

## Exploring a new model in carbon accounting

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The absence of an international standard on accounting for the carbon units traded in the EU-ETS (European Union – Emission Trading Scheme) has led to many different accounting methods being used which have raised doubts about the comparability of the financial statements and how capable they are of providing information on the real cost of complying with obligations established for facilities that are subject to the National Allocation Plans. The future replacement of aforesaid plan with a new allocation mechanism based on auctioning does not alleviate the negative consequences of not having aforesaid standard either. This paper proposes an alternative model to the International Financial Reporting Interpretation Committee (IFRIC), establishing the basic criteria to be upheld within the Conceptual Framework whereby the position of companies in terms of their environmental policy and the real cost of reducing emissions can indeed be conveyed.

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This study has been carried out as part of the Research Project titled “Associated Operations and Transfer Pricing in the International Carbon Market”, (PRCEU-UCH12/10) financed by the Universidad Cardenal Herrera and “Fiscalidad y Cambio Climático” (DER2010-14799) financed by Ministerio de Educación. It was carried out during the time spent in The Climate Economics Chair in Paris, within the scope of the Santander-CEU Researchers Mobility Assistance Programme.



# EXPLORING A NEW MODEL IN CARBON ACCOUNTING<sup>\*</sup>.

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## Abstract

The absence of an international standard on accounting for the carbon units traded in the EU-ETS (European Union – Emission Trading Scheme) has led to many different accounting methods being used which have raised doubts about the comparability of the financial statements and how capable they are of providing information on the real cost of complying with obligations established for facilities that are subject to the National Allocation Plans. The future replacement of aforesaid plan with a new allocation mechanism based on auctioning does not alleviate the negative consequences of not having aforesaid standard either. This paper proposes an alternative model to the International Financial Reporting Interpretation Committee (IFRIC), establishing the basic criteria to be upheld within the Conceptual Framework whereby the position of companies in terms of their environmental policy and the real cost of reducing emissions can indeed be conveyed.

## 1. - Introduction

Using tradable emission allowances as an efficient way of attaining certain environmental objectives in the European Union is quite a recent phenomena, although economists have been aware of it for some time now (Coase, 1960). In the carbon markets, the underlying theory behind trading emission rights is based on creating value by means of assigning the right to emit pollution in such a way that these rights are distributed in accordance with the type of scheme chosen. Accordingly, two basic emission right trading schemes are defined in the Kyoto Protocol within the regulated market: the cap and trade scheme and the baseline and credit scheme (also known as the base-rate scheme)<sup>1</sup>.

In general terms, in the cap and trade scheme a central authority (for example the government) decides on the maximum amount of emissions that can be released in a certain period of time. This limit (cap) is distributed among the companies as “assigned

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<sup>1</sup> In contrast to the regulated market, the voluntary market works under the credit compensation schemes.

rights”. Each right entitles the holder to emit the equivalent of one tonne of CO<sub>2</sub> into the atmosphere. This limit and the rights assigned are normally set below companies’ existing gas emissions. As these rights are scarce they gain value so the holders can then trade them.

In the baseline and credit scheme, the rights have to be “earned” before they can be traded. Accordingly, the regulator first has to define the reference volume of emissions for everyone taking part in the scheme. In turn, each participant will reduce their emissions, then control and calculate them pursuant to a series of specific procedures. At the end of the compliance period, the regulator will compare the established reference volume with the real volume of emissions released by the facilities in question in such a way that if the real emissions are less than the established volume they will receive the corresponding rights to make up for the difference between both values, these are credits that can be freely traded<sup>2</sup>. Whereas, if a participant’s real emissions exceed the corresponding volume established, they must buy the missing rights to cover the excess emissions for compliance purposes.

The underlying questions are the same for both schemes: what is the legal and economic nature of the element that defines the scheme, that is, the emission right; and when, where, how and what value should a company record for the operations arising from transactions with these rights. It is absolutely essential to have a clear, consistent answer to these questions. Not only from a technical point of view with regard to entering these commercial operations in the accounts, but also from a conceptual point of view. Indeed, a system that is capable of providing accurate and useful information about a participant’s position in the CO<sub>2</sub> trading scheme is needed so that more appropriate decisions can be made on strategy and investment.

As shown hereinafter the fact that the legal nature has not yet been specified<sup>3</sup>, together with the absence of an international accounting standard has led to a wide variety of alternative accounting practices being used by companies that are subject to the European Union – Emission Trading Scheme (EU-ETS), the emission rights trading scheme that was created through the implementation of the Kyoto Protocol in 2005<sup>4</sup>. Obviously for this to be effective, any emission rights trading scheme (either the cap and trade or the baseline and credit) requires an accurate and clear standard that controls how operations, that are carried out under aforesaid scheme, are valued and recorded so as to obtain accurate trustworthy financial information (Cook, 2009). Of course whenever a strategic advantage can be made use of or be manipulated in any type of system; this is what will happen. Therefore any system that is quite complicated technically speaking, as in the case of international accounting, must be studied very carefully by competent institutions, whether it is the International Accounting Standard Board (IASB) or the Financial Accounting Standard Board (FASB).

Both these regulatory agencies were supposed to make a joint decision on such in 2008 but they still haven’t, which is why this paper has a double objective. Firstly to contribute to the current debate on the matter by highlighting the limitations of the existing International Financial Reporting Standards (IFRS) to provide the management of companies and investors with accurate information on the risks and the opportunities in this new economy known as the “low-carbon economy” (Brewer, 2005). Then

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<sup>2</sup> This only involves implementing the trading mechanism at the end of the compliance period.

<sup>3</sup> As the FIELD report showed (2004), the classification will depend on the applicable legal system in each Member State, as the Directive does not define the nature of the emission rights. So, for example, in Spain the quotas have equity classified as subjective rights, in France they are intangible assets and in the United States they are allowances.

<sup>4</sup> See Bilbao & Mateos (2006) & Bilbao et al. (2009) on accounting and tax planning opportunities that have arisen as a result of this situation.

secondly, provide the accounting regulators with alternatives in compliance with the qualitative requirements of the Conceptual Framework of the IASB to establish new accounting standards on this subject.

This paper is organised as follows: section 2 discusses the different types of tradable carbon units and the different ways that the emission rights which are traded (markets and auctions) are reviewed, section 3 analyses the current situation in terms of how the existing accounting regulations are applied in the EU-ETS so that in section 4 the alternatives, within the Conceptual Framework of the IASB can be presented to accurately determine the existing position of those participating in the EU-ETS.

## **2. The scope of trading carbon units. Markets and auctions**

The carbon market is currently dominated by trading with EUA's (European Union Allowances), and in particular by futures trading. However, these are not the only carbon units that a company can take into consideration when planning its operations on the carbon market or its investment policy. Hence apart from the EUA's, there are also Certified Emission Reductions (CER's) -primary and secondary-, Emission Reduction Units (ERU's), Removal Units (RMU's), Voluntary Emission Reductions (VER's), and soon, with the incorporation of aviation in the community emission right trading system, Aviation European Union Allowances (AEUA's)<sup>5</sup>.

