PMR TECHNICAL WORKSHOP
Carbon Leakage: Theory, Evidence and Policy

Session 3: Break-out Group Exercise – Policy responses to carbon leakage

☐ Objective:

Concerns about the risks of carbon leakage have lead most jurisdictions that have implemented a carbon price to also design carbon leakage prevention measures. Policy makers have developed a range of approaches to addressing carbon leakage, consistent with their particular economic and social circumstances. Despite the variety of policy approaches there is scope to learn from the real world experience when considering the future implementation of similar measures.

The key questions for policy makers designing leakage prevention mechanisms are:

- What sectors should be targeted (supported) by the leakage prevention mechanisms; and
- What form should that leakage prevention mechanism take?

The purpose of this breakout group exercise is to explore these two key design questions in more detail through discussing one of four real world case studies.

☐ Instructions:

Participants are asked to join one of four break out groups. Groups will have 50 minutes to discuss the case study below. Each group will nominate a scribe and a person to report back on their discussions. Groups will be facilitated by an expert or member of the PMR Secretariat.

☐ Case study:

South Africa

South Africa intends to implement a carbon tax from 2016. It opted for a carbon tax rather than a trading scheme, as its energy sector only has a small number of players (two large entities dominate the oil and gas and power sectors, respectively) which could result in small trading volumes. At the same time, the carbon tax could be built onto existing tax infrastructure. The tax impacts sources responsible for 80 per cent of the country's emissions and is to be phased in gradually to smooth the adjustment period for companies. The headline rate will be 120R (South African Rand)/tCO2e (US$10/€8.96)/tCO2e from 2016 and increase by 10% per year until 2019.

South Africa provides assistance on a tiered basis to all sectors. Assistance will be provided in the form of tax exemptions, as per Table 1. This was chosen rather than a border carbon adjustment which, although discussed, was deemed to face significant practical and administrative challenges. A 60 per cent exemption of emissions applies to all firms. There are further exemption allowances of 10 per cent

for trade-exposed firms and a further 10 per cent for firms in sectors deemed to have low emissions reduction potential. When adding the allowance for using offsets, the tax free threshold can increase to 90 per cent. The 60 per cent exemption rate can also be adjusted up to 5 percentage points if a firm has a lower than average carbon intensity within the sector. The 60 per cent rate will be in place for the first five years of the tax to 2020 and will then be reviewed, potentially to be replaced by an absolute emissions threshold, subject to alignment with other initiatives. The National Treasury has also expressed interest in considering whether the emissions intensity of firms should also be factored into the calculation of the size of the exemption firms receive,

Table 1. **Proposed tax-free threshold by sector, including trade exposure and process emission thresholds**

Sector	Basic tax free threshold	Trade exposure (Max)	Process emissions	Total	Offset allowance (Max)
Electricity	60	-	-	60	10
Petroleum (coal/gas to liquid)	60	10	-	70	10
Petroleum (refinery)	60	10	-	70	10
Iron and steel	60	10	10	80	5
Cement	60	10	10	80	5
Glass and ceramics	60	10	10	80	5
Chemicals	60	10	10	80	5
Pulp and paper	60	10	-	70	10
Sugar	60	10	-	70	10
Agriculture/Land-use/Forestry	60	-	40	100	0
Waste	60	-	40	100	0
Fugitive emissions	60	10	10	80	5
Other	60	10	-	70	10

Note: *All numbers are percentages*

Source: *Treasury Department of South Africa (2014)*

Firms will have the option to use either exports only, or exports plus imports, as a percentage of output or sales as an indication of their trade intensity.

- Where both exports and imports are used, the additional percentage relief (tax-free threshold) will be calculated as 0.2 times (exports plus imports expressed as a percentage of output or sales, which must be larger than five percent). This can be up to a maximum of 10 per cent, as indicated in Table 2 below.
- Where only exports are used, the additional percentage relief will be 0.4 times exports expressed as a percentage of output or sales (must be greater than five per cent), up to a maximum of 10 per cent, as indicated in Table 2 below.

Table 2.   **Trade exposed tax free threshold relief**

Exports + Imports (E + I)		Exports only (E)	
0.2		0.4	
% of output	% relief (Y1)	% relief (Y2)	% of output
Below 10	0	0	Below 5
10	2	2	5
20	4	4	10
30	6	6	15
36	7.2	7.2	18
40	8	8	20
50	10	10	25
60	10	10	30
70	10	10	35
Y1 = 0.2 × (E+ I) E + I must be >10%		Y2 = 0.4 × E E must be >5%	
Maximum for Y1 or Y2 = 10%			

Source: *Partnership for Market Readiness (2015)*

☐ **Exercise:**

1. What do you think are the advantages and disadvantages of the current approach to identifying sectors that are considered to be at risk of carbon leakage? Why do you think that the South African government adopted this approach?
2. What is the difference in impact between providing tax rebates as a percentage of emissions versus providing an exemption for a certain absolute amount of emissions? Which approach would you adopt and why? This might consider:
   a. Incentives on firms to reduce emissions in different ways
   b. Effectiveness at reducing leakage
   c. Tax revenues for the government
   d. Impact on consumer prices