

Carbon accounting – Effects on financial reporting

A EURELECTRIC report



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Carbon accounting – Effects on financial reporting

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Executive summary

The absence of a universally accepted accounting rule to be applied to the recognition and measurement of emission allowances has not hampered the extension and development of carbon markets.

This absence of unanimously accepted guidance is probably due to the different applications and the ambiguous nature of emission allowances. Following the definitions provided by accounting standards, it is apparent that emission allowances are assets,, as they are resources under the companies' control from which economic benefits are expected to flow to the companies.

The proposal for a revised Directive and Regulation on Markets in Financial Instruments (MiFID) has classified emission allowances as financial instruments. Although the future Directive may make an attempt to cover the carbon market by financial market rules, emission allowances are not financial instruments from the accounting point of view, because:

- As the European Commission has stated, the “Classification of emission allowances for accounting purposes depends on the criteria set by accounting standards only”¹.
- They do not meet the definition of a financial instrument, as they are neither equity instruments nor contracts giving rise to contractual rights to receive cash or other financial asset.
- They are not derivatives, since they do not require an initial investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors, they are not settled at a future date and they do not change in response to changes in other variables.

The first attempts to set an accounting rule which could provide relevant and reliable financial information failed because they had confusing effects on the profits of the companies.

There is no doubt that, whenever emission trading leads to liability recognition resulting from emissions made (not covered by free allowances held), there will be an effect on income. However, the first accounting rule attempts had income effects caused by different measurement criteria applied to assets and liabilities related to carbon emissions.

¹ Review of the Markets in Financial Instruments Directive (MiFID) and Proposals for a Regulation on Market Abuse and for a Directive on Criminal Sanctions for Market Abuse: Frequently Asked Questions on Emission Allowances.
<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/719&format=HTML&aged=0&language=EN&guiLanguage=en>

The accounting standards in force in the European Union are principle-based, which means that they provide for a conceptual framework for financial statements instead of a list of detailed rules. One principle is that the financial information is oriented to represent the substance of an economic phenomenon rather than merely its legal form. Moreover, accounting standards have to be applied in a comparable and consistent manner. Comparability and consistency refer to the use of the same methods for the same items, but different economic situations must look different. Unlike economic situations should not be made look alike by applying the same accounting rule.

In the particular case of carbon accounting, different accounting methods are currently being applied. The different accounting methods are justified on the grounds of the different use that emission allowances may have and the different business models of the accounting entities. The common characteristic of these practices is that they fairly represent the entities' business models.

For some companies, using emission allowances is absolutely indispensable in the course of the production process and, consequently, they are usually recognized as assets. A liability for the obligation to give a certain amount of allowances at the end of the compliance period is to be recognized as well. This obligation is measured on the basis of the cost of granted or purchased allowances as the best estimate of the obligation to the extent that allowances are held; however, to the extent that emissions exceed allowances held, the best estimate of the obligation is the market value of allowances.

For companies using emission allowances for trading purposes, independently of the production process, such transactions are of a comparable nature to inventories held by commodity traders. Consequently, IAS² 2.3 could be applied and allowances may be considered as held for trading assets and measured at fair value, with their fair value variations credited or charged to income.

In its deliberations on the accounting for emission rights, the IASB discussed a full fair value model, i.e. accounting for emission rights as assets at fair value through profit or loss and treating the liability in the same way. The main source of concern regarding this fair value accounting is that it leads to an income volatility that cannot be justified on economic grounds. The income volatility can be explained on economic grounds when emission rights are held for the purpose of trading or when the entity maintains an open position, that is to say, the emissions made by the entity exceed the quantity of emission allowances recognized as assets.

² IAS: International Accounting Standard

The usage of forward contracts may also lead to income volatility caused by accounting and inexplicable on economic grounds. When the own use exemption is applied, income volatility rises as a result of the mismatch between liability valuation at fair value and the absence of forward contract registration. When the exemption is not applied, the accounting mismatch takes place because forward contracts are accounted for at fair value while liability is not recognized until emissions are made above held allowances.

In conclusion, the solution for the accounting for emission allowances must be the one that best suits the business practice of the entities, differentiating the accounting treatment of emission allowances held for the purpose of the production process and the accounting for those emissions held for the purpose of trading.

1. Introduction

The purpose of this paper is:

- To give an overview of the accounting nature and characteristics of emission allowances.
- To analyse the effects of different accounting treatments on the financial statements.

The EU Emissions Trading Scheme (ETS) is a market-based system designed to curb carbon emissions and achieve the environmental goals that Europe is committed under the Kyoto Protocol. European companies and, in particular, European electricity companies have been affected by the scheme since 2005 and the accounting treatment they have chosen to apply has had relevant consequences from the point of view of the community of investors.

At the moment, there is no generally accepted accounting guidance to be applied to the accounting treatment of emission allowances. The accounting standard setter, the International Accounting Standards Board³ (IASB), issued the interpretation (IFRIC) 3⁴ *Emission Rights* in December 2004 and withdrew it in June 2005. The Board reactivated work on the project in December 2007 and paused it in November 2010, until the conclusion of its deliberations about its future work plan. Meanwhile, the Board has decided to perform a research project on emission rights as part of its new work plan.⁵

This paper will explore to what extent the absence of accounting guidance is putting in danger the ETS objective and will also study the effects of different accounting alternatives on its achievement.

Phase III of ETS will be starting in 2013. In this phase III, all electricity sector allowances will be auctioned, with the exception of power plants in countries producing more than a third of their power from coal and having an income per capita more than 50% below EU average. This modification of the ETS regulations may have an effect on financial reporting, which will be more or less significant depending on the accounting rules to be applicable.

³ In 2005, the EU made the use of International Financial Reporting Standards (IFRS), the accounting rules set by the IASB, obligatory for the consolidated financial statements of EU companies which were listed in the EU's stock markets.

⁴ The IFRS Interpretations Committee (formerly called the IFRIC) is the interpretative body of the IASB. The mandate of the Interpretations Committee is to review accounting issues that have arisen within the context of current IFRSs and to provide authoritative guidance (IFRICs) on those issues.

⁵ Cf. IASB Update, May 2012 board meeting,

2. Background of accounting for emission allowances.

Most of the probable readers of this report will know that the EU Emissions Trading Scheme (ETS) is a market-based system designed to curb carbon emissions and achieve the environmental goals that Europe is committed under the Kyoto Protocol. The most immediate reduction goal is for a 20% reduction from 1990 levels by 2020.

