

Levy Discount by Payment on the Amount of Product

What is it?

Instead of providing a direct discount on waste from a recycling facility at the landfill, an equivalent total rebate is distributed on a per tonne of recycled product sold amount. Key advantages to doing this include:

- Payment on product is better than direct discount at the landfill gate or rebate on weighbridge slips → no levy differential rates, payments on receipts from *bona fide* buyers [normal accounting practices]
- Avoids the incentive to boost waste quantities (i.e. taking in more 'contamination' and "salting" the waste stream) and these wastes evade paying the full levy
- Product quality measure will drive the outcome of more product from recycling (not more waste)
- Cost of measurement of product quality built into the current system – downstream customers (the market) will demand quality standards
- Encourages the development of new and additional markets
- No requirement for mass-balances, as payment is based on receipts of product sold. Hence, cost of measurement of waste quality, efficiency and policing of direct payments will be lower to both recyclers and government.

Disadvantages include:

- Can be a complex process to establish the rebate amount, which could be per site basis or recycling sector basis
- Large increases in contamination at recyclers may impact its economics negatively
- Government must agree to keep the \$/t rate constant for a set number of years to provide certainty and to provide incentives to increase recycling rates
- Some recyclers are concerned that commercial in confidence information relating to sales volumes of recycled product will be made available to the EPA. Independent accounting practices and unknown individual rebate rates may form some protection to this, but will add to the costs.

History and limits

In 2011 ASBG proposed a few options on how to do this, but some members pointed out that it cannot be applied across the board, it would not work well as there are too many downstream purchasers that can claim / provide loop holes etc. So this would need to be fixed to avoid loopholes.

The proposal can also work well for paper mills and shredders, which have clear end markets and multiple buyers. It may be more problematic for MRFs, which on-sell to further downstream recyclers with their clean up steps. To be calculated and agreed to is the % discount from the actual waste levy that the Government is likely to require for each recycled material type. Hence, the stress placed on only *bona fide* recyclers on where it may work. This would require a good definition for such recyclers if applied more broadly, but be something along the lines of '*a recycler that supplies a recycled product stream which is sold and supplies a manufacturer's (substitute raw material) and the manufacturer provides products that are purchased by the broad market (not to another downstream processor).*'

It is also important that any rebates paid on products sold are **not** considered subsidies, but are only considered a somewhat indirect method to reduce the cost of the waste levy on the facility. Subsidies should only be used for seed funding and no ongoing support, not for ongoing support. Consequently this proposal is not a subsidy, but a levy rebate approach.

An approach to a performance based levy rebate system is shown below from an extract of a draft (not published) from 2011 discussion paper ASBG undertook. Two methods were considered:

- Performance offset payment
- Diversion rate payment

Calculating the offset payments using Performance offset payment

The performance offset payment proposed uses the following formula:

$$1) \text{ Offset payment waste stream } (\$/t) (O_p) = \text{current levy rate } (\$/t) (L_c) \times \text{Performance factor } (x)$$

In short $O_p = L_c x$

The performance factor x is always less than 1.

Performance can be measured either by:

- Diversion rate based on the diversion of waste from landfill (see formula 2)
- Efficiency rate based on recovery efficiency of product from recycle stream (see formula 4)

The rebated amount will be set at the time and only increase with CPI and not with the rate of the waste levy. So this calculation only applies at the first year of operations.

Calculating the offset payments using Diversion Rate

As an example the diversion rate is used to base the performance factor:

$$1a) \quad x = \text{the average annual rate of diversion for that recycled product}$$

The below example of a steel recycler provides one solution to this issue.

Annual average diversion rate of 75% was calculated by:

$$2) \quad \text{Diversion rate } (Dr) = \text{the mass of products recovered from recycling} / \text{mass of recyclate processed}$$

On a tonnage basis this means that for each tonne recyclate processed 250 kg of floc is generated. Let's say the levy is \$100/t for simplicity. Therefore there is a levy payment of \$100 per tonne of waste generated. Then a benefit payment of \$100 per tonne waste x diversion rate ($\$100/0.75$) = \$75 /t of waste is set.

As payments are to be made on product generated basis we need to convert this to per tonne of product, which equals $\$75 \times (1 - Dr)/Dr = \25 per tonne of product.

Hence payment on the product tonnages can use the formula for the initial year:

$$3) \quad \text{Offset payment per tonne waste} = \text{diversion rate} \times \text{initial levy rate}$$

Calculating the offset payments using Efficiency Rate

As an example the efficiency rate is used to base the performance factor:

$$1b) \quad x = \text{the average annual rate of removal efficiency for that recycled product}$$

The below example of a steel recycler provides one solution to this issue.

Annual average diversion rate of 75% was calculated by:

$$4) \quad \text{Efficiency rate } (Er) = \text{the mass of product recovered from the recycling process} / \text{mass of recyclable product in the input stream}$$

For example consider a steel recycler.

On a % efficiency basis this means that for each tonne recycle input there is 750 kg of steel available on average. The recycling process captures 75% of this steel.

Hence an efficiency rate of 75% can be claimed

Hence payment on the product tonnages can use the formula for the initial year:

$$5) \text{ Offset payment per tonne waste} = \text{efficiency rate} \times \text{initial levy rate}$$

ASBG recommends that the recycling sectors can choose between either a diversion rate or an efficiency rate as either can be better suited to a specific recycled product type.

Where multiple recycling products are generated a pro rata assessment should be used to assess the average efficiency of recovery. However, there is an argument where other streams make up say less than 10% of the product stream the major product stream be used.

However, the efficiency rate would not be suitable for recycling waste streams with very high waste to product ratios. For example, electronic waste recycling to extract rare earth and precious metals. A cut off value should be considered for use of the efficiency rate, for example >50% efficiency and > 50% waste diversion rates should be met.

Note the EPA should not punish facilities that improved their conversion of waste to recycled product, as this should be an economic incentive to encourage such innovation.