

STAFF PAPER

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Introduction

- 1 This Agenda Paper provides background information on a common type of emissions trading scheme: the ‘cap and trade’ scheme. (Information about another common type of scheme, the ‘baseline and credit’ scheme, is provided as optional reading in Appendix B.) This paper does not ask any questions to GPF members.
- 2 Appendix A summarises the common accounting policies applied in practice for cap and trade schemes.

Background on cap and trade schemes

- 3 Cap and trade schemes were and continue to be predominant, with the European Union Greenhouse Gas Emissions Trading Scheme (EU ETS), which started in 2005, as the largest scheme in the world. This discussion of cap and trade schemes will focus on the EU ETS.
- 4 In a cap and trade scheme, a ‘scheme administrator’ (eg a government body) sets an overall cap on the amount of emissions that may be released during specified time periods. In the EU ETS, the current ‘commitment period’ (known as ‘Phase III’) runs from 2013 through 2020. The commitment period is divided into annual ‘compliance years’. The overall cap is implemented by issuing ‘emissions allowances’. Each emissions allowance offsets or ‘pays for’ a designated unit of

the regulated pollutant (eg in the EU ETS, each unit is the equivalent of one tonne of carbon dioxide (CO₂)).

- 5 The issuance of emissions allowances is governed by ‘allocation plans’. The allocation plans identify the number of emissions allowances that are granted free of charge to the participants and the number that are sold or auctioned in the market place. Over time, the overall cap is reduced, in order to achieve the desired reduction in overall emissions.
- 6 Under the EU allocation plans, the scheme administrators (government bodies of EU Member States) currently allocate the majority of the emissions allowances free of charge to participants and auction the remaining allowances in the marketplace. The free allocation is intended to ease the transition process for participants. Participants are free to trade their emissions allowances and—as evidenced by the market activity—actively do so.
- 7 In the EU ETS, emissions allowances are granted or issued by the end of February in each respective compliance year (ending in December). By April of the following year, participants have to surrender emissions allowances equal to their level of emissions during the compliance year to settle their emissions obligation for that year. Participants may effectively borrow allowances from the following compliance year’s allocation when settling their obligation for the preceding year (ie they may use allowances for compliance year 2 to settle obligations for compliance year 1). Unused emissions allowances may be banked for use in future compliance years.
- 8 EU ETS also allows ‘project based certificates’ to be remitted in lieu of emissions allowances in fulfilment of a limited percentage of an entity’s emissions obligation. Generally, third-party providers undertake these projects to reduce emissions in regions outside the jurisdiction of the EU ETS and sell the resulting certificates on the open market to EU ETS scheme participants. The staff understand that certificates typically trade at a lower price than emissions allowances, primarily because of the limitation on the number of certificates that may be remitted. The use of such project based certificates is increasingly limited

in the EU ETS scheme, but the certificates are still usable in ETS schemes in other jurisdictions.

Some other features of cap and trade schemes

- 9 Other cap and trade schemes have different features. Although this Agenda Paper, focuses on the features of the EU ETS, the staff think that it is important to keep in mind that there are meaningful variations in other cap and trade schemes.
- 10 For example, in the United States' Acid Rain Program, allowances to emit sulphur oxides have been allocated for a period covering 30 compliance years. Each allowance has a 'vintage year' designation, indicating the first compliance year in which it may be used to offset emissions. Participants have in their accounts allowances with vintage years extending beyond the year 2030 that they may trade today, and those allowances may be carried forward ('banked') indefinitely. In contrast, in the EU ETS, allowances do not have vintage years.
- 11 Additionally, it should be noted that although the markets for EU ETS allowances are active, markets for allowances issued under other schemes have varying levels of activity.
- 12 Some schemes allow participants to make up for a shortfall in allowances by paying into an environmental fund or making another form of a penalty payment. In the EU ETS, the imposition of a penalty does not remove the obligation to remit the required allowances.

Appendix A: Common accounting approaches for cap and trade schemes

A1. In the absence of authoritative guidance by the IASB, several approaches have developed that IFRS preparers apply to account for the effects of emissions trading schemes. A survey by PwC and the International Emissions Trading Association (IETA) identified as many as fifteen variations to account for the effects of EU ETS.¹ The following table highlights the three main approaches.

