The existing models of Carbon Accounting in Europe

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This document proposes a summary of existing environmental disclosure regulation and accounting standards for emission rights (carbon accounting) inside Europe. Given the request for listed companies to comply with IAS/IFRS, background of the project by IASB is a starting point.
A main reference used in this document concerning general regulation on environmental disclosure is the database : https://www.carrotsandsticks.net

At the date of February 2017, to our knowledge, the only countries (bodies) that have issued carbon accounting are : IASB (IFRIC 3), France (ANC N°2012-03), Spain (ICAC Resolution 28/5/2013 on intangibles), Italy (Le quote di emissione di gas ad effetto serra Febbraio 2013) and Portugal (FRAS n°26, 2010).

At the end of the document, an appendix displays accounting entries for these models and a preliminary comparison between them (to be discussed and completed).

NB : Other countries have been examined but have not issued specific accounting standards for ER : Denmark, Sweden, Norway, UK. Thus, they are excluded of the present document.

1. IASB

1.1. IFRIC D1

In May 2003, IASB issued an exposure draft on Emission Rights, that constitutes the first attempt to account for allowances.

Allowances, whether allocated by government or purchased, are intangible assets that shall be accounted for under IAS 38 Intangible Assets.
Allowances that are allocated for less than fair value shall be measured initially at their fair value. Allowances shall not be amortized but may be impaired.
Where allowances are allocated for less than fair value, the difference between the amount paid and fair value is a government grant that shall be accounted for under IAS 20 Accounting for Government Grants and Disclosure of Government Assistance.
Accordingly, the grant is initially recognized as deferred income in the balance sheet and subsequently recognized as income on a systematic basis over the compliance period for which the allowances were allocated.
As emissions are made, a liability is recognized for the obligation to deliver allowances equal to emissions that have been made. This liability is a provision that falls within the scope of IAS 37 Provisions, Contingent Liabilities and Contingent Assets. The liability is settled by delivering allowances, incurring a penalty or a combination of both. The liability shall be measured at the best estimate of the expenditure required to settle the present obligation at the balance sheet date. This will normally be the present market price of the number of allowances required to cover emissions made up to the balance sheet date. However, if the participant's best estimate is that some or all of the obligation will be settled by incurring a cash penalty, it shall measure that part of its obligation at the cost of the penalty rather than at the market price of the relevant number of allowances.
The existence of an emission rights scheme may cause certain assets to become impaired if the cash flows expected to be generated by those assets are reduced as a result of the scheme.

1.2. Projects on the agenda after IFRIC3 (source : Project news archive of IASB)

The IASB added the emissions trading scheme project to its agenda in October 2005. The IASB reactivated work on the project in December 2007. Among the reasons for adding the topic to the agenda, the IASB noted the increasing international use (or planned use) of schemes designed to achieve reduction of greenhouse gases through the use of tradable permits. It also noted that there was a 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.
Before discussions on this topic were deferred in November 2010, the IASB and the FASB had made tentative decisions on some of the main issues in the project, including the recognition of assets and liabilities when the entity receives emission allowances from the scheme administrator for no monetary consideration. However, there are many issues in the project that are yet to be discussed. In addition, the research project will investigate changes in the nature and use of emissions trading schemes that have arisen in the time since the project was suspended. Consequently, the IASB may also need to redeliberate some issues on which tentative decisions were previously made. (Click here to access all previous IASB updates on this project.) In the meantime, the boards are seeking feedback on the project.

- **December 2009 Meeting summary**

The boards discussed the accounting for emissions cap and trade schemes. The meeting focused on schemes with voluntary participation (voluntary schemes), which involve contracts between knowledgeable and willing parties.

The boards discussed the application to a voluntary scheme of the definitions of an asset and a liability in the FASB Concept Statements and in the IASB Framework. The boards focused their discussion on two views as to when liabilities arise in such a scheme:

- View 1 is that an entity's actual emissions are the obligating event in a voluntary scheme. An entity does not incur a present obligation, and hence a liability, until it has emitted. Until emissions have occurred, the entity can take action that enables it to avoid delivering allowances.
- View 2 is that entering into the membership contract is the event that creates a liability (the obligating event). By signing the membership contract, the obligation to pay allowances is unconditional.

The staff did not ask the boards to make any decisions at this meeting, but did seek advice as to which view had the stronger initial support. Both boards indicated a preference for view 2.

Next steps

The boards will discuss accounting models for emissions trading schemes (both voluntary and statutory) at a meeting in the first quarter of 2010.

- **IAS 37 Provisions, Contingent Liabilities and Contingent Assets: Measurement of liabilities arising from emission trading schemes : 14 February 2014**

In September 2013, The Interpretations Committee received a request to clarify the measurement of a liability under IAS 37 Provisions, Contingent Liabilities and Contingent Assets that arises from an obligation to deliver allowances in an emission trading scheme.