The ETS works like a “cap and trade” system, which involves that the total CO₂ emission allowances are limited or “capped”. The cap should be lower than the historic level of emissions of the emitter entity. Installations making emissions above the cap have to pay a penalty. Trading happens when an entity that has been able to reduce its emissions sells its allowances to another entity needing allowances because of having emitted above the limitations and, obviously, trying to avoid the penalty. Trading may also happen for speculative purposes, that is to say, for getting a profit through buying and selling allowances.

The ETS started to operate in 2005 and this first phase lasted for three years. Emission allowances were allocated for free.

The absence of generally accepted guidance for the accounting treatment of emission allowances is a probable consequence of the different applications and the ambiguous nature of emission allowances. Following the definitions provided by accounting standards, it is apparent that emission allowances are assets, because:

- They are resources controlled by the entity, and
- Future economic benefits may be expected from their exploitation.

The 20th of October 2011 proposal for a revised Directive and Regulation on Markets in Financial Instruments (MiFID) has classified emission allowances as financial instruments. Although the future Directive may make an attempt to cover the carbon market by financial market rules, emission allowances are not financial instruments from the accounting point of view, because:

- As the European Commission has stated, the “Classification of emission allowances for accounting purposes depends on the criteria set by accounting standards only”⁶.
- They do not meet the definition of a financial instrument, as they are neither equity instruments nor contracts giving rise to contractual rights to receive cash or other financial asset.

⁶ Review of the Markets in Financial Instruments Directive (MiFID) and Proposals for a Regulation on Market Abuse and for a Directive on Criminal Sanctions for Market Abuse: Frequently Asked Questions on Emission Allowances.
<http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/719&format=HTML&aged=0&language=EN&guiLanguage=en>

- They are not derivatives, since they do not require an initial investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors, they are not settled at a future date and they do not change in response to changes in other variables.

Nevertheless, forward contracts over emission allowances may be considered as derivatives and accounted for in accordance with IAS 39 and IFRS 9. In this case, these transactions may be treated by using “the own use exemption”⁷. By applying this exemption, a forward contract to buy emission allowances, instead of being treated as a financial instrument and measured at fair value, may be considered as a not fully performed contract and its accounting recognition may be postponed until the physical deliverance takes place. Were the entity’s business model incompatible with the application of this “own use exemption”, the fair value accounting model would have to be applied.

3. Effects of different accounting alternatives on financial statements.

The first try to settle on a clear accounting guidance for the operation of the new ETS was the interpretation (IFRIC) 3, issued by the IASB.

IFRIC 3 proved to be very controversial. It was criticized because of the unjustified volatility it created in the income statement. Different measurement criteria were to be applied for held assets and liabilities arisen as a result of gases emitted by the plant, leading to an artificial mismatch reflected in the income statement⁸.

Being considered as an intangible asset, allowances could be measured either at cost or revaluation model, in accordance with IAS 38 *Intangible Assets*. If allowances were measured at fair value using the revaluation model in IAS 38, there would be a mismatch in the recognition of changes in the assets and liabilities, as changes in the value of the allowances above cost would be recognized in equity, whereas changes in the liability were recognized in profit or loss.

If allowances were accounted using the cost model in IAS 38, there could also be a mismatch, as IAS 37 requires the liability for the obligation to deliver allowances to be measured at fair value.

⁷ “The own use exemption” means that contracts to buy or sell a non-financial item (an emission allowance, for instance) that can be settled net in cash or another financial instrument may be out of the accounting treatment for financial instruments as long as they were entered into with the intention to receive or deliver a non-financial asset.

⁸ An illustrative example explains this mismatch in detail in Appendix 1

These mismatches were the main reasons for the European Financial Reporting Advisory Group (EFRAG)⁹ decision of issuing a negative endorsement advice about this interpretation. As a result of this negative endorsement opinion, the interpretation was subsequently withdrawn by the IASB in June 2005.

Since this retirement, there is no international guidance on carbon accounting and companies have applied different accounting solutions, more or less in line with the provisions of IFRIC 3. Some national accounting standard setters have adopted national regulations.

From the IASB point of view, in the absence of authoritative guidance through specific standards or interpretations, there remains a number of existing standards that have to be considered. To begin with, in cases where no accounting standards apply, paragraph 10 of IAS 8 *Accounting Policies, Changes in Accounting Estimates and Errors* has to be taken into account. This paragraph says that when there is no specific IFRS, “management shall use its judgment in developing and applying an accounting policy that results in information that is relevant (...) and reliable (...)”. Moreover, IAS 2 *Inventories*, 20 *Government Grants*, 37 *Provisions* 38 *Intangible Assets* and 39 *Financial Instruments* may be regarded as relevant and must be interpreted by the companies in order to choose the accounting solution that better suits their business model and transactions.

The most salient features of **common accounting practice** for emission allowances are as follows:

- For accounting purposes, emission allowances are usually regarded as **either inventories or intangible assets**.
- When allowances are received from the government for free, they may recognize granted allowances **at nil**, because they have been granted at no cost, **or at fair value**, with the difference between acquisition cost and fair value being recognized as a government grant (deferred income) on the liability side of the balance sheet.
- When allowances are purchased in the market, they are recognized **at cost**.
- When allowances are considered as intangible assets, they may be accounted for on the basis of **either a cost or revaluation model**. If the revaluation model is chosen, the variations in the asset fair value are recognized in equity. If the cost model is chosen – which is the most common model in practice –, the asset is usually not depreciated, since it is assumed that it does not lose its value by its use in the production process.

⁹ EFRAG is an international non-profit association that aims at contributing to the implementation of International Financial Reporting Standards (IFRS) in Europe. Its contribution consists of providing technical input and opinion in order for the European Commission to take a view on endorsement of any IFRS for application in the EU.

- A **liability** for emissions may be recognized **on a linear basis**, but the most frequent practice is to recognize the liability **as emissions occur**.
- Instead of **measuring this liability** at fair value, following IFRIC 3 guidance, companies usually measure the obligation to give a certain amount of allowances at the end of the compliance period **at the carrying amount of allowances with the balance at market value**. That is to say, the liability valuation is based on the cost of granted or purchased allowances as the best estimate of the obligation to the extent that allowances are held; however, to the extent that emissions exceed allowances held, the best estimate of the obligation is the market value of allowances.
- **Forward purchases** of allowances may be treated as **derivatives**, but the **“own use exemption”** may also be applied.

By applying this exemption, a forward contract to buy emission allowances, instead of being treated as a financial instrument and measured at fair value, may be considered as a not fully performed contract and its accounting recognition may be postponed until the physical deliverance takes place.