	Approach 1	Approach 2	Approach 3
Initial recognition – <i>Allocated</i> allowances	Recognise and measure at market value at date of issue; corresponding entry to government grant.		Recognise and measure at cost, which for granted allowances is nil .
Initial recognition – <i>Purchased</i> allowances	Recognise and measure at cost .		
Subsequent treatment of allowances	Allowances are subsequently measured at cost or market value , subject to review for impairment.		Allowances are subsequently measured at cost , subject to review for impairment.
Subsequent treatment of government grant	Government grant amortised on a systematic and rational basis over compliance period .		Not applicable.
Recognition of liability	Recognise liability when incurred (ie as emissions are produced).		Recognise liability when incurred (ie as emissions are produced). However, the way in which the liability is measured (see below) means that often no liability is shown in the statement of financial position until emissions produced exceed the allowances allocated to the participant.

¹ See ‘Trouble-entry accounting - Revisited: Uncertainty in accounting for the EU Emissions Trading Scheme and Certified Emission Reductions.’ (http://www.ieta.org/assets/Reports/trouble_entry_accounting.pdf)

	Approach 1	Approach 2	Approach 3
Measurement of liability	Liability is measured based on the market value of allowances at each period end that would be required to cover actual emissions, regardless of whether the allowances are on hand or would be purchased from the market.	Liability is measured based on: the carrying amount of allowances on hand at each period end to be used to cover actual emissions (ie market value at date of recognition if cost model is used; market value at date of revaluation if revaluation model is used) on either a FIFO or weighted average basis; <i>plus</i> the market value of allowances at each period end that would be required to cover any excess emissions (ie actual emissions in excess of allowances on hand).	Liability is measured based on: the carrying amount of allowances on hand at each period end to be used to cover actual emissions (nil or cost) on a FIFO or weighted average basis; <i>plus</i> the market value of allowances at each period end that would be required to cover any excess emissions (ie actual emissions in excess of allowances on hand).

Appendix B: Baseline and credit schemes

- B1. Baseline and credit schemes differ from cap and trade schemes in at least one important way. Instead of issuing emissions allowances equal to the cap before or near the beginning of the compliance year, the scheme administrator assigns a ‘baseline’ to each participant in the scheme. The baseline establishes the emissions limit.
- B2. A participant may emit up to the level of the baseline without incurring additional costs. If, at the end of the compliance year, a participant’s emissions are below its baseline, it receives ‘credits’ equal to the difference. If a participant has exceeded its baseline, it has to purchase and surrender ‘credits’ equal to the difference. The period of time between the issuance of credits and the deadline for remitting them is relatively short (usually only a few months), and thus trading activity is limited. The baseline itself is assigned to a specific source of emissions and is not tradable.
- B3. The baseline may be set as a fixed quantity of emissions or it may be variable, based on some measure of output. This Appendix focuses on schemes with fixed baselines, because of their similarities to cap and trade schemes.

Comparative analysis of the schemes

- B4. Cap and trade schemes and baseline and credit schemes are both mechanisms to limit emissions. Usually, the goal of a scheme is to restrict an activity that was previously unrestricted. Eventually, this restricts an entity in its activities, thereby creating a new cost for activities that were previously free.
- B5. In a cap and trade scheme, the overall cap is implemented by issuing emissions allowances equal to the cap. Likewise, in a baseline and credit scheme, individual baselines are assigned to participants, thereby establishing an overall cap equal to the sum of the individual baselines. In terms of regulating emissions, baseline and credit schemes may be seen as equivalent to cap and trade schemes if the cap implicit in the baseline and credit scheme is fixed and numerically equal to the fixed cap in a cap and trade scheme.
- B6. Some commentators have noted that, in theory, a cap and trade scheme in one jurisdiction could be ‘linked’ to a baseline and credit scheme with a similarly

strict overall emissions limit in another jurisdiction. In that case, participants would be able to trade emissions allowances or credits across schemes and remit emissions allowances or credits from either scheme to cover their emissions obligations. Proponents argue that linking of schemes lowers the overall costs of compliance because emissions reductions will be carried out in the sub-scheme with the lowest costs.

