ACOR
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The Australian Council of Recycling (ACOR) is pleased to contribute to the public consultation on Terms of Reference on the design of the Emissions Reduction Fund (ERF). We support the Government's Direct Action Plan in reducing carbon emissions through purchasing low cost abatement and providing incentives for emission reduction activities across Australia as long as the carbon abatement from the resource recovery and recycling is considered under the ERF.

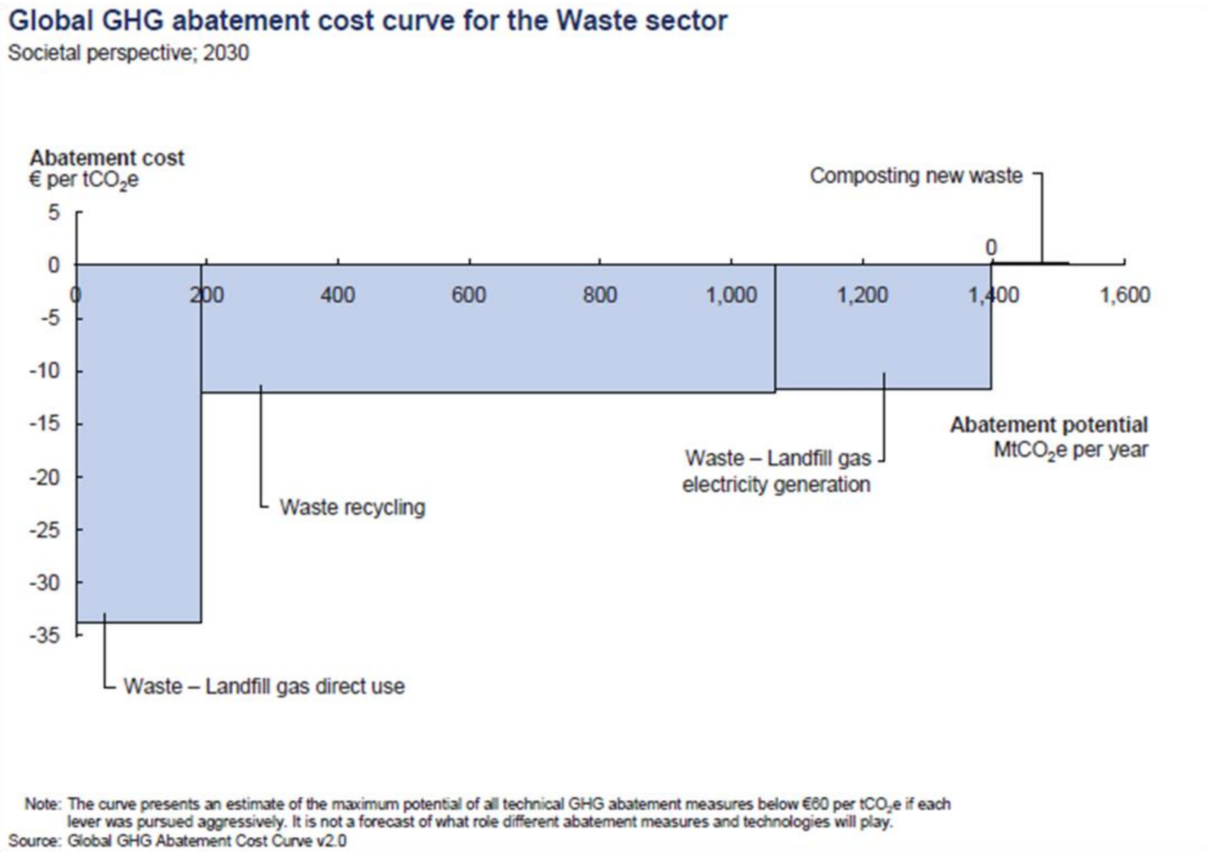
Introduction

ACOR is the peak national industry body for the resource recovery and recycling industry. ACOR mission is to advocate for improved levels of resource efficiency at the national and state levels and represent all businesses in the value chain of resource recovery and recycling. ACOR core business is to engage with and advise governments on the practical implications of policy and regulation to promote delivery of business infrastructure necessary to achieve major improvements in the recovery and re- application of resources, particularly material resources, into the productive economy.

Recognition the contribution of resource recovery and recycling to the reduction of greenhouse gases (GHGs) and energy conservation

Resource recovery and recycling provides significant climate benefits, such as avoided landfill emissions, reduced raw material extraction and manufacturing, recovered materials and energy replacing virgin material and fossil- fuel energy sources, and carbon bound in soil through compost application. According to a report published by the Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) in 2012, recycling saves Australia over 15, 000, 000 tonnes of carbon dioxide equivalent (CO2-e) per year , which accounts for 19% of total vehicle emissions in Australia. The recycling industry makes a significant, efficient and low cost, but often ignored, contribution to GHG emission savings.

