

# Large Producer of Regulated Consumer Products

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- Pursuant to section 12 (1) of the RSA, a producer of regulated consumer product must not supply any regulated consumer product in any compliance year if the registered producer –
- has, on average for each year in the relevant period immediately preceding the compliance year, supplied more than the threshold prescribed for that regulated consumer product; and
- is not a member of a licensed scheme (i.e. Producer Responsibility Scheme) for the regulated consumer product.

## **Producer Responsibility Scheme (PRS)**

- All member producers of the PRS are responsible for the collection and treatment of their end-of-life products supplied to the market
- Required to finance the NEA-appointed PRS Operator (i.e. ALBA Group) for collecting and sending the e-waste for treatment, on behalf of producers:
  - Payment of (i) Membership Fees and (ii) Collection & Recycling Fees
  - Billing will be done quarterly

# Large Producer of Regulated Consumer Products

## Prescribed Threshold (By Product Category)

Regulated Consumer Product	Licensed Scheme Threshold
1. Printer with a weight of 20 kg or less	10 tonnes
2. Consumer computer	
3. Desktop Monitor	
4. Mobile telephone	
5. Router that is not a specified router	8 tonnes
6. Modem	200 kg
7. Set-top box	900 kg
8. EMC Class B network switch	500 kg
9. Network hub with 8 or fewer ports	
10. Refrigerator	100 tonnes
11. Air-conditioner	
12. Washing machine	
13. Dryer	
14. Television	0
15. Electric Mobility Device	
16. Portable battery	3 tonnes
17. Consumer electric vehicle battery	5 tonnes
18. Consumer lamp	3 tonnes

- Product definitions and licensed scheme threshold can be viewed at <https://go.gov.sg/prod-def-sl>
- Thresholds have been set and subject to annual review to cover at least 90% of EEE by weight supplied in Singapore and not over-burden smaller producers.
- Ensures fairness and a level playing field amongst the large producers that are required to join the PRS.

# Producer Fee Structure

- Two components to the fee: (1) Membership Fees, (2) Collection and Recycling Fees
- Membership fees are billed at the start of every quarter
- Collection and recycling fees are billed at the end of every quarter, based on the actual amount of e-waste collected and sent for recycling

## Fixed Costs (Membership Fees)

**Membership fees** are fixed tendered sums split amongst **producers of each regulated product**, by their **percentage share of supply to the market**.

**Membership Fees** shall include fixed costs such as administrative, finance, legal, labour, marketing, and IT system costs, to be proposed for each Regulated Consumer Product.

**Membership fees** will be charged in the following manner:

Start of 1<sup>st</sup> quarter – 40% of tendered membership fee

Each of the other quarters – 20% of tendered membership fee

## Variable Costs (Collection and Recycling Fees)

**Collection and recycling fees** are based on actual tonnages of e-waste collected and sent for recycling by the PRS operator, and split amongst **producers of each regulated product**, by their **percentage share of supply to the market**.

**E-waste Collection and Recycling Fees** shall include variable costs such as equipment and infrastructure, logistics, and E-waste recycling costs, to be proposed for each Regulated Consumer Product for each kilogram collected by the PRS operator.

### Start of compliance year (1 July 2021)

Membership fee

(40% of tendered membership fee)

### Following compliance year (1 July 2022)

Membership fee

(40% of tendered membership fee)

#### 1<sup>st</sup> quarter payment (1 Oct)

Membership fee (20% of tendered membership fee)

Collection and recycling fee

#### 2<sup>nd</sup> quarter payment (1 Jan)

Membership fee (20% of tendered membership fee)

Collection and recycling fee

#### 3<sup>rd</sup> quarter payment (1 Apr)

Membership fee (20% of tendered membership fee)