- When allowances or forward contracts are held for trading purposes, that is to say, the holding or purchase of allowances is not related to emissions, they are measured at fair value and their fair value variations are credited or charged to income.

The IASB reactivated work on accounting for emission trading schemes in December 2007. Among the reasons for adding the topic to the agenda, the IASB¹⁰ mentions “the increasing international use (or planned use) of schemes designed to achieve reduction of greenhouse gases through the use of tradable permits (...), the risk of diverse accounting practices for such schemes following the withdrawal of IFRIC 3 Emission Rights and that this would impair the comparability and usefulness of financial statement information”.

This new ETS accounting project was being prepared by the IASB together with the US accounting standard setter, the Financial Accounting Standards Board (FASB), looking forward to merging the accounting practice experiences about carbon accounting in Europe and the United States.

¹⁰<http://www.ifrs.org/Current+Projects/IASB+Projects/Emission+Trading+Schemes/Emissions+Trading+Schemes.htm>

Discussions on the emissions trading scheme project were deferred In November 2010, and the IASB decided to consult whether the project would remain on its agenda as part of an agenda consultation process launched among its constituents. The feedback from this consultation will be made public in the third quarter of 2012 and the decision whether to continue or not with the ETS project will be known later on. However, the responses obtained from constituents have already been made public¹¹. In its meeting in May 2012, the IASB decided to recommence research on emission trading schemes.¹²

Before the deferring decision about the new ETS project was taken, the IASB came to some tentative conclusions about key accounting issues¹³:

- Emission allowances.

Purchased allowances should be measured at fair value. Purchased and allocated allowances should be measured consistently, because there is no fundamental difference between allocated and purchased allowances once in the possession of an entity. Therefore, if the decision about fair value measurement of purchased allocated were revised, the tentative decision about allocated allowances should be reconsidered as well.

- Liabilities

The IASB was discussing about distinguishing between two types of liabilities. First, an obligation or liability would arise when the allowances are allocated, as the entity is obligated to return those allowances. The second liability would be originated by the excess emissions of the entity above the allocated allowances.

Given that Phase III of ETS will be in force soon and that this new phase considers auctioning for most of companies in the EU, the issue of measuring a liability arising when allowances are allocated for free will not be a matter of life and death for EU companies.

Regarding the measurement of this second liability for excess emissions, three different views were being discussed: first, measuring the liability on the basis of total expected emissions over the whole compliance period, on a pro rata basis; second, measuring the liability as the entity emits; third, measuring the liability upon actual emissions exceeding the initial allocation.

¹¹ For a summary of comment letters received regarding priorities on standards, prepared by the IASB, see Appendix 4.

¹² Cf. IASB Update, May 2012 board meeting.

¹³ An example of the tentative accounting treatment concluded by the IASB is presented in Appendix 2

The main source of concern regarding this fair value accounting is that it leads to an income volatility that cannot be justified on economic grounds. The income volatility can be explained on economic grounds when the emissions made by the entity exceed the quantity of emission allowances recognized as assets.

However, the usage of forward contracts may lead to income volatility caused by accounting and inexplicable on economic grounds as well. When the own use exemption is applied, income volatility rises as a result of the mismatch between liability valuation at fair value and the absence of forward contract registration. When the exemption is not applied, the accounting mismatch takes place because forward contracts are accounted for at fair value while liability is not recognized until emissions are made¹⁴.

4. Conclusions

- The absence of accounting guidance for emission trading has not been an obstacle for active market trading and, consequently, it has not put in danger the objective of the ETS to curb carbon emissions.
- From the accounting point of view, emission allowances are assets, as they are resources under the companies' control from which economic benefits are expected to flow to the companies. According to their most conventional use as a production input, they cannot be seen as a financial instrument.
- The first attempt to provide accounting guidance for emission allowances, IFRIC 3, failed because it created unjustified volatility, that is to say, not caused by emissions exceeding held allowances, but by different measurement criteria in deferred income and emission liability.
- Since IFRIC 3 rejection, different accounting practices have been followed. The common characteristic of these practices is, however, that they fairly represent the entities' business models, i.e. they do not lead to income volatility that is not justified from an economic point of view.
- New accounting rules have been discussed by the IASB. IASB's proposals have been biased to a full fair value criterion. A full fair value approach might also lead to unjustified income volatility if there were differences in volume or valuation between held assets and emission liability. This is also the case, if the entity holds allowance forward contracts instead of "physical" emission rights.

¹⁴ An example showing the volatility effects produced by the different accounting alternatives with regard to the utilization of forward contracts in connection to emission allowances is provided in Appendix 3.

The solution for the accounting for emission is the one that best suits the most common business practice in the Electricity Industry, differentiating between those emission allowances held for the purpose of the production process and treated as any other production input and those held for the purpose of trading.

Appendix 1. Example of the Application of IFRIC 3

- The entity is a participant in an emissions right scheme. 1,000 allowances are allocated free of charge at the beginning of the compliance period. The market price at that moment is €10 per ton.
- The scheme operates for a 4 year compliance period and the entity has annual reporting periods.
- 2,000 ton expected emissions over the 4 year compliance period.
- The allowance price over the 4 year compliance period is €12, €8, €10, €11, year 1 through 4.
- The entity settles the emission liability shortly after compliance period.

Accounting entries under the cost model in IAS 38

(All amounts are in €thousands)

Year 2013

Allowances	10	
Deferred income (government grant)		10

1,000 allowances are allocated free of charge. The entity registers the initial allocation at their market price (1,000 ton x €10 = €10,000) and it also recognises a government grant that will be credited to income as emissions are made.

At the end of year 2014 (price €12)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	6	
Emission liability		6

The entity recognises the liability for emissions (2,000 ton / 4 x 1= 500 ton x €12 =€6,000). The liability is measured at fair value.

At the end of year 2015 (price €8)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	2	
Emission liability		2

The entity recognises the liability for emissions to date (2,000 ton / 4 x 2 = 1,000 ton x €8 = €8,000 - €6,000 recognized at the end of 2014). The liability is measured at fair value.

At the end of year 2016 (price €10)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton / 4 x 3 = 1,500 ton x €10 = €15,000 - €8,000 recognized in years 2014 and 2015). The liability is measured at fair value.

At the end of year 2017 (price €11)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton / 4 x 4 = 2,000 ton x €11 = €22,000 - €15,000 recognized in years 2014, 2015 and 2016). The liability is measured at fair value.

Allowances	11	
Cash		11

The entity recognises the acquisition of emission allowances for its excess emissions (1,000 ton x €11 = €11,000).