On a global scale, resource recovery and recycling has already been recognised as one of the most effective abatement options. McKinsey & Co.(2009) generated a global GHG abatement cost curve for the waste sector. It found that resource recovery and recycling achieves a relatively low cost and large scale abatement compared with landfill gas direct use (figure 1).



Furthermore, the implementation of ERF should be consistent with the goals of the National Waste Policy, which recognised the positive effect of GHG emission reduction and energy conservation and production.

Recognition of embodied energy in resource recovery and recycling under the Carbon Farming Initiatives (CFI)

While carbon abatement through recycling is one of the lowest cost abatement options, the current CFI does not provide any carbon credits or incentives for the diversion of dry recyclables (e.g. aluminium, steel, paper, plastic or glass) and its reprocessing. Such resource recovery of materials with embodied energy achieves significant GHG emission savings when recycled compared to the use of virgin materials; however there is a clear market failure in the absence of any priced signal to divert and capture those materials for recycling and CO2-e abatement. For instance, recycled aluminium contributes 55% of the CO2-e saving of the entire Australian recycling stream and reduces 95% of energy consumption compared with virgin materials.

Given the significant role that recycling plays in reducing GHG emissions, carbon credits or for materials recovered or recycled should be given and accounted for in full at the time of diversion (in the case of organics) or at the time of reprocessing (in the case of dry recyclables containing embodied energy).

Adoption of methodologies in the United Nations' Clean Development Mechanism (UN CDM) on recovery and recycling of materials from solid wastes

Since 2011, the UN CDM approved recovery and recycling of materials from solid wastes as part of the carbon abatement options in developing countries. At present, there have been four methodologies approved by the UN CDM, including recovery and recycling of plastics- high density polyethylene (HDPE) and low density polyethylene (LDPE).

The distribution of carbon credits or offsets for the Australian recycling and resource recovery industry should be in reference to the UN CDM methodologies and should be calculated according to a methodology that estimates CO2-e emission savings and takes various aspects of materials production and their reprocessing into consideration, including material type and quantity, electricity consumption or carbon factor of used fossil fuels, and results in accurate calculation of GHG savings from resource recovery and recycling (see appendix 1).

ACOR advises the Government to include resource recovery and recycling as part of the carbon emission abatement options in the ERF and adopt the methodologies of recovery and recycling of materials in the UN CDM. ACOR did not seek to address all of the issues canvassed in the Terms of Reference. However, ACOR stands ready to further advise the government following the outcomes of the consultation process if required.

Yours sincerely,

Grant Musgrove
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Appendix 1

$$\mathbf{ERy = BEy - PEy - LEy}$$

ER_y – Emission reductions in year y(tCO2e)

BE_y – Baseline emissions in year y(tCO2e)

PE_y – Project emissions in year y(tCO2e)

LE_y – Leakage emissions in year y(tCO_2e)

Baseline emissions:

$$BE_y = BE_y = \sum_i [Q_{i,y} \ x \ L_i \ x \ (SEC_{Bl,i} \ x \ EF_{el,y} + SFC_{Bl,i} \ x \ EF_{FF,CO2})]$$

BE_y	Baseline emissions in year y (t CO2/y)
i	Indices for material type i
$Q_{i,y}$	Quality of material type i recycled in year y (t/y)
L_i	Net gross adjustment factor to cover degradation in material quality and material loss in the production process if the final production using the recycled material (use 0.75)
$SEC_{Bl,I}$	Specific electricity consumption for the production of virgin material type i (MWh/t)
$EF_{el,y}$	Emission factor from the grid electricity generation
$SFC_{Bl,i}$	Specific fuel consumption for the production of virgin material type i(GJ/t)
$EF_{FF,CO2}$	CO_2 emissions factor for fossil fuel (t CO2/y)

Project Emissions:

$$PE_y = \sum_i Q_{i,j} \ x \ (EC_{i,y} \ x \ EF_{el,y} + FC_{i,y} \ x \ NCV_{FF} \ x \ EF_{FF,CO2})$$

PE_y	Project emissions in year y (t CO_2/y)
i	Indices for material type i
$Q_{i,y}$	Quantity of material type i recycled in year y (t/y)
$EC_{i,y}$	Electricity consumption of the recycling facility apportioned to material type I (MWh/t) in year y
$FC_{i,y}$	Fuel consumption of the recycling facility apportioned to plastic type i (unit mass or volume/t) in year y
NCV_{FF}	Net calorific value of the fossil fuel consumed at the recycling facility in year y (GJ/unit mass or volume)
$EF_{FF,CO2}$	CO2 emission factor of the fossil fuel consumed at the recycling facility (tCO2/GJ)