Collection and recycling fee

#### 4<sup>th</sup> quarter payment (1 July 2022)

Collection and recycling fee

# Producer Fee Structure – Membership Fees

Membership Fees	
Regulated Consumer Product	Membership per Year (\$\$/year)
Printers with weight of 20kg or less	170,907.00
Consumer Computer	184,031.00
Desktop Monitors	160,406.00
Routers that are not EMC Class A routers, and are not designed to be mounted on a server rack	46,650.00
Modems	46,650.00
Set-top boxes	43,368.00
EMC Class B network switches	81,816.00
Network hubs with 8 or fewer ports	
Mobile telephones	155,156.00
Refrigerators	807,470.00
Washing Machines	741,845.00
Dryers	216,844.00
Televisions	413,719.00
Air-conditioners	479,345.00
Electric Mobility Devices, which includes: i) Personal Mobility Devices ii) Power Assisted Bicycles iii) Electric Mobility Scooters	168,280.00
Portable Batteries	166,969.00
Consumer Electric Vehicle Batteries	161,719.00
Consumer Lamps	190,594.00

# Producer Fee Structure – Collection & Recycling Fees

Collection & Recycling Fees	
Regulated Consumer Product	Tendered Unit Price (S\$/kg)
Printers with weight of 20kg or less	0.77
Consumer Computer	0.45
Desktop Monitors	1.41
Computer networking equipment, which includes: i) Routers that are not EMC Class A Routers & are not designed to be mounted on a server rack; ii) Modems; iii) Set-Top Boxes; iv) EMC Class B Network Switches; v) Network Hubs with 8 or fewer ports	0.31
Mobile telephones	0.28
Refrigerators	0.87
Washing Machines	0.71
Dryers	0.73
Televisions	1.25
Air-conditioners	0.37
Electric Mobility Devices, which includes: i) Personal Mobility Devices ii) Power Assisted Bicycles iii) Electric Mobility Scooters	1.28
Portable Batteries	1.48
Consumer Electric Vehicle Batteries	2.46
Consumer Lamps	3.26

# Producer Fee Structure – Example

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- Assume the winning bidder has tendered the following price schedule, which will be charged to producers:

Regulated Consumer Product (not exhaustive)	Total Tendered Membership Fee (S\$) (capped at 25% of total tendered fees)	Tendered Collection and Recycling Fee (S\$/kg collected and sent for recycling)
Printers with weight of 20kg or less	170,907	0.77
Consumer Computer	184,031	0.45
Desktop Monitors	160,406	1.41
Mobile telephones	155,156	0.28
Refrigerators	807,470	0.87
Washing Machines	741,845	0.71
Dryers	216,844	0.73
Portable Batteries	166,969	1.48
Consumer Lamps	190,594	3.26

# Producer Fee Structure – Example

- Also assume Producer A has supplied the following amounts of regulated consumer products to the market over the past 3 compliance years:

Reported to NEA by producers, to be shared with PRS operator

Regulated Consumer Product	Total Weight Supplied by Producer A per Year (kg) (average of the past 3 compliance years)	Total Weight Supplied by all Obligated Producers per Year (kg) (average of the past 3 compliance years)	Producer A Market Share
Printers with weight of 20kg or less	200,000	÷ 800,000	= 25%
Consumer Computer	...	...	30%
Desktop Monitors	...	...	15%
Mobile telephones	...	...	5%
Refrigerators	...	...	40%
Washing Machines	...	...	20%
Dryers	...	...	20%
Portable Batteries	...	...	0%
Consumer Lamps	...	...	0%

# Producer Fee Structure – Example

Membership Fee will not be paid for regulated consumer products that Producer does not supply

- Thus Membership Fees that Producer A needs to pay is:

Regulated Consumer Product	Total Tendered Membership Fee (S\$)	Producer A Market Share	Producer A Total Membership Fee (S\$) for each regulated consumer product
Printers with weight of 20kg or less	170,907	25%	= 42,726.75
Consumer Computer	184,031	30%	55,209.30
Desktop Monitors	160,406	15%	24,060.90
Mobile telephones	155,156	5%	7,757.80
Refrigerators	807,470	0%	0
Washing Machines	741,845	0%	0
Dryers	216,844	20%	43,368.80
Portable Batteries	166,969	5%	8,348.45
Consumer Lamps	190,594	0%	0
Total Membership Fee for the compliance year			181,472.00
Membership Fee for 1 <sup>st</sup> compliance quarter			0.4 x 181,472.00 = 72,588.80
Membership Fee for each of the 2 <sup>nd</sup> , 3 <sup>rd</sup> , 4 <sup>th</sup> compliance quarter			0.2 x 181,472.00 = 36,294.40