- B7. Given the equivalence of the schemes on an aggregate level, does this imply that participants are in a similar position when entering into one of the schemes? Primarily, this will depend upon the free allocation of emissions allowances and baselines to the participants. Under a cap and trade scheme, the free allocation of emissions allowances represents an amount of emissions that can be produced without incurring additional costs. The allocated emissions allowances can therefore be seen as establishing a baseline of emissions similar to the actual baseline in a baseline and credit scheme. Only if a participant's emissions exceed the established baseline will it incur additional costs. Hence, all other things being equal, participants in cap and trade schemes and in baseline and credit schemes are in a similar position if the level of allocated emissions allowances is equal to the assigned baseline. Assuming that a participant does not trade its allocated emissions allowances, participants will end up with the same excess number or shortfall of emissions allowances (cap and trade) or credits (baseline and credit) at the end of the compliance period.
- B8. However, the schemes achieve the emissions targets by different means. Whereas a participant in a cap and trade scheme is granted tradable emissions allowances, a participant in a baseline and credit scheme receives a baseline that is, generally, tied to the source of emissions and therefore, cannot be separately transferred. In a cap and trade scheme, a linkage between the source of emissions and the allocation of emissions allowances applies only to future instalments. A participant is not entitled to receive emissions allowances in future compliance periods if the source of emissions is closed and/or the production falls below a specified level. Only under certain conditions do the schemes allow for a transfer of future instalments or baselines if a source of emissions has been replaced.
- B9. The schemes differ in how the trading mechanisms are implemented. In a cap and trade scheme, a participant may start spot trading upon receipt of the emissions

allowances. Usually, the allowances are allocated at, or shortly after, the beginning of a compliance period. In a baseline and credit scheme, tradable instruments are generated if the emissions of a participant remain below of its baseline. Those credits will not be issued until the end of the compliance period. Further, the number of tradable instruments under a baseline and credit scheme will be much smaller than under a comparable cap and trade scheme. For example, a utility with a baseline of 80,000 tonnes and actual emissions of 70,000 tonnes would receive 10,000 emissions credits under a baseline and credit scheme. In contrast, in a cap and trade scheme the administrator would issue emissions allowances up to the level of the baseline, ie 80,000.

- B10. Even though participants in a baseline and credit scheme cannot trade the baseline, in theory, the availability of forward markets could render baseline and credit schemes equivalent to cap and trade schemes. A participant expecting an excess or a shortfall of credits in the compliance period may enter into forward contracts. A forward contract enables scheme participants to sell or buy credits at a future date, at an agreed price. Hence, participants can virtually sell (parts of) their baseline. The physical delivery of credits takes place when the participants receive the credits after the end of the compliance period.
- B11. Another difference relates to the potential financing element that goes along with the allocation of emissions allowances. Upon receipt, a participant may sell those allowances in the market and simultaneously enter into forward contracts to buy them back. If the forward rates adequately reflect the cost of carry, the agreed forward price exceeds the sale price by the financing costs. Essentially, the participant enters into a secured loan. In contrast, in a baseline and credit scheme a participant may not use the baseline as a source of financing.
- B12. In practice, baseline and credit schemes often are said to be of restricted liquidity due to the smaller number of tradable instruments for a shorter period of time. This is because the credits are issued at the end of the compliance period and therefore are traded over a shorter period of time. However, in a baseline and credit scheme that allows for banking of the credits, the trading window will expand over time.

Do the schemes require consistent accounting approaches?

B13. The discussion in the body of this paper has highlighted some of the main accounting questions that need to be addressed. A further issue is whether a baseline should be recognised as an asset.

B14. The staff raise this issue because the two schemes are designed to achieve the same targets, even though they do this through different mechanisms. As discussed in Section 1, the allocation of emissions allowances effectively establishes a baseline of emissions for a participant.

Event	Cap and Trade Scheme	Baseline and Credit Scheme
Beginning of regulatory period	Participant allocated emissions allowances	Participant allocated baseline
End of regulatory period	Participant must remit to regulator emissions allowances equal to emissions during the regulatory period.	Participant receives from (must remit to) the regulator emissions credits equal to emissions below (above) the allocated baseline.

B15. At the end of the compliance period, a participant in a cap and trade scheme remits emissions allowances equal to the level of emissions. In a baseline and credit scheme, a participant receives (remits) a net amount reflecting the difference between its actual emissions and the assigned baseline. Provided that the amount of allocated emissions allowances is equal to an assigned baseline, a participant would end up with the identical excess (shortfall) of emissions allowances or credits.

B16. If the IASB were eventually to conclude that allowances and credits should be recognised (with corresponding gains recognised in profit or loss) but that baselines should not be recognised, then the effect on profit or loss will be different in the two schemes.