Before discussing the limitations of the existing IFRS to provide accurate information in the financial statements concerning the operations carried out in the carbon market, how this market actually works must be analysed.

The European carbon market<sup>6</sup> has grown considerably in size and complexity since it first started six years ago (see Table 1), although it is still a relatively young market. In order to carry on growing and be able to guarantee that the right and the useful price of carbon is shown, we first have to understand how it works, especially when this price is the basic, fundamental piece of information that is needed to produce the Financial Statements and it is the main source of distortions between the different accounting models that are currently being used.

The basic trading scheme in the EU-ETS is the cap and trade. This scheme has various advantages, as Stavins pointed out (2003). It helps the participating companies to be flexible so that they can try and reduce emissions. In turn it protects the environment

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<sup>5</sup> For more details please consult [http://ec.europa.eu/clima/policies/ets/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/index_en.htm)

<sup>6</sup> «The European carbon market» is understood as being the EU's trading of emission rights and other units that can be used to comply with the EU-ETS in the thirty countries that currently take part in the EU-ETS (EU-27 plus Iceland, Liechtenstein and Norway).

and promotes social values such as fairness, it provides risk management tools, like the financial derivatives used, it makes government inspections easier as in-depth knowledge of the industry in question is not needed, just a control system and efficient auditing and it also has considerable technology dissemination incentives.

This scheme is governed by the Directive 2003/87/EC of the European Parliament and the Council, of the 13<sup>th</sup> of October, 2003<sup>7</sup>. In this scheme, having established the emission per country, each Member State proposes, per period, the maximum limits or quotas in their National Allocation Plan (NAP) to the Commission, bearing in mind the obligations undertaken within the community framework by means of the Burden Sharing Agreement. The Commission will evaluate and then decide whether such limit and the subsequent NAP is or is not in line with what each member State is expected to comply with. This means to say that for each valid NAP period the rights for each country in question will be individually shared out among the different sectors and companies involved (emitting facilities).

Given the experience acquired since the emission right trading system was first set up, as well as the need to harmonise this system to prevent distortions in the internal community market and promote relations with the other trading schemes, the Directive 2008/101/EC of the European Parliament and the Council of the 19<sup>th</sup> of November, 2008, was approved to include the aviation sector in the community's emission right trading system. Furthermore, as part of the so-called community package on energy and climate change legislation and to make sure the obligations assumed by the European Council in March, 2007<sup>8</sup> are complied with, the Directive 2009/29/EC from the European Parliament and the Council of the 23<sup>rd</sup> of April, 2009, was published to review the trading system in great detail; it introduces auctioning as the main mechanism to assign rights. The changes made by this new Law will come into force on the 1<sup>st</sup> of January, 2013.

The latter basically affects the role of the NAP's in the Trading System, namely by introducing auctioning as the main mechanism to assign rights, instead of grandfathering<sup>9</sup> that took precedence in the earlier stages (see Ellerman et al. 2010, pg 32-84 for an analysis of the different assignment mechanisms). Accordingly, for the next period, that starts on the 1<sup>st</sup> of January, 2013, the amount of emission rights is determined according to the community scale, which means that the European Commission is in charge of calculating and publicising the amount of rights per Member State. The total volume of rights will be determined by means of the allocation that was approved for all the Member States for the period 2008-2012. This starts in the middle of aforesaid period and is reduced by 1.74% annually and linearly. This volume will be reduced by approximately 21% by 2020 compared to the 2005 volume for all the sectors that are involved in trading emission rights.

Permanent facilities, include a) facilities that do not receive rights that are assigned free of charge, so inevitably they have to resort to auctioning or the market, b) facilities that are assigned 100% of the established amount pursuant to the harmonised Community-

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<sup>7</sup>On a community level, the different member States have adapted the Directive 2003/87/EC to their own domestic law by means of different transposing measures. In Spain, Law 1/2005, amended by Law 13/2010 is responsible for developing the most important aspects of the Emission Rights Trading System.

<sup>8</sup>These obligations mean that the overall greenhouse gas emissions of the Community have to be reduced by at least 20% by 2020 compared to the 1990 levels, and 30% as long as the developed countries agree to make comparable reductions and the developing countries that are economically more advanced agree to contribute insofar as possible in accordance with their obligations and their capacity. (See the explanatory statement of the Law 13/2010).

<sup>9</sup> The rights are assigned according to the historical emissions, an alternative to the benchmark system, in which assignment is based on the average sector emissions per unit of output.

wide rules on the transitional free allocation c) facilities that receive 80% of the established amount free of charge pursuant to the harmonised Community-wide rules on the transitional free allocation in 2013, this percentage is reduced each year by the same amount so that by 2020, 30% of the rights are assigned free of charge. The first type of facility basically concerns electricity generators along with capture, transportation and storage systems. The second type mentioned include facilities that are exposed to quite a high risk of carbon leakage, those that have not been included in the first two classifications will be included in the third type.

It is common knowledge that, according to the operational rules of the emissions Trading Scheme, at the end of every financial year, the facilities must have enough rights to cover the tonnes of CO<sub>2</sub> that they have emitted into the atmosphere and return them to the Administration in compliance with their obligations established under the Protocol. If the corresponding rights are not surrendered, the facility will be fined, although this fine shall not free them from their obligation to surrender the rights.

During the validity period of each plan, given the initial rights assigned, if the emissions exceed the rights received, the facility in question can buy – or generate – the rights it needs to cover what it is obliged to surrender and if it has an excess amount of rights, it can sell them. In order to administer the aforesaid operations quickly, safely and with economic and legal guarantees, different stock market trading platforms have been set up that operate on an international level and trade different products (mainly EUA Futures, EUA Options, EUA Spot transactions, CER Futures and CER Options). OTC (Over the Counter) trading is also possible, the European Commission recently put forward a draft regulation concerning this<sup>10</sup> aimed at making these derivative markets that are not exchange traded, safer and more transparent. On approval, it will come into force at the end of 2012. The proposal covers all types of OTC derivatives, and applies to financial companies that use OTC derivatives and also non-financial enterprises that hold significant positions within the OTC derivative markets.<sup>11</sup>

It is also worthwhile mentioning one essential characteristic of this system in terms of how it works. The mechanism designed in each of the emission rights National allocation Plans prohibited banking between the pilot phase (2005-2007) and the first period (2008-2012), although the Directive 2003/87/EC did initially let the Member States decide whether to enforce this prohibition or not (Ehrhart et al., 2005 & Schleich et al. 2006). So any rights left over in 2007 expired in April 2008, and could not be used to comply with the obligation to surrender in later periods. Therefore, it is as if two completely different spot markets had been created, producing distortions and abnormal price fluctuations. This can be seen in the different evolution of the EUA prices in Phase I (2005-2007) and Phase II (2008-2012).