The request asked if the measurement of the liability for the obligation to deliver allowances should reflect current values of allowances at the end of each reporting period if IAS 37 was applied to the liability. The request noted that this was the basis required by IFRIC 3 Emission Rights, which was withdrawn in June 2005.

The Interpretations Committee noted that when the IASB withdrew IFRIC 3, it affirmed that IFRIC 3 was an appropriate interpretation of existing IFRS for accounting for the emission trading schemes that were within the scope of IFRIC 3. However, the IASB acknowledged that, as a consequence of following existing IFRS, IFRIC 3 created unsatisfactory measurement and reporting mismatches between assets and liabilities arising from emission trading schemes.

In 2012, the IASB added to its agenda a research project on the accounting for emissions trading schemes. The Interpretations Committee noted that one of the main issues in the IASB's project on emission trading schemes was whether the accounting for the liabilities arising from emission trading schemes should be considered separately from the accounting for the assets. Consequently the Interpretations Committee noted that it would be difficult for it to provide an interpretation of IFRS on the measurement of a liability arising from the obligation to deliver allowances without also considering the accounting for the allowances.

On the basis of the analysis above, the Interpretations Committee [decided] not to add this issue to its agenda because this issue is too broad for it to deal with.

22 May 2014 : The Interpretations Committee decided not to add the issue to its agenda

2. European commission

2.1. European Directives and recommendations

- **Commission Recommendation 2001/453/EC:**

"The European Commission adopted a Recommendation on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies based in the EU. The Recommendation clarifies existing EU accounting rules and provides guidance to improve the quality, transparency and comparability of environmental data available in companies' annual accounts and annual reports. The Commission argued that the lack of a common set of rules and definitions means that environmental information disclosed by companies is often inadequate and unreliable. This made it difficult for investors and other users of financial statements to form a clear and accurate picture of the impact of environmental factors on a company's performance, or to make comparisons between companies". (CARROTS & STICKS)

- **2003/87/CE European Directive (13 october 2003) that creates the system of ER**

- **Directive 2003/51**

"Directive 2003/51 (the 'Modernisation Directive') amended the Accounting Directives and added that European companies are required to also include non-financial information in their annual and consolidated reports, if it is necessary for an understanding of a company's development, performance or position. Such reporting should include environmental and employee matters and key performance indicators, where appropriate (consistent with Commission Recommendation 2001/43/EC). Member States may choose to exempt small and medium-sized companies (SMEs) from these non-financial reporting obligations. Another amendment of the Accounting Directives (Directive 2006/46) introduced an obligation for listed companies to include a corporate governance statement in their annual report. By 2010 all Member States transposed the Accounts Modernisation Directive and most of the Member States transposed Directive 2006/46 in national laws."

- **2009/29/UE European Directive improving the system of ER**

- **Directive 2014/95/EU of the European Parliament and of the Council of 22 October 2014 amending Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups**

"In December 2014, the European Union (EU) adopted Directive 2014/95/EU on disclosure of non-financial and diversity information by certain large undertakings and groups which amends the Accounting Directive 2013/34/EU. The Directive requires public-interest entities (PIEs) in the EU with more than 500 employees to include in their management report a non-financial statement containing information on their policies, main risks and outcomes related to as a minimum: environmental matters, social and employee aspects, respect for human rights, anticorruption and bribery issues. The Directive provides the possibility for Member States to exempt public interest entities from disclosing the required non-financial information in the management report if they have already provided this information in a separate report.
Company in the scope are offered with a list of frameworks to refer to: the Eco-Management and Audit Scheme (EMAS), or international frameworks such as the United Nations (UN) Global Compact, the Guiding Principles on Business and Human Rights implementing the UN 'Protect, Respect and Remedy' Framework, the Organisation for Economic Co-operation and Development (OECD)

Guidelines for Multinational Enterprises, the International Organisation for Standardisation's ISO 26000, the International Labour Organisation's Tripartite Declaration of principles concerning multinational enterprises and social policy, and the Global Reporting Initiative (GRI). PIEs definition under EU law covers listed companies, banks, insurance undertakings and other companies that are so designated by Member States. In that regard, the scope of the Directive varies across the 28 EU Member States. While some Member States have defined PIEs by including only those entities covered by the Directive which are listed companies, banks and insurance undertakings, others have opted to extend the scope and include a broader list of entities such hospitals and even municipalities. In addition the Directive on non-financial reporting stipulates that public interest entities listed on an EU regulated market should provide information on their diversity policy applied to their administrative, supervisory and management bodies.
The European Commission, the initiator of the legislation, has estimated that the new rules will apply to more than 6000 companies across the European Union. The EU Member States have to transpose the new rules stemming from the Directive into national law by December 2016 and we expect the first reports containing the prescribed non-financial information to be prepared for the 2017 financial year. At the moment of the writing of this Report only a few Member States have transposed the Directive into national law and most of the Member State are in the process of drafting legislation bringing in compliance their national laws with the new EU rules."(CARROTS&STICKS)