On settling the obligation

Emission liability	22	
Allowances		21
Profit		1

The entity settles the liability for emissions made over the compliance period and delivers the allowances.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Deferred income (Government Grant)		2.5	2.5	2.5	2.5	
Expense (liability increase for emissions)		-6	-2	-7	-7	
Profit or loss at settlement date						1
Net income effect		-3,5	0,5	-4.5	-4.5	1

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Allowances	10	10	10	10	21	0
Cash					-11	-11
Liabilities						
Def. income (Gov. Grant)	10	7.5	5	2.5	0	
Emission liability		6	8	15	22	0
Equity						
Total equity	0	-3.5	-3	-7.5	-12	-11

- An emission liability is recognized on the basis of emissions made and measured at fair value.
- Due to the different measurement criteria for the government grant allocation to income (at cost) and for the emission liability (fair value), there is a net loss to be recorded.

- At year end, the net income effect is driven by two factors: emissions above expectations and the mismatched valuation between government grant and emission liability
- The impact on the Income Statement corresponds to emissions in excess of allocated allowances, an amount equivalent to cash outflow for purchasing additional allowances needed.
- At settlement date, the accumulated loss caused by the liability recognition is reversed, being the accumulated net income effect equal to the result of the purchase of additional allowances (€11,000), which had to be made because of the entity having emitted 1,000 tonnes above allowances held.

Accounting entries under the revaluation model in IAS 38

(All amounts are in €thousands)

Year 2013

Allowances	10	
Deferred income (government grant)		10

1,000 allowances are allocated free of charge. The entity registers the initial allocation at their market price (1,000 ton x €10 = €10,000) and it also recognises a government grant that will be credited to income as emissions are made.

At the end of year 2014 (price €12)

Allowances	2	
Equity (revaluation surplus)		2

The entity recognises the increase in the market value of the allowances held (1,000 ton whose price has increased from €10 to €12 per ton)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	6	
Emission liability		6

The entity recognises the liability for emissions (2,000 ton / 4 x 1= 500 ton x €12 =€6,000). The liability is measured at fair value.

At the end of year 2015 (price €8)

Equity (revaluation surplus)	2	
Income statement (expense)	2	
Allowances		4

The entity recognises the decrease in the market value of the allowances held (1,000 ton whose price has decreased from €12 to €8 per ton). According to IAS 38.86 the decrease is recognised in profit or loss, but half the amount is recognised in equity to the extent of the existing credit balance in respect of the asset.

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	2	
Emission liability		2

The entity recognises the liability for emissions to date (2,000 ton / 4 x 2 = 1,000 ton x €8 = €8,000 - €6,000 recognized at the end of 2014). The liability is measured at fair value.

At the end of year 2016 (price €10)

Allowances	2	
Income statement (income)		2

The entity recognises the increase in the market value of the allowances held (1,000 ton whose price has increased from €8 to €10 per ton). According to IAS 38.85 the asset increase can be recognized in profit and loss as it reverses a revaluation decrease of the same asset, which was previously recognized in profit and loss.

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton / 4 x 3 = 1,500 ton x €10 = €15,000 - €8,000 recognized in years 2014 and 2015). The liability is measured at fair value.

At the end of year 2017 (price €11)

Allowances	1	
Equity (revaluation surplus)		1

The entity recognises the increase in the market value of the allowances held (1,000 ton whose price has increased from €10 to €11 per ton)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton / 4 x 4 = 2,000 ton x €11 = €22,000 - €15,000 recognized in years 2014, 2015 and 2016). The liability is measured at fair value.

Allowances	11	
Cash		11

The entity recognises the acquisition of emission allowances for its excess emissions (1,000 ton x €11 = €11,000).

On settling the obligation

Emission liability	22	
Allowances		22

The entity settles the liability for emissions made over the compliance period and delivers the allowances.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Deferred income (Government Grant)		2.5	2.5	2.5	2.5	
Expense (liability increase for emissions)		-6	-2	-7	-7	
Revaluation (income/expense)			-2	2		
Net income effect		-3,5	-1.5	-2.5	-4.5	

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Allowances	10	12	8	10	22	0
Cash					-11	-11
Liabilities						
Def. income (Gov. Grant)	10	7.5	5	2.5	0	
Emission liability		6	8	15	22	0
Equity						
Revaluation surplus		2	0	0	1	1
Other equity		-3.5	-5	-7.5	-12	-12
Total equity	0	-1.5	-5	-7.5	-11	-11

- Despite the revaluation of allowances held, there is still a net loss to be recorded, since the income related to the asset revaluation is directly recognised in equity.
- At settlement date, there is not any profit or loss to be recorded, as liabilities and held allowances are both measured at fair value. The only net income effect (€12,000 - €1,000 –revaluation surplus) is equivalent to the purchase amount of additional allowances (€11,000), which had to be made because of the entity having emitted 1,000 tonnes above allowances held.
- The entity may transfer its revaluation surplus of €1,000 directly to retained earnings in accordance with paragraph 87 of IAS 38.

Appendix 2. Example of the most common practice

- The entity is a participant in an emissions right scheme. 1,000 allowances are allocated free of charge at the beginning of the compliance period. The market price at that moment is €10 per ton.
- The scheme operates for a 4 year compliance period and the entity has annual reporting periods.
- 2,000 ton expected emissions over the 4 year compliance period.
- The allowance price over the 4 year compliance period is €12, €8, €10, €11, year 1 through 4.
- The entity settles the emission liability shortly after compliance period.

Accounting entries with recognition of a government grant

(All amounts are in €thousands)

Year 2013

Allowances	10	
Deferred income (government grant)		10

1,000 allowances are allocated free of charge. The entity registers the initial allocation at their market price (1,000 ton x €10 = €10,000) and it also recognises a government grant that will be credited to income as emissions are made.

At the end of year 2014 (price €12)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	3	
Emission liability		3

The entity recognises the liability for emissions in excess of allocated allowances (2,000 ton / 4 x 1 = 500 ton x 50% coverage x €12 = €3,000). The liability is measured at fair value.

At the end of year 2015 (price €8)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	1	
Emission liability		1

The entity recognises the liability for emissions to date (2,000 ton / 4 x 2 = 1,000 ton x 50% coverage x €8 = €4,000 - €3,000 recognized at the end of 2014). The liability is measured at fair value.

At the end of year 2016 (price €10)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	3.5	
Emission liability		3.5

The entity recognises the liability for emissions to date (2,000 ton / 4 x 3 = 1,500 ton x 50% coverage x €10 = €7,500 - €4,000 recognized in years 2014 and 2015). The liability is measured at fair value.