The surplus rights left over in 2012 can indeed be dragged over to the next period (2013-2020) which explains why the price fluctuations smoothed out in the second Phase. In turn, borrowing is another mechanism used to smooth out the interannual

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<sup>10</sup> This can be consulted at [http://ec.europa.eu/internal\\_market/financial-markets/docs/derivatives/20100915\\_impact\\_assessment\\_en.pdf](http://ec.europa.eu/internal_market/financial-markets/docs/derivatives/20100915_impact_assessment_en.pdf)

<sup>11</sup> Obviously, the Rights can also be traded on the retail market, that is, an agent supplies retailers with small amounts of Rights that have certain characteristics in terms of period, prices, etc. However, the risk involved in this type of contract regarding the ownership of the Rights must be taken into consideration (Rodríguez, 2009).

price fluctuations of these EUA's, that is, the rights that will be assigned in the next financial year can be used to cover the emissions released in the current one. This mechanism is allowed between years of the same period, but not between periods.

In fact, as Alberola and Chevallier (2009) pointed out, these prohibitions explain why the EUA's were so cheap at the end of 2007, why they were so unstable and also why there was a special relationship between the spot and the futures prices both in December 2007 and in December 2008. Whilst the spot price at the end of 2007 was practically insignificant, the 2008 futures had positive prices throughout 2007, ranging from 15-25€. Indeed, with regard to the economic efficiency this improvement favoured banking and borrowing, as they prevented price volatility, improved the market liquidity and made it easier to adjust to the cap of markets that were going through phase changes. Banking meant that the prices of the assigned futures could be related to the spot prices for valuation purposes. In this sense, as Pardo (2010) pointed out, these prohibitions affected the valuation of the EUA derivatives, as the EUA could not be traded whilst the derivative contract was in force. In fact, the futures could not be valued by means of the classic valuation models without arbitration. Instead they had to be valued on the market by taking into consideration the diffusion models based on more than one source of uncertainty. All in all, when valuing options, we see that their expiration date can be extended to a later NAP in which the underlying EUA spot still hasn't been traded<sup>12</sup>. These are European options on futures where the option expires before or at the same time as the futures.

Lastly, auctioning is the alternative to acquiring EUA's on the trading platforms shown or by means of OTC contracts.

As aforementioned, the Directive 2003/87/EC establishing the trading system for Greenhouse Gases in the European Community was reviewed and amended by the Directive 2008/101/EC so as to include aviation activities, and then also by the Directive 2009/29/EC to round off and expand on this community trading system. As the European Commission Regulation 1031/2010 of the 12<sup>th</sup> of November, 2010, points out, one of the best improvements made in the revised version of the Directive 2003/87/EC was the promotion of auctioning as the basic principle of assigning emission rights; it is classified as being the simplest system and –in general- the most efficient from an economic point of view.

Accordingly, the National Allocation Plans – which were used to assign the emission rights in the two earlier periods - will disappear from the 1<sup>st</sup> of January, 2013, so that more of a community point of view on determining the total volume of rights, and also their assignment mechanism can be adopted.

Therefore, from this date onwards the amount of emission rights will be determined on a Community scale, which means that the European Commission will calculate the corresponding amount according to what is established by the Directive 2009/29/EC. Given the assignment that was approved for the Member States in the period 2008-2012 the midpoint of such period is calculated and reduced annually and linearly by 1.74%, so that by 2020 the 2005 values will have dropped by around 21%.

Logically this methodology must be adjusted to cover the sectors that were not included in the period 2008-2012, although they will be from now onwards (as in the case of aviation), or those that have been included but now have to cover for more emissions

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<sup>12</sup>Although the appearance of futures is seen to be favoured by the unstable spot prices, the futures market appeared before the spot markets in the carbon market, so in fact the futures prices of the transactions made in 2008 and 2009 are valued without the rights being assigned in the primary market (CONAMA 2010).



due to the elimination of the inclusion thresholds (as in the case of the ceramic sector), and the small facilities that might be excluded pursuant to the new regulations.

Assignment that now involves two procedures will also be determined on a community scale: the free temporary assignment and auctioning, the latter being the reference method. This means that the total amount of rights that can be auctioned is calculated by exclusion, that is, by subtracting those that are going to be assigned free of charge. It should be taken into account that the facilities from sectors that are exposed to carbon leakage will be assigned 100% free of charge. The electric generators will constantly have to resort to auctioning as they will not be assigned anything free of charge. Other facilities will get 80% free in 2013, and this percentage will be reduced gradually so that by 2020 they will only get 30% free. Hence they will also have to use auctioning to obtain the other rights needed. Hopefully the change from rights assigned free of charge to auctioning will encourage more entities to take part in the EU-ETS and carry out hedging operations to reduce the risk that they are exposed to (Egenhofer et al. 2011).

Consequently the Emission Rights, freely assigned-or bought- of a tradable asset, with their own value, that are subject to certain temporary restrictions with regard to how they are traded and used, can be considered as being a new element of corporate equity. This all implies that the carbon units are assets for the company. The consequences of such have been widely questioned given the effects that this could have on the real reduction of emissions, especially if these units are used as financial instruments (Bebbinton and Larrinaga, 2008). As the EU ETS could affect many of those preparing for the IFRS in Europe, the International Financial Reporting Interpretation Committee (IFRIC) decided way back in 2002 that an interpretation should be made to explain how companies should apply the IFRS's to a cap and trade scheme like the EU ETS. Nonetheless, even though the trading scheme started in 2005 we still do not have an interpretation, which is why there are still many doubts on how to record the operations carried out within the trading scheme according to the IFRS's. This paper proposes an alternative entry and valuation method that is adapted to the existing IFRS's within the Conceptual Scope.

### **3. - Post-IFRIC models. Accounting diversity and disharmony.**

Since the Greenhouse Gases- European Emission Rights Trading Scheme was set up in 2005, the emergence of the EUA's as a new economic element in corporate equity has been questioned, both in terms of their legality and also in terms of how to enter the related operations into the accounts. This issue is far from being solved. In fact it has been exacerbated by various factors. The volume traded on the market has increased considerably (from 7.9 to 119.8 billion dollars as shown in Table 1), aviation has now been incorporated (Directive 2003/87/EC), other new sectors such as maritime transportation, aluminium, and the chemical industry sectors might join too (Ellerman et al. 2010 pg 264-285)<sup>13</sup>, and auctions are going to be introduced as the general assignment mechanism (Directive 2003/87/EC).