Membership Fee paid for each regulated consumer product supplied to market, and based on Producer Market Share for each regulated consumer product supplied



# Producer Fee Structure – Example

- As collection and recycling fees are charged based on actual weight of regulated consumer products collected and sent for recycling, assume the PRS operator collects the following weight of regulated consumer products:

For each quarter, the tendered collection and recycling fee is applied to the PRS collection tonnages to calculate the total collection and recycling fees incurred

Regulated Consumer Product	PRS Collection Tonnages (kg)				Tendered Collection and Recycling Fee (\$\$/kg collected and sent for recycling)	Total Collection and Recycling Fee Incurred by PRS (\$\$)			
	Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4
Printers with weight of 20kg or less	40,000	50,000	30,000	40,000	0.77	30,800	38,500	23,100	30,800
Consumer Computer	20,000	50,000	10,000	100,000	0.45	9,000	22,500	4,500	45,000
Desktop Monitors	30,000	30,000	20,000	20,000	1.41	42,300	42,300	28,200	28,200
Mobile telephones	5,000	2,000	3,000	4,000	0.28	1,400	560	840	1,120
Refrigerators	1,000,000	1,100,000	1,200,000	1,300,000	0.87	870,000	957,000	1,044,000	1,131,000
Washing Machines	1,200,000	1,300,000	1,400,000	1,200,000	0.71	852,000	923,000	994,000	852,000
Dryers	100,000	100,000	80,000	120,000	0.73	73,000	73,000	58,400	87,600
Portable Batteries	20,000	50,000	30,000	10,000	1.48	29,600	74,000	44,400	14,800
Consumer Lamps	100,000	80,000	8,000	120,000	3.26	326,000	260,800	26,080	391,200

# Producer Fee Structure – Example

- Thus Collection and Recycling Fees that Producer A needs to pay is:

Each producer's market share is applied to the total collection and recycling fee for each regulated consumer product to calculate the collection and recycling fee attributed to each producer for each regulated consumer product

Regulated Consumer Product	Total Collection and Recycling Fee Incurred by PRS (S\$)				Producer A Market Share	Collection and Recycling Fee attributed to Producer A (S\$)			
	Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4
Printers with weight of 20kg or less	30,800	38,500	23,100	30,800	25%	7,700	9,625	5,775	7,700
Consumer Computer	9,000	22,500	4,500	45,000	30%	2,700	6,750	1,350	13,500
Desktop Monitors	42,300	42,300	28,200	28,200	15%	6,345	6,345	4,230	4,230
Mobile telephones	1,400	560	840	1,120	5%	70	28	42	56
Refrigerators	870,000	957,000	1,044,000	1,131,000	0%	0	0	0	0
Washing Machines	852,000	923,000	994,000	852,000	0%	0	0	0	0
Dryers	73,000	73,000	58,400	87,600	20%	14,600	14,600	11,680	17,520
Portable Batteries	29,600	74,000	44,400	14,800	5%	1,480	3,700	2,220	740
Consumer Lamps	326,000	260,800	26,080	391,200	0%	0	0	0	0
Total Collection and Recycling Fee						32,895	41,048	25,297	43,746