At the end of year 2017 (price €11)

Deferred income (government grant)	2.5	
Income Statement (income)		2.5

The entity recognises as income the portion of the government grant that matches the costs of emissions of the period (1,000 ton / 4 x €10)

Income Statement (expense)	3.5	
Emission liability		3.5

The entity recognises the liability for emissions to date (2,000 ton / 4 x 4 = 2,000 ton x 50% coverage x €11 = €11,000 - €7,500 recognized in years 2014, 2015 and 2016). The liability is measured at fair value.

Allowances	11	
Cash		11

The entity recognises the acquisition of emission allowances for its excess emissions (1,000 ton x €11 = €11,000).

On settling the obligation

Loss	10	
Emission liability	11	
Allowances		21

The entity settles the liability for emissions made over the compliance period and delivers the allowances.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Deferred income (Government Grant)		2.5	2.5	2.5	2.5	
Expense (liability increase for emissions)		-3	-1	-3.5	-3.5	
Profit or loss at settlement date						-10
Net income effect		-0,5	1,5	-1	-1	-10

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Allowances	10	10	10	10	21	0
Cash					-11	-11
Liabilities						
Def. income (Gov. Grant)	10	7.5	5	2.5	0	
Emission liability		3	4	7.5	11	0
Equity						
Total equity	0	-0.5	1	0	-1	-11

- An emission liability is recognized on the basis of emissions in excess of allocated allowances and measured at fair value.

- The impact on the Income Statement corresponds to emissions in excess of allocated allowances, an amount equivalent to the cash outflow for purchasing additional allowances needed.
- At settlement date, the accumulated loss caused by the liability recognition is reversed, being the only net income effect the result of the purchase of additional allowances (€11,000), which had to be made because of the entity having emitted 1,000 tonnes above allowances held.

Accounting entries without the recognition of a government grant

(All amounts are in €thousands)

Year 2013

Allowances	0	
Deferred income (government grant)		0

1,000 allowances are allocated free of charge. The entity registers the initial allocation at nil and it also recognises a corresponding government grant in accordance with the same criteria.

At the end of year 2014 (price €12)

Income Statement (expense)	3	
Emission liability		3

The entity recognises the liability for emissions in excess of allocated allowances (2,000 ton /4 x 1= 500 ton x 50% coverage x €12 =€3,000). The liability is measured at fair value.

At the end of year 2015 (price €8)

Income Statement (expense)	1	
Emission liability		1

The entity recognises the liability for emissions to date (2,000 ton /4 x 2 = 1,000 ton x 50% coverage x €8 = €4,000 - €3,000 recognized at the end of 2014). The liability is measured at fair value.

At the end of year 2016 (price €10)

Income Statement (expense)	3.5	
Emission liability		3.5

The entity recognises the liability for emissions to date (2,000 ton /4 x 3 = 1,500 ton x 50% coverage x €10 = €7,500 - €4,000 recognized in years 2014 and 2015). The liability is measured at fair value.

At the end of year 2017 (price €11)

Income Statement (expense)	3.5	
Emission liability		3.5

The entity recognises the liability for emissions to date (2,000 ton /4 x 4 = 2,000 ton x 50% coverage x €11 = €11,000 - €7,500 recognized in years 2014, 2015 and 2016). The liability is measured at fair value.

Allowances	11	
Cash		11

The entity recognises the acquisition of emission allowances for its excess emissions (1,000 ton x €11 = €11,000).

On settling the obligation

Emission liability	11	
Allowances		11

The entity settles the liability for emissions made over the compliance period and delivers the allowances.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Expense (liability increase for emissions)		-3	-1	-3.5	-3.5	
Profit or loss at settlement date						
Net income effect		-3	-1	-3.5	-3.5	

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Allowances					11	0
Cash					-11	-11
Liabilities						
Emission liability		3	4	7.5	11	0
Equity						
Total equity	0	-3	-4	-7.5	-11	-11

- The impact on the Income Statement corresponds to emissions in excess of allocated allowances, an amount equivalent to the cash outflow for purchasing additional allowances needed.

Accounting entries applying repo's

- Given the forward curves, the entity decides it is interesting to sell 750 tons free allowances for €10 and enter forward re-purchases for €8 in 2015, €10 in 2016 and €11 in 2017
- The accounting for allowances and emission liability remains the same as in the previous example. Additionally, there will be entries for the re-purchase agreements.

(All amounts are in €thousands)

Year 2013

Cash		7.5
Financial debt		7.5

The sale and re-purchase agreement repo's are recorded (750 tons at €10)

The difference between the purchase and sales price are considered as implicit interest recorded pro rata temporis as a financial result in future years. The re-purchase 2015 will generate €2 per ton income pro-rata temporis €1 per year or 0.25 for the quantity purchased. The re-purchase 2016 will generate no interest, the re-purchase 2017 will generate €-1 per ton income €-0,25 pro rata temporis or -0.0625 for the quantities purchased..

Repo's	2013	2014	2015	2016	2017
Sale/purchase price	10	12	8	10	11
Quantity	-750	0	250	250	250
Total interest for repo		0	0,5	0	-0,25
Pro rata temporis		0	0.25	0	-0.0625
Total result			250	250	250
Debt	-7.5	-7.3125	5,125	2,6875	0

Financial debt repo's 2015: 250 tons x €(8-10) = 500/2 =250

Financial debt repo's 2017: 250 tons x €(11-10) = 250/4 = 62.5

Financial debt

2013: 7,500

2014: 7,500+62.5-250=7,312.5

2015: 7,312.5+62.5-2,500=2,687.5

2016: 2,687.5+62.5-2,750=0

At the end of year 2014 (price €12)

Financial debt repo's 2015	0.25
Financial debt repo's 2017	0.0625
Net financial income from repo ('14,'15,'16,'17)	0.1875

At the end of year 2015 (price €8)

Financial debt repo's 2015	0.25
Financial debt repo's 2017	0.0625
Net financial income from repo ('14,'15,'16,'17)	0.1875
Financial debt	2
Cash	2

The entity settles the repo for 2015 at 8€ (750 tons / 3 x 8€ = 2,000)

At the end of year 2016 (price €10)

Net financial income from repo ('16,'17)	0.0625
Financial debt repo's 2017	0.0625
Financial debt	2.5
Cash	2.5

The entity settles the repo for 2016 at 10€ (750 tons / 3 x 10€ = 2,500)

At the end of year 2017 (price €11)

Net financial income from repo ('17)	0.0625	
Financial debt repo's 2017		0.0625
Financial debt	2.75	
Cash		2.75

The entity settles the repo for 2017 at 11€ (750 tons / 3 x 11€ = 2,750)