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<sup>13</sup> Although limiting international emissions makes sense from a scientific point of view, but not political one—no government in the world would be able to enforce such limitation-, it also makes more sense that a state limits the emissions of a certain sector but not those of a complete country (Barrett 2010); The

There isn't an international guide on how to correctly record the Emission Rights because the IASB withdrew the Final Interpretation IFRIC3, which was intended to answer the aforementioned questions on accounting for the Emission Rights<sup>14</sup>.

After the Interpretation 3 was withdrawn in 2005, the IASB decided to complete the projects that were being carried out that involved two of the International Accounting Standards (IAS) used to calculate the Emission Rights (the IAS20 and the IAS37) and then go back to formulate a new interpretation for the emission rights. However, the aforesaid projects have still not been completed and the new interpretation still hasn't been issued.

In 2008 the IASB relaunched the Project on Emission Rights –this time together with the FASB – whereby the following agreements were reached: a) the scope of the project was widened to include not only the EU-ETS but any other trading scheme too, and therefore, the concept of the “emission right” was also elaborated on to include “carbon credit”, in such a way that the latter term includes not only reductions but also emission compensations; b) the Emissions Trading Scheme was defined as being an agreement to improve the environment, in which the participants might be expected to give a certain amount of tradable rights that are directly or indirectly linked to their effect on the environment to an administrator; c) the need to produce a standard that covered matters like recognising assets, valuation and impairment, recognising liabilities and their value, when to recognise losses and earnings, how to enter rights in the accounts according to their emission year and the presentation in the Accounts Statements was highlighted; d) it was decided that the new project should cover all types of tradable rights and possible trading schemes - that is, it had to cover both the schemes based on the main cap and trade system in Europe, and also the baseline and credit systems, the credit obtained through the Clean Development Mechanism (CDM) projects and even the certificates obtained by companies in the electric power sector for using renewable energy -; e) and finally it stated that the project must cover those emitting Greenhouse Gas that take part in these Schemes and the other agents that want to take part in it just as buyers or sellers of the tradable rights in a regulated market.

In subsequent meetings (March 2009)<sup>15</sup> the best model to recognise the initial accounting of the so-called tradable offsets under a cap and trade scheme was determined, although the analysis of the subsequent accounting of these “emission rights”, and the accounting of such under other trading schemes (such as the baseline and credit, for example) were dealt with later on. This analysis used the term tradable offset instead of emissions allowances (emission rights) which was commonplace, arguing that the instrument itself did not authorise anyone to release emissions, but rather it could be used to compensate for such. If these tradable offsets were assigned to a facility free of charge, they would then be called issued offsets.

The conclusions of these first meetings can be summarised in the following points: the rights comply with the definition of asset, they comply with the recognition criteria and they must be initially valued at the fair value. Once the company has

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potential of the sectoral approach within the scope of a Post-Kyoto international agreement is discussed by Sawa (2010).

<sup>14</sup> When academic and professional associations rejected this, the European Financial Reporting Advisory Group (EFRAG) got together to advise the European Union not to adopt this interpretation due to the distortions that it would produce in the Balance sheets and the Profit and Loss accounts of the companies involved. The reasons are explained hereinafter.

<sup>15</sup> Agenda Paper 13B of the IASB

received the emission rights (issued offsets) a liability must be recognised, insofar as the company must return the corresponding rights to cover the emissions released<sup>16</sup>.

In any case, the standard emitters should ask themselves whether it is reasonable that a company recognises emission rights as earnings and profits when they have been assigned by a governmental agency free of charge. Indeed, recognising such benefits would be contrary to the very basis of the cap and trade system, as the trading scheme is intended to cut down on emissions by charging emitters for what they emit. The governments do not give companies rights free of charge so that they can make a profit (that is why they are given less rights than what they need to cover their emissions). In fact, the companies make profits as long as their emissions are less than the amount of rights they were assigned, which therefore gives them an economic incentive to actually cut down on their Greenhouse Gas emissions.

Before going on to discuss the proposal from the IFRIC and the alternative models that have been created in the accounting profession up to now, the fact that this diversity is partly justified by the standards themselves should be understood.

Indeed, the fact that companies which are subject to a NAP can apply different interpretations to the same economic event, or even use American standards when they should abide by those set by the IASB, is justified by applying the IAS8 accounting policies, changes in the accounting estimates and errors. Point 10 of the aforesaid International Standard, states that “In the absence of a standard or interpretation that specifically applies to a transaction, other events or conditions, the leadership must use this trial in the development and implementation of a policy, to provide information that is: (a) relevant to the needs of economic decision-making by users; and (b) reliable in the sense that the financial statements: (i) produce a credible financial position, financial performance and cash flows of the entity; (ii) reflect the economic substance of the transactions, other events and conditions, and not merely their legal form; (iii) are neutral, that is, free from prejudice or bias; (iv) are prudent and (v) are complete in all material respects”<sup>17</sup>. In particular, the use of the American rules established by the FERN<sup>18</sup> codified in the USOA<sup>19</sup> 101.21 as described hereinafter.

There is something similar in the American standard when the SFAS<sup>20</sup> 162/ASC 105-10-05 allows for other accounting standards to be used whenever the US GAAP’s<sup>21</sup> do not provide a suitable standard.

### 3.1. - *The IFRIC option*

The IASB still believes that the IFRIC’s approach, which will now be discussed in detail, is the best existing interpretation of the current standards. However, after it was withdrawn very few companies continued to follow its guidelines, one reason for this is

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<sup>16</sup><http://www.iasplus.com/interps/ifric003.htm#withdraw>

<sup>17</sup> Point 11 also states that by conducting the trials described in paragraph 10, the address must refer, in descending order, to the following sources at the time to consider its applicability: (a) requirements and guidelines set forth in the Rules and Interpretations dealing with similar issues and related; and (b) definitions, as well as the requirements for recognition and valuation, for assets, liabilities, income and expenditure in the Framework. Point 12 states that by conducting the trials described in paragraph 10, management may also consider more recent pronouncements of other institutions, rules, employing a similar conceptual framework to issue accounting standards, as well as other accounting literature and accepted practices in the different sectors activity, to the extent that they do not conflict with the sources mentioned in paragraph 11.

<sup>18</sup> Federal Energy Regulatory Commission.

<sup>19</sup> Uniform System of Accounts.

<sup>20</sup> Statement of Financial Accounting Standards.

<sup>21</sup> United States Generally Accepted Accounting Principles.

the volatility that it creates in the Profit and Loss Account (Lovell et al. 2010). This volatility arises from the asymmetric entry in the Balance sheet and the Profit and Loss Accounts of operations to be carried out in compliance with the application of aforesaid established standard as described hereinafter.