2.2. EFRAG

- **Emissions Trading Schemes : Draft Comment Paper, 2013**

EFRAG launched a comment paper, following the issuance by the French standard setter "Autorite des Normes Comptables (ANC)" of the paper 'Accounting of GHG Emissions Rights Reflecting Companies' Business Models, in May 2012

3. France

3.1. The Law on New Regulations in Economics (NRE 2001)

Date of Issue : 15 May 2001

Reference : article L.225-102-1 of Com code.

3.2. The Application Decree of Law NRE

Date of Issue : 20 February 2002

Content : All listed companies are required to disclose 9 items on their social impacts of activity and 9 items on their environmental impacts in the management report. It is specifically required to provide information about "*the expendidures to prevent from consequences of activity on environment*", "*the amount of environmental provisions*", and "*the amount of indemnity in case of a trial related to environmental damage*".

Reference : Decree n°2002-221

Empirical study : (Chauvey et al. 2015)

3.3. The Law Grenelle 2

Date of Issue : July 2010

Reference : Article 225

Empirical studies : (Delbard 2008; Chelli, Richard, and Durocher 2014)

3.4. The Application Decree of Law Grenelle 2

Date of Issue : 24 April 2012

Issued by : Ministery of Justice and Liberties

Content : The decree is related to transparency requirements of companies in their social and environmental aspects. All listed companies and companies with more than 100 M€ of revenues and 500 employees are concerned after 31/12/2013. The Decree introduces in France the "comply or explain" principle. 42 items are required (more detailed than Law NRE 2001). It is required to provide information related to climate change and specifically quotas GES discharge (rejets?). It is also required to provide information about the means dedicated to prevent pollution and environmental risks. The decree also introduce the requirement of assurance of these information starting from after 31/12/2011 for listed companies and after 31/12/2016 for non listed companies.

Reference : Decree 2012-557

3.5. Articles L.229-5 and R.229-5 and s. of Code for Environment

Following the ETS Directive, companies with more than 500 employees have to make a balance sheet of ER, and to explain what they do to limit them.

3.6. Règlement ANC n° 2012-03 : Carbon Accounting

European directives adopted in 2008 and 2009 have reduced the free allocation of emissions allowances (ER) since 1 January 2013, with auctioning being currently the default allocation method (however, free allocation is still considered for a number of sectors: https://ec.europa.eu/clima/policies/ets/allowances_en). Consequently, the standard ANC n°2012-03 abrogates the CRC n°2004-08, CNC n°2004-C guideline from Emergency Comity and guideline n°2009-R-02 (previous accounting recommendations) since the companies have to purchase ER when needed.

The 2003/87/CE Directive has been transposed into the French code of Environment. According to the French code of Environment, article L. 229-7 : at the end of each civil year during the period of attribution, the GHG emitters has to surrender an amount of emission rights equal to their GHG emissions, whether they are allocated or purchased. They may be purchased either before or after actual GHG emissions. However, companies must purchase them before the deadline for surrendering them to the state.

According to the French accounting body, ER comply with the definition of assets, but not intangible assets. ER may be hold for two objectives :

(1) Production : in that case, the purchase of ER is anavoidable since the company has to comply with obligations towards the State, implying to surrender ER to the State. It is related to the company's operating cycle and increase production costs.
(2) Trading : a company may voluntarily purchase ER with such purchases being a separate trading activity.

ER are an administrative commodity and are booked to inventory accounts. They go out of inventory when they are sold or when the company incurs GHG emissions.

Production Model :

Allocated ER are accounted as inventory at a value of 0. ER may be tracked afterwards with FIFO or ACM. In the case of free allocation, the company does not incur additional production cost. Allocated ER are presumed to be used exclusively in the Production model. ER are used by the company's emissions. ER hold after GHG emissions do not comply with the definition of an asset.

At the closing date, a related liability is recognized if GHG emissions exceed ER that are hold by the company. The liability is valued at the amount to incur for the purchase of ER at this date. The liability recognition date is the ER purchase date.

At the closing date, an asset (inventory) is recognized if GHG emissions are lower than ER hold by the entity. It corresponds to ER available for covering future GHG emissions.

Consequently, at the closing date, a company has an asset or a liability (not both).