On settling the obligation

Emission liability	11	
Allowances		11

The entity settles the liability for emissions made over the compliance period and delivers the allowances.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Expense (liability increase for emissions)		-3	-1	-3.5	-3.5	
Net financial income		0.1875	0.1875	-0,0625	-0,0625	
Net income effect		-2.1825	-0.8125	-3.5625	-3.5625	

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Allowances					11	0
Cash	7.5	7.5	5.5	3	-10.75	-10.75
Liabilities						
Emission liability		3	4	7.5	11	0
Debt	7.5	7.3125	5.125	2,6875	0	
Equity						
Total equity		-2.8125	-3.625	-7.1875	-10.75	-10.75

Appendix 3. Tentative accounting treatment for emission allowances and liabilities discussed by the IASB (November 2010)

- The entity is a participant in an emissions right scheme. 1,000 allowances are allocated free of charge at the beginning of the compliance period. The market price at that moment is €10 per ton.
- The scheme operates for a 4 year compliance period and the entity has annual reporting periods.
- 2,000 ton expected emissions over the 4 year compliance period.
- The allowance price over the 4 year compliance period is €12, €8, €10, €11, year 1 through 4.
- The entity settles the emission liability shortly after compliance period.

Accounting entries applying a fair value criterion to emission allowances and liabilities.

(All amounts are in €thousands)

Year 2013

Allocated allowances	10	
Liability for the Allocation		10

1,000 allowances are allocated free of charge. The entity registers the initial allocation (1,000 ton x €10 = €10,000). A liability is considered to exist when an entity receives an allocation of allowances.

At the end of year 2014 (price €12)

Allocated allowances	2	
Liability for the Allocation		2

The entity re-measures allowances and allocation liability at fair value (1,000 ton x €(12-10) = €2,000)

Income Statement (expense)	3	
Emission liability		3

The entity recognises the liability for emissions in excess of allocated allowances (2,000 ton /4 x 1= 500 ton x 50% coverage x €12 =€3,000). The liability is measured at fair value.

At the end of year 2015 (price €8)

Liability for the Allocation	4	
Allocated allowances		4

The entity re-measures allowances and allocation liability at fair value (1,000 ton x €(8-12) = €-4,000)

Income Statement (expense)	1	
Emission liability		1

The entity recognises the liability for emissions to date (2,000 ton /4 x 2 = 1,000 ton x 50% coverage x €8 = €4,000 - €3,000 recognized at the end of 2014). The liability is measured at fair value.

At the end of year 2016 (price €10)

Allocated allowances	2	
Liability for the Allocation		2

The entity re-measures allowances and allocation liability at fair value (1,000 ton x €(10-8) = €2,000)

Income Statement (expense)	3.5	
Emission liability		3.5

The entity recognises the liability for emissions to date (2,000 ton /4 x 3 = 1,500 ton x 50% coverage x €10 = €7,500 - €4,000 recognized in years 2014 and 2015). The liability is measured at fair value.

At the end of year 2017 (price €11)

Allocated allowances	1	
Liability for the Allocation		1

The entity re-measures allowances and allocation liability at fair value (1,000 ton x €(11-10) = €1,000)

Income Statement (expense)	3.5	
Emission liability		3.5

The entity recognises the liability for emissions to date (2,000 ton /4 x 4 = 2,000 ton x 50% coverage x €11 = €11,000 - €7,500 recognized in years 2014, 2015 and 201). The liability is measured at fair value.

Purchased allowances	11	
Cash		11

The entity recognises the acquisition of emission allowances for its excess emissions (1,000 ton x €11 = €11,000).

On settling the obligation

Liability for the allocation	11	
Emission liability	11	
Allowances		22

The entity settles the liability for emissions made over the compliance period and delivers the allowances.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Expense (liability increase for emissions)		-3	-1	-3.5	-3.5	
Net income effect		-3	-1	-3.5	-3.5	

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Allowances	10	12	8	10	22	0
Cash					-11	-11
Liabilities						
Emission liability		3	4	7.5	11	0
Liability for the allocation	10	12	8	10	11	0
Equity						
Total equity	0	-3	-4	-7.5	-11	-11

- A liability is considered to arise when an entity receives the allocation of allowances. There is no mismatch between this liability and the recognized assets. Thus, there is no effect on the Income Statement due to this liability.

- An emission liability is recognized on the basis of emissions in excess of allocated allowances and measured at fair value.
- The impact on the Income Statement corresponds to emissions in excess of allocated allowances, an amount equivalent to cash outflow for purchasing additional allowances needed.

Accounting entries applying a fair value criterion to emission allowances and liabilities, with no free allocation and purchasing necessary allowances at the beginning of the compliance period.

(All amounts are in €thousands)

Year 2013

Purchased allowances	20	
Cash		20

The entity purchases 2,000 allowances at a price of €10.

At the end of year 2014 (price €12)

Purchased allowances	4	
Income		4

The entity re-measures purchased allowances at fair value (2,000 ton x €(12-10) = €2,000)

Income Statement (expense)	6	
Emission liability		6

The entity recognises the liability for emissions (2,000 ton /4 x 1= 500 ton x €12 =€6,000). The liability is measured at fair value.

At the end of year 2015 (price €8)

Expense	8	
Purchased allowances		8

The entity re-measures purchased allowances at fair value (2,000 ton x €(8-12) = €-8,000)

Income Statement (expense)	2	
Emission liability		2

The entity recognises the liability for emissions to date (2,000 ton /4 x 2 = 1,000 ton x €8 = €8,000 - €6000 recognized at the end of 2014). The liability is measured at fair value.

At the end of year 2016 (price €10)

Purchased allowances	4	
Income		4

The entity re-measures purchased allowances at fair value (2,000 ton x €(10-8) = €4,000)

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton /4 x 3 = 1,500 ton x €10 = €15,000 - €8,000 recognized in years 2014 and 2015). The liability is measured at fair value.

At the end of year 2017 (price €11)

Purchased allowances	2	
Income		2

The entity re-measures purchased allowances at fair value (2,000 ton x €(11-10) = €2,000)

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton /4 x 4 = 2,000 ton x €11 = €22,000 - €15,000 recognized in years 2014, 2015 and 201). The liability is measured at fair value.