The guidelines that were put forward in this document were as follows:

1. - The rights should be entered as intangible assets and recognised in the financial statements in accordance with the IAS38, regardless of whether they are assigned by the government or bought.
- 2.- When the rights were assigned to a company by the Government of the corresponding country (or by a governmental agency) for less than their fair value, the difference between the amount paid, when appropriate, and the fair value must be considered as being an official grant that will be entered into the accounts in accordance with the IAS20.
- 3.- The rights are not classified as being inventory as they are considered to be non-inventoriable, or as financial assets, because they do not comply with the definition given by the IAS32 to be classified as such.
4. - Although the rights had to be initially valued according to their fair value, it was later possible to choose between a cost model and a revaluation model. In the latter case, the fluctuations in the market value of the rights held in general had to be recognised in the company's equity, which ruled out transferring them to the Profit and Loss account.
5. – As for the rights assigned free of charge by a governmental agency, these will have to be considered as a grant that must be accrued as earnings according to the emissions released. These earnings will be calculated according to the value of the rights when they are first assigned, and this must be recognised in the profit and loss account regardless of whether the company keeps the rights in the Balance sheet or they have been sold.
6. - As a company released emissions, a provision had to be recognised, given the obligation to return the rights in accordance with the IAS37. As for quantifying this, it had to be given the same value as that of the market value of the rights needed to cover the real emissions produced.
7. - Finally, the rights could not be amortized according to the systematic loss in value, regardless of any corrections made due to impairment that could affect them.

Criticism of this interpretation focused on the imbalance that it produced in the Annual Accounts, as the subsequent fluctuations in the market value of the rights held (assets) had to be recognised in the company's equity, whilst the value fluctuations of the obligation associated with having such rights (that is, the provisions) had to be recognised in the Profits and Loss accounts, regardless of whether the cost or revaluation model was chosen, as both were allowed in the IAS38<sup>22</sup>.

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<sup>22</sup> Indeed, the EFRAG is one of the main organisations that has opposed the interpretation of the IFRIC, stating the disadvantages –it did not show the true and fair image due to the asymmetrical recognition of value changes of assets and liabilities– which would mean accepting an interpretation that had been adopted by the IAS 20, 37 and 38 that could not be counterbalanced by the advantages –accepted guidelines on accounting for emission rights– that would be obtained with the new interpretation on how to enter the emission rights into the accounts.. Specifically « *it is contrary to the 'true and fair principle' set out in Article 16(3) of the Council Directive 83/349/ECC and Article 2(3)*

As aforementioned, few companies recorded their EUA operations pursuant to this interpretation which has resulted in a wide range of alternatives being used (PWC, 2007 and Lovell et al., 2010) that obviously have raised doubts about the desired comparability of the financial information (Bilbao et al. 2009, Cook 2009, Veith 2009). It should not be forgotten that this interpretation of the IFRIC includes two different applications according to the alternatives that the IAS 38 currently provides. Regardless of how they are acquired (purchase or free assignment), initially, the rights must be valued pursuant to their fair value as established by the IAS38, as they are considered to be intangible assets<sup>23</sup>. In terms of free assignments by means of the National Allocation Plans, the offset will be a grant, in compliance with the IAS20<sup>24</sup>, which is accrued in the results.

However, the two alternatives differ in terms of the subsequent valuation, which is understood as being any possible changes in value that these elements of equity might be subject to from when they are purchased until the date of the closing balance sheet, regardless of whether they have been bought or assigned by a NAP. Indeed, the IAS38 provides two valuation methods:

- Acquisition cost method: after its initial entry, an intangible asset will be valued at its acquisition cost minus the cumulative amortization and the cumulative value of loss due to impairment.
- Revaluation model: after its initial entry, an intangible asset will be valued by taking into account any revaluation that could affect the right, that is, its fair value, on revaluation, minus the cumulative amortization, and the cumulative value of any losses due to impairment that it might have been subject to. To establish the total amount of the revaluations, the fair value is determined by referring to an active market.

Finally, for both alternatives, as the company produced emissions, a provision had to be recognised, given the obligation to return the rights, pursuant to the IAS37, provisions, contingent assets and liabilities. In order to quantify this provision, it had to be in line with the market value of the rights needed to cover the emissions that were really being produced.

Undoubtedly, this interpretation was never implemented due to the disparity it produced in the Annual Accounts, because whilst the subsequent fluctuations in the market value of the rights held (assets) had to be recorded in the company's equity, the value fluctuations of the obligation associated with holding such rights (that is, the provisions) had to be recorded in the Profit and Loss Account.

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*of Council Directive 78/660/ECC; and it does not meet the criteria of understandability, relevance, reliability and comparability required of the financial information needed for making economic decisions and assessing the stewardship of management » Vid. The EFRAG's opposition to the IFRIC 3 at <http://www.iasplus.com/efrag/0505ifric3endorsementadvice.pdf>*

<sup>23</sup> Fair value is understood as being the market value of the emission rights, that is, their value on the day that the operation is carried out (either assignment, surrender, purchase, etc.) as this is the price in an active market (The Stock Market) in which homogenous goods and products are exchanged, where the interested parties are duly informed, there are buyers and sellers at all times and the prices have been displayed publicly and are affordable.

<sup>24</sup>Point 23 of the IAS 20 establishes that "Government grants may take the form of transfers of non-monetary assets such as land or other resources to be used by the company. In such circumstances, it is customary to determine the fair value of each non-cash and account for both the grant, as each asset by a corresponding fair value. It is sometimes still an alternative procedure consisting of grants and reflects the assets related to amounts symbolic".

### 3.2. - Full Fair Value Model

From an accounting point of view an alternative solution would be to modify the existing IAS38 that would allow for a new class of intangible assets: those whose changes in value are shown in the Profit and Loss Account but not in Net Worth. This proposal is one that the IFRIC has been considering since 2003, although it was never put into practice as the IASB still had to amend the IAS20, and it wanted to tackle both tasks at the same time. This amendment of the IAS20 is yet to be concluded, and this model, known as the full fair value model, that would reduce the aforementioned imbalances, is far from being the perfect solution. Indeed, incorporating a third category of intangible assets in the existing IAS38, such as those valued at fair value with changes in the Profits and Losses, would solve one of the problems: both the assets (the emission rights) and the liabilities (the provisions) would be valued in the entries in a similar way, by using the fair value and then the variations of both would be shown in the Profit and Loss Account. Notwithstanding this, there's still the problem of valuation imbalance between the grant and the provisions, as the former would still be invariable in this model as long as the IAS20 is not amended.

### 3.3. - Models under US GAAP's

In the United States, in the absence of a national emission rights trading scheme-remember that the US did not ratify the Kyoto Protocol-; various regional schemes are being developed according to the states that have adhered to each one of them<sup>25</sup>.

The FASB has not developed a specific standard to enter the Emission Rights operations either, although, thanks to the steps already taken towards future convergence between the IASB standards and those of the American agency, since 2007 both have taken part in discussions on this matter.

