOVERNMENT
PHASE 1: IMMEDIATE (less than 6 months)	 Refine existing grant programs to include waste pickers, the most critical and vulnerable workers in the value chain. Promote and provide guidance on grants and giving initiatives available to formal and informal waste sector workers. Provide targeted guidance on loan and grant programs to operators. Continue to provide informal sector collectors with personal protective equipment (PPE) and food supplies. 	 Proactively engage their suppliers and commit to buy recycled materials, provide guarantees for offtake. Reaffirm to local/domestic commitments to recycled content targets and EPR commitments. Extend Covid-19 mitigation standard operating procedures (SOPs) to recyclers and aggregators. 	 Provide short term low interest loans and other immediate financial support to operators. Communicate timelines and steps in financing process. Seek to include informal sector voices in livelihoods investments. 	 Recognize the recycling value chain as an essential service. Reduce or delay tax payment burdens for recyclers and other formal value chain businesses. Enable exports of recycled plastic. Raise awareness of this issue and include recyclers and waste pickers as essential services, prioritize for relief.

EXHIBIT 7: Priority Matrix for Interventions

	PHILANTHROPIC SECTOR	INDUSTRY + BRAND OWNERS	INVESTORS	GOVERNMENT
PHASE 2: 2021 (6+ months)	 Extend vocational skills training and education access programmes to formal and informal sector waste workers and their families. Provide technical assistance and capacity building to recyclers and suppliers to improve quality and performance. 	 Work with recyclers to develop food grade resin capabilities and capacity. Include recycling sector engagement in employee mentor/coaching opportunities. Maintain focus on protecting worker health. Increase engagement with workers. 	 Accelerate financing dedicated to the sector. Strengthen social risk assurance in investment decisions. Provide access to training for portfolio and pipeline companies to strengthen supply chain resilience. Provide structured mentoring and coaching for financial planning and operations. 	- Support recycled content targets (e.g. minimum 30%).
PHASE 3: BEYOND (12+ months)	- Drive the collaboration across public-private sectors to target improving working conditions for the informal sector collectors and creation of decent work.	 Increase recycled content targets. Leverage industry groups to develop HSE training targeted to recyclers and value chain stakeholders. 	 Promote the waste management and recycling sector within the investment community to attract further investments. Allocate capital to the waste management and recycling sectors. 	 Mandate household source segregation to support improving feedstock quality. Develop design-for-recycling guidelines. Establish recycled content usage in food grade applications. Review opportunities to facilitate logistics related to high quality import and export of plastics materials.

Offtake agreements and reaffirming existing extended producer responsibility (EPR) commitments to spur demand in addition to grants or low interest loans to cover short term interest payments are among the most urgent interventions that are needed at the recycler level of the value chain. It is also critical to ensure informal sector collectors receive the necessary support in phase 1 to ride out the turbulence, and to recognise the recycling value chain as an essential service to ensure the recycling value chain can continue to operate should there be further lockdowns.

From phase 2 onwards, it is critical to stimulate demand and invest in supply as only this can protect the whole value chain (informal sector collectors, junk shops, aggregators and recyclers), in addition to supporting recyclers to develop their food grade resin production capabilities and capacities. For 2021 and beyond (phase 3), needed interventions include minimum recycled content targets, development of design-for-recycling guidelines and enabling food-grade recycled content usage.



"We're supporting waste pickers through meals. Waste pickers are happy to have a donated meal - but what they want most is to see is a positive future.

So the key short to medium term need is to stimulate economic activity or stimulate demand in the value chain again."

- Stakeholder in India

"FMCG companies have to protect the EPR system. I expect that industry will ask for 6-month relaxation or to ask for reduction in EPR targets from 100% down to 50%. This will be a big issue demand wise.

The FMCG industry must stick to 100% EPR targets to protect demand."

- Stakeholder in India

"We need the FMCG industry to commit to buying recycled material so that the recycling industry can build up capacity and improve the quality of material.

It's currently a vicious cycle because FMCG companies don't see quality PCR in the market so they don't buy - but without commitments, the recycling industry can't make investments to improve."

Following phases 1 and 2, phase 3 (longer term) interventions will be needed to safeguard the value chain until the pandemic is over and until oil prices have stabilized. The phase 3 interventions aim to stimulate demand to help decouple recycled plastic prices from virgin prices and thus enable the recycling industry to grow and thrive even regardless of oil prices.

Some bankruptcies or closures and acquisitions or consolidations will undoubtedly happen as the industry shrinks, just like many other industries challenged by COVID-19, however, it is **critical to ensure that the industry does not suffer from permanent and long-lasting damage.** There is an **'opportunity window' of the next 6 months** for interventions to be made to ensure that the vast majority of the 40-60% of businesses that are at risk of permanent closure or bankruptcy, are kept in business.

There are businesses right across the value chain that given the support and investment to withstand the current crisis, will contribute to an improved and more resilient industry as we work to build back better in the post-COVID-19 world.

Now is the time to act to safeguard the plastic recycling value chain and to protect the environment as well as local communities' livelihood.





AUGUST 2020

Safeguarding the Plastic Recycling Value Chain: Insights from COVID-19 impact in South and Southeast Asia

More than 100 stakeholders in India, Indonesia, Philippines, Thailand and Vietnam were interviewed during May to July 2020 for this study. This included recyclers and recycler associations, aggregators, junk shops, informal collectors, waste management companies and NGOs throughout the five countries.

GA Circular and Circulate Capital wish to thank all stakeholders interviewed in who contributed to this study.

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