On settling the obligation

Emission liability	22	
Purchased allowances		22

The entity settles the liability for emissions made over the compliance period and delivers the allowances.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Income/Expense (purchased allowances)		4	-8	4	2	
Expense (liability increase for emissions)		-6	-2	-7	-7	
Net income effect		-2	-10	-3	-5	

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Purchased allowances	20	24	16	20	22	
Cash	-20	-20	-20	-20	-20	-20
Liabilities						
Emission liability		6	8	15	22	0
Equity						
Total equity	0	-2	-12	-15	-20	-20

- Emission liabilities are recognized on the basis of emissions made and measured at fair value.
- The impact on the Income Statement corresponds to emissions made and revaluation of purchased allowances.
- There can be a significant difference in the impact on the Income Statement just as a result of purchasing the necessary additional allowances in a different moment, in the example right before the beginning of the compliance period. Despite being measured in accordance with the same principles, there is an accounting mismatch because the purchase moment does not coincide with the recognition of the liability for the excess emissions

There will be volatility if the entity purchases allowances to settle future liabilities and that purchase does not coincide with the recognition of liability for the excess emissions in both quantity and period purchased.

Appendix 4. Example of utilization of forward contracts leading to income volatility

- The entity is a participant in an emissions right scheme. There is no free allowance allocation.
- The scheme operates for a 4 year compliance period and the entity has annual reporting periods.
- The entity sells electricity one year in advance for the next 4 years and buys forward emission allowances.
- The price of the forward contract when the entity buys the emission allowances is €10 per ton.
- 2,000 ton expected emissions over the 4 year compliance period.
- The forward price over the 4 year compliance period is €12, €8, €10, €11, year 1 through 4.
- The entity settles the emission liability shortly after compliance period.

Accounting entries applying the “own used exemption” to forwards and measuring emission liability at the cost of forward contracted allowances.

(All amounts are in €thousands)

Year 2013

CO² forwards are purchased when electricity is sold for the whole compliance period (2,000 ton at €10, €20,000). No accounting entry is needed.

At the end of year 2014 (price €12)

Income Statement (expense)	5	
Emission liability		5

The entity recognises the liability for emissions to date (2,000 ton /4 x 1) measured at a price of 10 € per ton. The liability is measured at the carrying amount of allowances contracted.

At the end of year 2015 (price €8)

Income Statement (expense)	5	
Emission liability		5

The entity recognises the liability for emissions to date (2,000 ton /4 x 2) measured at a price of 10 € per ton – €5,000 recognized in year 2014. The liability is measured at the carrying amount of allowances contracted.

At the end of year 2016 (price €10)

Income Statement (expense)	5	
Emission liability		5

The entity recognises the liability for emissions to date (2,000 ton /4 x 3) measured at a price of 10 € per ton – €10,000 recognized in years 2014 and 2015. The liability is measured at the carrying amount of allowances contracted.

At the end of year 2017 (price €11)

Income Statement (expense)	5	
Emission liability		5

The entity recognises the liability for emissions to date (2,000 ton /4 x 4) measured at a price of 10 € per ton – €15,000 recognized in years 2014, 2015 and 2016. The liability is measured at the carrying amount of allowances contracted.

Allowances	20	
Cash		20

The entity recognises the acquisition of emission allowances at the strike price.

On settling the obligation

Emission liability	20	
Allowances		20

The entity settles the liability for emissions made over the compliance period and delivers the allowances.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Expense (liability increase for emissions)		-5	-5	-5	-5	
Net income effect		-5	-5	-5	-5	

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Forwards						
Allowances					20	0
Cash					-20	-20
Liabilities						
Emission liability		5	10	15	20	0
Equity						
Total equity	0	-5	-10	-15	-20	-20

- Emission allowances are not recognized until the end of the forward contract.
- Emission liabilities are recognized on the basis of emissions actually produced and measured on the basis of the price guaranteed through the forward contract.
- The impact on the Income Statement corresponds to emissions actually produced and is measured on the basis of the price guaranteed through the forward contract.

As the “own use exemption” is applied, the net income effect results of the mismatch between liability valuation (at the carrying amount of contracted forwards) and the absence of forward contract registration.

Accounting entries applying the “own used exemption” to forwards and measuring emission liability at fair value.

(All amounts are in €thousands)

Year 2013

CO² forwards are purchased when electricity is sold for the whole compliance period (2,000 ton at €10, €20,000). No accounting entry is needed.

At the end of year 2014 (price €12)

Income Statement (expense)	6
Emission liability	6

The entity recognises the liability for emissions to date (2,000 ton /4 x 1) measured at a price of 12 € per ton. The liability is measured at the current forward price of allowances.

At the end of year 2015 (price €8)

Income Statement (expense)	2	
Emission liability		2

The entity recognises the liability for emissions to date (2,000 ton /4 x 2) measured at a price of 8 € per ton – €6,000 recognized in year 2014. The liability is measured at the current forward price of allowances

At the end of year 2016 (price €10)

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton /4 x 3) measured at a price of 10 € per ton – €8,000 recognized in years 2014 and 2015. The liability is measured at the current forward price of allowances.

At the end of year 2017 (price €11)

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton /4 x 4) measured at a price of 11 € per ton – €15,000 recognized in years 2014, 2015 and 2016. The liability is measured at the current forward price of allowances.

Allowances	20	
Cash		20

The entity recognises the acquisition of emission allowances at the strike price.

On settling the obligation

Emission liability	22	
Allowances		20
Income		2

The entity settles the liability for emissions made over the compliance period and delivers the allowances. As the recognized emission liability exceeds the carrying amount of emission allowances to be delivered, a net income is recognized.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Expense (liability increase for emissions)		-6	-2	-7	-7	
Income (excess provision)						2
Net income effect		-6	-2	-7	-7	2

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Forwards						
Allowances					20	0
Cash					-20	-20
Liabilities						
Emission liability		6	8	15	22	0
Equity						
Total equity	0	-6	-8	-15	-22	-20

- Emission allowances are not recognized until the end of the forward contract.
- Emission liabilities are recognized on the basis of emissions actually produced and measured at fair value (at the fair value of the forward contract).
- The impact on the Income Statement corresponds to emissions actually produced and is measured at fair value.

As the “own use exemption” is applied, the net income effect results of the mismatch between liability valuation at fair value and the absence of forward contract registration

Accounting entries not applying the “own used exemption” and, consequently, applying the fair value accounting to both forwards and emission liability.

(All amounts are in €thousands)

Year 2013

CO² forwards are purchased when electricity is sold for the whole compliance period (2,000 ton at €10, €20,000). No accounting entry is needed.

At the end of year 2014 (price €12)

Forwards (fair value)	4	
Income		4

Forwards are recognized and valued at fair value (2,000 at 12-10)

Income Statement (expense)	6	
Emission liability		6

The entity recognises the liability for emissions to date (2,000 ton /4 x 1) measured at a price of 12 € per ton. The liability is measured at the current forward price of allowances.