Hence, American companies and those that are subject to the IRFS that apply the aforementioned IAS8, currently use the Uniform System of Accounts published by the FERC in 1993 as their reference. It was developed for industries that were part of the Acid Rain Program (USOA 101.21)<sup>26</sup>. The key points of this guide are as follows: the emission rights are accounted according to their acquisition cost and are amortized according to their use, and only insofar as they are bought, that is, the rights that are assigned free of charge are not entered in the balance sheets. In this way, only the rights that are held for speculative purposes are recorded (entered into the accounts as investment), either because the total emissions were more than the rights held (entered into the accounts as inventory) and more rights have been bought for compliance purposes. If the company has fewer rights than what it thought it needed to cover its emissions, it has to enter a liability for the missing rights at the current market price. Therefore the profit and loss account is only seen to be affected if the company has to buy extra rights, so expenditure differs according to the length of time that these rights are going to be used. When this solution is used there's a risk of imbalanced accounts-assets measured by the acquisition cost and the liability measured according to the

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<sup>25</sup> For more details consult the U.S. Environmental Protection Agency (EPA) <http://www.epa.gov/climatechange/emissions/ghgrulemaking.html>

<sup>26</sup> The text can be consulted at <http://law.justia.com/cfr/title18/18-1.0.1.3.32.html>

market value –. This is minimal however and it only exists when a company buys rights because it does not have enough to cover the emissions released.

#### **4. - The conceptual framework in contrast to the accounting alternatives and recording carbon units.**

Various studies have, up to now, analysed the impact of the EU-ETS on the financial statements from an academic point of view (Bebbinton & Larrinaga 2008, Bilbao et al. 2009, Cook 2009, MacKenzie 2009, Veith 2009) and also from a professional point of view (PWC & IETA 2007, Lovell et al. 2010, Deloitte 2011). They have all pointed out that under the current IFRS there is a lot of undesirable instability in the profit and loss accounts due to the asymmetrical application of the fair value in asset (the emission rights) and liabilities entries (the provision arising from the obligation to surrender).

In view of these studies, the proposals under analysis cannot be separated from the Conceptual Framework of Accounting. Indeed, the Conceptual Framework is where the qualitative characteristics of financial information are defined, which is why, in the interests of giving a real idea of the operations carried out by a company within the scope of the EU-ETS, the importance of each of these qualitative characteristics should be described in detail.

##### **Understandability**

The information must be presented in such a way that it is easily understood by users that have a reasonable amount of knowledge of economic and business activities and accounting, who are also willing to study the information quite carefully [M.25]. In the framework of the EU-ETS this means that the opportunities and risks-accounting, tax-related, management-related, etc- faced by each different type of company taking part in the scheme and then how these could affect their current and future financial statements must be made very clear.

##### **Relevance**

The information contained in the financial statements is relevant when it influences the users' economic decisions, namely, when it helps them to (a) evaluate past, present or future events concerning the company and (b) by confirming or correcting the evaluations made in the past [M.26-28]. In a world in which there is a tendency to reduce CO<sub>2</sub> emissions, and make it more expensive to emit CO<sub>2</sub>, the energy intensive industries have, once again, become extremely sensitive to price variations, which is why exposing their business to risk and the subsequent impact on their results might influence their decisions considerably. However, they have also had a substantial amount of windfall profits<sup>27</sup> (Egenhofer et al. 2010, Ellerman et al. 2010, PointCarbon, 2008.).

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<sup>27</sup>The windfall profits are produced from the capacity to transfer the cost of the emission right to the end product which is especially noticeable in the industries from the energy sector. These should be cut from 2012 insofar as the free assignments are replaced by grants – Ellerman et al. 2010 pg 320-328) although

Given the case of companies that trade rights from time to time, although this is not a usual part of their business, presenting information on a new business sector could affect how opportunities and risks faced by a company are assessed, regardless of the relative importance of the results obtained by this new segment in the accounting period. It should be made clear that the information is relevant, because if it is omitted or wrongly presented it could affect the economic decisions made by the users that are based on these financial statements.

Accordingly, any standard that is issued on the matter must cover not only the operations carried out by companies that are obliged to take part in the EU-ETS, but also those involved in the carbon market, whether they are brokers, sporadic participants or any other type of agent.

Consequently, we believe that the valuation should in any case use the fair value as a reference.

### **Reliability**

Reliability: (this includes a true and fair image, whereby substance predominates over form, neutrality, caution and integrity), which means that the information is free of significant error, bias and prejudice and it must be in line with what it is intended to convey. Users can be sure that the information conveys the true and fair image [M.31-32].

This is one of the most sensitive features of the operations in the EU-ETS. Many companies choose to enter the rights assigned free of charge in the accounts as having no value, instead of their fair value (PWC & IETA 2007, Lovell et al. 2010). This involves using a net accounting presentation model, instead of a gross accounting model (Veith et al. 2009), which means entering the rights (assets) and the obligations to surrender (liabilities) in the accounts separately. However, any model established on the same premise of having no value would not be compatible with the Conceptual Framework, as some elements in the company are clearly worth something economically although it is not shown in its assets, and therefore the value of the company itself is misrepresented. In fact, the profits obtained from aforesaid free assignment are not shown with this option, they are only shown if the right is sold. This is what happened during the economic recession in 2008, when companies used the rights as an alternative source of market liquidity<sup>28</sup>.

### **Comparability**

Users must be capable of comparing a company's financial statements over time, so as to identify the trends of the financial situation and the results of such. They must also be able to compare the financial statements of the different companies, so as to evaluate their financial position, their results and the cash flow in relative terms [M.39-42]. The comparability between and within companies might be affected by the current transition between State assignments in a NAP and auctioning. Moreover, not all the companies are faced with the same conditions in terms of the number of rights that they will

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De Bruyn et al. (2010) believe that the energy intensive industries will continue to receive windfall profits, due to the low percentage of rights assigned by means of auction.

<sup>28</sup> According to data from Sendeco2 (<http://www.sendeco2.com>), in the case of Spain 25 million tonnes of CO2 rights were sold, which would be worth the equivalent of more than 450 million euros.



receive free of charge. A great deal of care must be taken when entering the rights in accounts when rights that have been assigned free of charge and others that have been bought in auction out of necessity, not for trading purposes or to comply with future obligations to surrender, are both entered into the accounts.

Financial accounting, as a basic corporate and investment decision making tool, must, among other things, provide accurate and clear information on the cost of carbon. Having analysed the qualitative characteristics we will now go on to see whether such objective can be attained by means of the current IFRS, or whether they can be improved in view of introducing a new standard.

#### Accounting nature of the rights

The fact that an Emission Right is not exactly a right to emit Greenhouse Gases should be considered, as the emitter does not have to hold aforesaid rights when the CO<sub>2</sub> is released into the atmosphere. In this sense, they are not a type of official authorization. A company must have them in its Balance sheet on the date that the rights are handed over, or it will be faced with a fine of 100 Euros per tonne of gas emitted if it does not hold the corresponding right (of course, paying the fine does not free the company from its obligations to buy the rights that are missing).