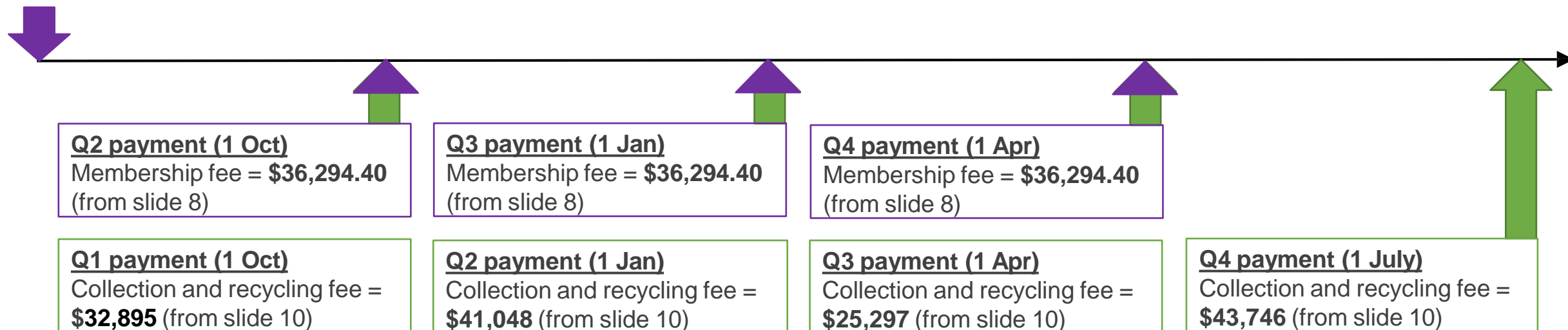
Collection and Recycling Fee will not be paid for regulated consumer products that Producer does not supply

# Producer Fee Structure – Example

- Overall payment schedule for Producer A for a compliance year

## Start of compliance year (1 July)

Membership fee =  
**\$72,588.80** (from slide 8)



# Producer Fee Structure – Formula

- Producer fee attributed to each individual obligated producer is based on formula below:

Producer Fee =

$$\sigma_{k=1}^n [A_1 \times \text{Membership fee (S\$) for regulated consumer product (k) x Obligated Producer's percentage of regulated consumer product (k) supplied}] + \sigma_{k=1}^n [\text{Collection and recycling fee (S\$/kg) for regulated consumer product (k) x Actual tonnage of regulated consumer product (k) collected and sent for recycling x Obligated Producer's percentage of regulated consumer product (k) supplied}]$$

Where:

$A_1$  = 0.4 for the first compliance quarter (1 July), and 0.2 for each of the second, third, and fourth compliance quarters (1 October, 1 January, 1 April)

Obligated Producer's percentage of regulated consumer product (k) supplied =

$$\frac{\text{Tonnage of regulated consumer product (k) supplied by Obligated Producer}}{\text{Total tonnage of regulated consumer product (k) supplied by Obligated Producers}} \times 100\%$$

*Note 1: Tonnage of regulated consumer product (k) supplied by Obligated Producer and Total tonnage of regulated consumer product (k) supplied by Obligated Producers are based on (1) the relevant year as reported to the Agency for 2021, (2) the average of the past two relevant years as reported to the Agency for 2022, and (3) the average of the past three relevant years as reported to the Agency from 2023 onwards.*

*Note 2: Regulated consumer product (k) refers to each regulated consumer product that the producer has supplied to the market for the relevant year(s).*

*Note 3: The "Obligated Producer's percentage of Regulated Consumer Product (k) supplied" will be computed by NEA and provided to the Licensee before the commencement of each compliance year.*

# Producer Fee Structure – Fee Revision

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- Tendered fees stated shall remain firm and irrevocable for the whole licence period and shall be subject only to the following adjustments annually (in terms of compliance years):

For each Regulated Consumer Product,

$$\text{Adjustment to Tendered Fees} = \text{Tendered Fee} \times [(\text{CPI}_x - \text{CPI}_{2020}) / \text{CPI}_{2020}]$$

Where:

CPI = Singapore Consumer Price Index

CPI<sub>2020</sub> = CPI in Year 2020

CPI<sub>x</sub> = CPI in the preceding year prior to year of fee adjustment

- a) The CPI published by the Singapore Department of Statistics will be used in the fee adjustment formula.
- b) Any fee revision should be validated against the formula and subject to NEA's approval.
- c) The fee adjustment shall be capped at an increase of 10% of the tendered fees.