At the end of year 2015 (price €8)

Expense	8	
Forwards (fair value)		8

Forwards are recognized and valued at fair value (2,000 at 8-12)

Income Statement (expense)	2	
Emission liability		2

The entity recognises the liability for emissions to date (2,000 ton /4 x 2) measured at a price of 8 € per ton – €6,000 recognized in year 2014. The liability is measured at the current forward price of allowance.

At the end of year 2016 (price €10)

Forwards (fair value)	4	
Income		4

Forwards are recognized and valued at fair value (2,000 at 10-8).

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton /4 x 3) measured at a price of 10 € per ton – €8,000 recognized in years 2014 and 2015. The liability is measured at the current forward price of allowances.

At the end of year 2017 (price €11)

Income Statement (expense)	7	
Emission liability		7

The entity recognises the liability for emissions to date (2,000 ton /4 x 4) measured at a price of 11 € per ton – €15,000 recognized in years 2014, 2015 and 2016. The liability is measured at the current forward price of allowances.

Allowances	20	
Cash		20

The entity recognises the acquisition of emission allowances at the strike price. The entity writes down its recognized forwards in the balance sheet. No accounting entry is needed in the example, given that its current accounting value is nil.

On settling the obligation

Emission liability	22	
Allowances		20
Income		2

The entity settles the liability for emissions made over the compliance period and delivers the allowances. As the recognized emission liability exceeds the carrying amount of emission allowances to be delivered, a net income is recognized.

Income Statement	2013	2014	2015	2016	2017	Settl. date
Expense (liability increase for emissions)		-6	-2	-7	-7	
Income/Expense (forward revaluations)		4	-8	4		
Income (excess provision)						2
Net income effect		-2	-10	-3	-7	2

Balance Sheet	2013	2014	2015	2016	2017	Settl. date
Assets						
Forwards		4	-4	0		
Allowances					20	0
Cash					-20	-20
Liabilities						
Emission liability		6	8	15	22	0
Equity						
Total equity		-2	-12	-15	-22	-20

- Emission allowances are not recognized until the end of the forward contract.
- Forward contract is measured at fair value.
- Emission liabilities are recognized on the basis of emissions actually produced and measured at fair value.
- The impact on the Income Statement corresponds to emissions actually produced and forwards contracted, both measured at fair value.

When the “own use exemption” is not applied, the accounting mismatch takes place because forward contracts are accounted for at fair value while liability is not recognized until emissions are made. In this example, the source of volatility is the different moment when the forward contract is signed and emissions are made.

Summary of Examples

Net income effect	2013	2014	2015	2016	2017	Sett. date
IFRIC 3						
A. Cost model		-3,5	0,5	-4.5	-4.5	1
B. Revaluation model		-3,5	-1.5	-2.5	-4.5	
Most common practice						
A. Recognising Gov. Grant		-0,5	1,5	-1	-1	-10
B. Without Gov. Grant		-3	-1	-3.5	-3.5	0
C. Repo's application		-2.1825	-0.8125	-3.5625	-3.5625	0
Tentative IASB's decisions						
A. Free allocation		-3	-1	-3.5	-3.5	0
B. Purchasing allowances		-2	-10	-3	-5	
Forward contracts						
A. Own used exemption and liability at cost		-5	-5	-5	-5	
B. Own used exemption and liability at fair value		-6	-2	-7	-7	2
C. Forward contracts and liability at fair value		-2	-16	-3	-7	2

IFRIC 3

- The net income effect results from the open position (uncovered emissions that have to be recognised as a liability).
- The income effect of the revaluation model would be less significant had the asset revaluation been credited to income instead of equity.
- But the main source of volatility is the different measurement criteria for allocated allowances (and the ensuing credit to income of government grants) and liability.

Most common practice

- A. The net income effect also results from the open position, but it is mostly deferred until settlement date. Had the necessary allowances been purchased over the compliance period instead of at the end, the income effect would have been equivalent to the cost of purchased allowances.
- B. The income effect is more significant without recognising any government grant, as the compensation effect of government grants being credited to income disappears.
- C. The re-purchase agreement adds the effect of the implicit interest recorded to the net income effect in the previous example.

Tentative IASB's decisions

- A. A liability is considered to arise when an entity receives the allocation of allowances. There is no income effect due to this liability.
- B. Despite allowances and liability being measured in accordance with the same fair value principles, income volatility arises because the purchase moment does not coincide with the recognition of the liability for the excess emissions, leading to an accounting mismatch between held allowances and liabilities.

Forward contracts

- A. The net income effect results of the mismatch between liability valuation (at the carrying amount of contracted forwards) and the absence of forward contract registration.
- B. As the "own use exemption" is applied as well in this case, the net income effect results of the mismatch between liability valuation and the absence of forward contract registration. As liability is measured at fair value, the income volatility effect is more substantial.
- C. When the "own use exemption" is not applied, the accounting mismatch takes place because forward contracts are accounted for at fair value while liability is not recognized until emissions are made. In case C, the source of volatility is the different moment when the forward contract is signed and emissions are made

Appendix 5. Priorities in standards in accordance with comment letters received by IASB

Project priorities

Projects could be prioritised as ‘high,’ ‘medium,’ ‘low’ or ‘remove from agenda’. Some respondents assigned a priority to all projects. Other respondents only assigned priorities to a small number of projects. The following table is indicative of this ranking by comment letter respondents, but a quantitative analysis of the results is not possible because of the varying level of categorisation made by each respondent.

Project	Total number of letters that addressed this topic	High priority	Medium priority	Low/ Remove from agenda
Other comprehensive income	91	68	13	10
Business combinations between entities under common control	68	39	14	15
Agriculture	61	36	10	15
Rate-regulated activities	57	31	6	20
Extractive activities	62	31	10	21
Emissions trading schemes	55	27	11	17
Financial instruments with characteristics of equity	54	25	12	17
Discount rate	61	25	17	19
Post-employment benefits (including pensions)	58	21	11	26
Intangible assets	54	19	12	23
Income taxes	46	13	10	23
Foreign currency translation	43	10	13	20
Equity method of accounting	41	10	9	22
Inflation accounting (revisions to IAS 29)	35	6	6	23
Islamic (Shariah-compliant) transactions and instruments	37	6	4	27
Interim reporting	32	1	6	25
Share-based payment	40	7	3	30
Earnings per share	43	5	7	31
Government grants	41	3	6	32
Liabilities – amendments to IAS 37	61	17	8	36
Financial statement presentation excluding consideration of other comprehensive income	66	20	9	37
Country-by-country reporting	53	3	0	50



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