Having said that, regardless of the method used to acquire the rights, in principle— there are two possible classifications for this asset, intangible assets or inventory, both have enough basis to be considered. Obviously the option to classify them as financial assets must be ruled out as they do not comply with the definition given by the IAS32<sup>29</sup>.

According to the definition of Inventory in the IAS2, the special way in which the inventory held by intermediaries that trade them is processed must be taken into account, so that if they are valued according to the net fair value of the sale price, the changes in this fair value must be entered in the results of the financial year (IAS2.3. (b)). Classifying the rights as inventory was advocated by the FERC, USOA, 1993 in the sense that they are a key element in the production process (as in the case of refineries, for example), and therefore must be treated like any other type of inventory. Nevertheless, this does not tie in with the Conceptual Framework of the IFRS. In fact, the characteristics of the right itself mean that they can easily be considered as intangible assets, like a non-monetary asset without physical substance. Notwithstanding this, amortizing these must be ruled out because the company does not have to emit the same volume of pollution every year that each NAP is in force, which is why the amortization rate would not be constant. Furthermore, if at any given time, the company did not emit gases, it would not be using the rights, and therefore, they could not be amortized. Accordingly, in view of the lack of a systematic depreciation process for this fixed asset, amortization must be ruled out, regardless of other valuation changes that could affect it. However, as amortization must be calculated on the

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<sup>29</sup> IAS32.11: A financial asset is any asset that is: (a) Cash; (b) an equity instrument of another entity; (c) a contractual right: (i) to receive cash or another financial asset from another entity, or (ii) to exchange financial assets or financial liabilities with another entity under conditions that are potentially favourable to the entity or (d) a contract which is or may be settled using equity instruments of the entity itself and is: (i) a non-derivative, where the entity would or could be required to receive a variable amount of own equity instruments, or (ii) a derivative that is or could be settled otherwise than by means of an exchange of a fixed amount of cash or another financial asset for a fixed amount of the equity instruments of the entity itself.

difference between the acquisition price/cost and the residual value and as the residual value of the rights is precisely its market value, in terms of free assignments this amortization would be calculated on a zero or even negative base, which would justify it not being calculated (Bilbao et al. 2009).

### *Initial valuation of the rights*

There is a lot of debate about the Conceptual Framework of the IASB in terms of how the rights are initially recorded. This is mainly due to the NAP free assignments, and their undeniable role in generating windfall profits – particularly in the energy sector- (Fornaro et al. 2009). Although it is common practice in accounting to record the rights received free of charge as having no value, we believe this option should be ruled out. The IFRIC3 already rejected it even if it was a valid option in the IAS20. Indeed, valuing something at zero that clearly does have a value on the market goes against the true and fair view principle as it does not fully represent all the resources that the entity holds. Furthermore, profit made from free assigned rights that are considered to have no value would only become evident once the company has sold these rights and for an amount that coincides with the sale price. Finally, it would prevent companies from different sectors being compared because not all of them have received or will receive rights assigned free of charge or receive the same amount of rights in Phase III. It might even prevent companies from the same sector being compared, for example, from the electricity sector. Although the countries that joined the European Union in 2004 and in the following years are not going to be assigned rights free of charge in Phase III they will receive what is known as transitorial free allocation<sup>30</sup>.

The alternatives available for a company for such entry are analysed: the cost price or the fair value.

Using the cost price means that the rights that were assigned free of charge by the State have no value, whilst those that are acquired either on the market or by means of auctioning are valued at the price paid which is adjusted according to the expenses involved in carrying out the transaction. In this case it seems logical that the two groups of rights are separated in the entries (given their different initial nature), and the company will have to use some type of valuation method –weighted average cost or FIFO (First In, First Out)- when these rights are sold or used. However, there are certain problems when applying this method as the company can buy the rights belonging to different “vintages”, that is, the first year in which they can be used is determined and therefore they are a different class of rights. Moreover some of these “vintages” might be used before or after the compliance period that they were issued for (if banking or borrowing is allowed), and finally, some rights can be obtained by means of converting CER’s thanks to the Linking Directive. This means that the company must record each type of right that it has and what it is worth separately at all times. In mature markets, the correlation between the prices of the same type of commodity that has to be handed over on different dates shows the true characteristics of the commodity that is being traded, so this correlation between prices is like a reasoning test on the market itself (Ellerman et al. 2010, pg; 146). This reasoning must be conveyed in the financial

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<sup>30</sup> In general, from 2013 the electricity sector will have to obtain its emission rights through auctions. However, there is an exception, namely for power plants that are already up and running or for which investment was already made before the 31<sup>st</sup> of December, 2008, in Bulgaria, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland and Romania. This does not apply to new plants so as to avoid competitive distortion in the European electricity market.

statements by means of an understandable, complete and comparable accounting entry process.

As an alternative to the cost, the company can use the fair value. In this case, all the rights held by the company that have either been assigned free of charge or have been bought on the market or through auctioning are valued at the market price on the day that they are entered in the Balance sheet. In this case, with regard to the rights bought, whose offsetting entry will, in the majority of cases, be a cash outflow, its entry and valuation are clear. The net price paid out in terms of expenditure will be the valuation. If the company decided to record the right as an intangible asset it would not affect the profit and loss account. In contrast, for those that have been received free of charge the offsetting entry is not obvious. When the interpretation of the IFRIC is used such offsetting entry is a grant, therefore as a result of the accrual process, the company will enter an earning in its profit and loss account at the end of the year for an amount that is equivalent to the tonnes of CO<sub>2</sub> released, that is valued at the price that the right was given on the day it was assigned to the company. The alternative would be to use a liability, for example, State debt, whereby the rights have to be returned and would therefore not have the aforesaid effect.

In any case, if the initial valuation of the rights is going to be included in the scope of the Conceptual Framework, they must only be valued at the fair value, rather than being considered as having no value. In turn the grant will also be entered according to the fair value of the assigned rights.

#### *Subsequent valuation of the assets and their offsetting entries.*

Having recorded the emission rights in the Balance sheet, their value might change later on up to the close of the financial year. The possible alternatives are to accept the fact that the company's assets convey this revaluation of the rights or keep them constant, that is, use a revaluation or cost model. In the first case, the question is where these value variations should be shown: in the profit and loss account or as variations of the reserves. Applying the IAS38 means that if the book value of an intangible asset is increased due to revaluation this increase will be recognised in equity. However, the increase will be recognised in the results of the financial year insofar as it involves offsetting a decrease due the devaluation of the aforesaid asset that was previously recognised in the earnings. Nevertheless, when the book value of an intangible asset decreases as a result of revaluation, this decrease will be recognised in the results of the financial year. However, the decrease will be recognised in equity insofar as there is a credit balance in the revaluation surplus for this asset.

Even so, it seems that it is common practice to use the well known Full Fair Value (PWC and IETA 2007, Lovell et al. 2010). Notwithstanding this when aforesaid solution is used, the emission rights that are recognised as intangible assets are revalued through the profit and loss account, regardless of whether the fair value has increased or decreased.

Yet, if the standard is to include the operations carried out by the companies that are subject to the EU-ETS and the traders, a different revaluation process should be specified for each of them. Those that are subject to the scheme would continue to use the cost or revaluation model as established in the current IAS38, but only the revaluation model should be applied by the others by entering the fair value changes in the Profit and Loss Account.

#### *Recognising the liability*

Obviously the company that emits CO<sub>2</sub> incurs a liability, because it has to return all the corresponding rights to the State to cover the tonnes of gas that it has emitted. What really arouses controversy is when should such provision be recorded and how it should be calculated. With regard to the date, the alternatives range from entering it as soon as the right assigned free of charge is received, or when the company emits the CO<sub>2</sub>. From a legal point of view, we believe the latter to be the most appropriate. As for calculating or estimating the provision, ideally, if the company has emitted less than the amount assigned, the liability is valued according to the value of the rights received. Any surplus rights –if there are any- can be sold on the market.

The problem arises when the company does not have enough rights to cover the emissions released throughout the period, because it has to cover the future outflow of funds that will be incurred to comply with the obligation to surrender. Making a rather sophisticated calculation of this provision might result in this element being entered in the Annual Accounts, which is why it should be paid special attention. We use the solution provided by the IFRIC3, which has been adopted by other accounting regulators as in the case of the Institute of Accounting and Accounts Auditing –ICAC in Spain, or hybrid solutions that might be questioned from a methodological point of view (Deloitte, 2011).

According to the IFRIC3, the provision must be calculated by multiplying all the rights needed to cover the emissions released by the market price on the day that the provision was entered in the Balance sheet. This is assumed to be the ideal solution together with the revaluation model of the IAS38, as both the assets and the liabilities are valued at the fair value. In contrast, when combined with the cost model, the solution provided by the IFRIC3 causes a lot of imbalance between the asset valuation –the rights held- and the liability valuation-the provision- (Bilbao et al. (2009)).

Other alternatives provided by other accounting regulators, including that of the Institute of Accounting and Accounts Auditing- ICAC in Spain, suggest that the provision is made up of two parts: the first concerns the rights held by the provision that are valued using the value in the Balance sheet of such units, the second concerns the rights which are missing that will be valued according to the market value on the day that the provision is recorded<sup>31</sup>. This solution would be appropriate when using the cost model for the subsequent valuation of the rights (both those assigned and those bought), as the company only has to estimate the cost for compliance purposes by means of the provisions for the excess emissions that are not covered by the rights held by the company.

## **5. - Conclusions**

The absence of an international standard on accounting for Emission rights has resulted in numerous different accounting policies that have distorted both the objectives of the IFRS and the objective of the carbon trading scheme itself. On one hand the homogeneity, comparability and the reliability of the financial information on the

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<sup>31</sup> Logically, if the company has future purchase contracts of rights at a set price, this price will be used to calculate the provisions instead of the market price.

operations carried out in this market and on the other hand its effectiveness with regard to its capacity to identify the real cost of reducing emissions.

This paper has pinpointed the weakness of the initial interpretation given by the IASB, the alternatives adopted by companies, and it has come up with a solution, namely the guidelines that future accounting standards should always follow in accordance with the Conceptual Framework.

The definitive solution for the accounting standards adopted by the emitters must provide for the accounting change that will involve the systematic use of auctioning as an assignment mechanism from 2013. This new mechanism involves, among many other things, providing an accurate and reliable value of the asset in the Balance sheet as the free assignments are phased out and the rights now have to be paid for. This removes all doubt about calculating the fair value of the assets assigned by a governmental agency in terms of the diversity of the market, dates and available products, and it gives the Annual Accounts the reliability and accuracy needed to be able to eliminate one of the sources of uncertainty detected. It is worthwhile asking whether it would be possible to apply the value obtained in the last auction to the other rights assigned free of charge as a fair value reference. In turn, it means that the accrual of grants would gradually disappear and therefore the impact on the received assignment would be transferred over to the Profit and Loss Account via earnings, as a company has now paid for these rights, offsetting the entry of the new asset (intangible or financial) with a perfectly quantifiable cash outflow.

Only the provision arising from the obligation to surrender rights according to the emissions released will continue on in the same way, although the reference price could be established on the prices of future auctions or the secondary market. Moreover, the amortization of rights bought through auctioning is no longer appropriate, given the underlying principle of the unsystematic loss of value and the remaining nonlinear emissions, whereby calculating impairment under the circumstances established in the IAS36 for this is viable in any case.

Whilst we await the opinions of the IASB, it is still possible to come up with different accounting and entry alternatives for carbon units, which are either recorded as emission rights – bought through auction, through the secondary market, assigned free of charge – or as emission reduction certificates, which makes the need for an international standard even more imperative given the implementation of auctioning in the near future.

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## ANNEX

**Table 1: Carbon Market Evolution, values (\$ billion), 2004–2010**

	EU ETS Allowances	Other Allowances	Primary CDM	Secondary CDM	Other Offsets	Total
<b>2005</b>	7,90	0,10	2,60	0,20	0,30	11,00
<b>2006</b>	24,40	0,30	5,80	0,40	0,30	31,20
<b>2007</b>	49,10	0,30	7,40	5,50	0,80	63,00
<b>2008</b>	100,50	1,00	6,50	26,30	0,80	135,10
<b>2009</b>	118,50	4,30	2,70	17,50	0,70	143,70
<b>2010</b>	119,80	1,10	1,50	18,30	1,20	141,90

Sources: World Bank, Thomson Reuters Point Carbon, Bloomberg New Energy Finance and Ecosystem Marketplace.  
Note: Numbers may not add up due to rounding.

**Table 2: Products offered by various climate exchanges**

Exchange	Country of operation	Continuous Exchange Trading													Auctions	OTC Clearing
		Spot			Futures			Forwards		Options			Swaps			
		EUA	CER	ERU	EUA	CER	ERU	EUA	CER	EUA	CER	ERU	CER / EUA			
ECX/ICE	UK	√	√		√	√	√			√	√	√			√	
Bluenext	France	√	√	√	√	√							√	√	√	
EEX	Germany	√			√	√				√				√	√	
NASDAQ OMX	Norway	√	√		√	√		√	√	√	√				√	
Green Exchange	USA				√	√				√	√				√	
Climex	The Netherlands	√	√	√										√		

Source: COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL Towards an enhanced market oversight framework for the EU Emissions Trading Scheme, Brussels 21.12.2010 COM(2010) 796final.





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