Trading Model :

Companies may voluntary purchase emission rights with such purchases being a separate trading activity.

ER are booked at the purchase cost as an inventory. At the closing date, general rules for inventory apply. ER managed under the production model and ER managed under the trading model are measured distinctively.

Increase or loss in value are presented in the operational income.

4. Spain

4.1. General law

"The Sustainable Economy Law 2/2011 of 4 March (SEL hereafter), in article 39, mandates corporations exceeding 1000 employees to publish a sustainability report. More specifically, this law establishes that the 'State Council on Corporate Social Responsibility' (SCCSR hereafter) will recommend for corporations, organizations and public and private entities a set of characteristics and indicators for CSR self-evaluation, as well as a set of reporting models or references in accordance with international standards in this area" (Luque and Larrinaga 2016, p. 57). Luque and Larrinaga (2016) found very little impact in practice of this law because of different problems with its implementation (a new government was less motivated to enforce the law and the SCCSR never implemented the mechanisms to receive the CSR reports).

Article 35 extends this obligation to all state-owned enterprises. Fernandez et al. (2017) have found that this regulation did not have an impact, either.

The transposition of Directive 2014/95/EU on non-financial disclosure is about to be approved.
Decree 163/2014, Carbon Footprint Registry. Spanish Climate Change Office.
Includes information about emissions and offsetting.
http://www.mapama.gob.es/es/cambio-climatico/temas/mitigacion-politicas-y-medidas/Registro-informacion.aspx

4.2. Accounting standard : ICAC Resolution 28/5/2013

ICAC Resolution 28/5/2013 on intangibles regulates the consideration of emission rights for the financial statements Spanish companies not following directly the IFRS endorsed by the European Union, i.e. financial statements of unlisted Spanish companies. This resolution replaces a previous ICAC Resolution (2006) that was issued to deal specifically with emission allowances.

ICAC is a governmental body and its resolutions are strictly enforced.

Being included in a resolution about intangibles, it is obvious that, as a general rule, emission allowances need to be recognized as intangibles. However, the resolution establishes that allowances purchased for sale are to be recognized as inventory.

Emission allowances need to be recognized at cost. If emission allowances are received for free (free allocation) or at a value that is materially below market value, then they have to be registered at fair value.

The difference between cost and the actual compensation (nil for free allowances) has to be recognized as “other comprehensive income” and transferred to the income statement as the expenses associated to emission allowances are recognized.

A liability for carbon emissions is to be recognized as the entity emits pollutants, with an expense registered in the income statement. The measurement of both liability and expense are based on the carrying cost of the asset (emission allowances), which would include the fair value at the entry moment for the emission rights received for free.

Although not specifically addressed in the resolution, a separate presentation of the asset and the liability follows form the application of general rules. This is consistent with the opinion expressed by ICAC in EFRAG’s consultation process.

In summary, the approach is very similar to the IFRIC 3 approach, with the only difference of valuing emission rights for their carrying value (instead of current market value) and recognizing allowances for sale as inventory.

5. Italy

5.1. General law

Decree 32/2007.
Following the EU modernization directive (2003/51EC), Decree 32/2007 regulates the disclosure of employee relations and environmental performance in the directors’ report of consolidated financial statements. Costa & Agostini (2016) contend that this regulation was ambiguous and did not provide companies with clear guidance as to how to comply. Costa & Agostini (2016) surveyed Italian companies and found that Regulation 32/2007 was ineffective because it did increase disclosure quality.

Ministerial Decree of 24 January 2008: Social reporting guidelines for social enterprises.

5.2. Accounting standard : OIC 8 February 2013

OIC – ORGANISMO ITALIANO DI CONTABILITÀ; PRINCIPI CONTABILI
Le quote di emissione di gas ad effetto serra : Febbraio 2013

The Organismo Italiano di Contabilità (OIC) is the Italian standard setter. It provides the national accounting standards used for the preparation of financial statements in accordance with the Italian Civil Code. The accounting standards produced by the OIC are the Italian GAAP.

OIC approved in 2013 a standard on Emission Rights (OIC 8) "Le quote di emissione di gas ad effetto serra" for companies that prepare their financial statements in accordance to the Italian Civil Code.

OIC 8 considers a business model, in which allowances held by companies subject to the EU ETS are assumed to be held to set the obligation and are registered as an expense in the income statement. In the case of allowances obtained for free, OIC 8 establishes that allowances are valued at nil. The rationale for this approach is that granted allowances is an "avoided cost of production" (EFRAG, 22013, paragraph 35) and, therefore, they should impact the balance sheet only for accrual reasons.
Something unusual in this standard is that although it is considered that granted allowances are not to be recognized, an "order" account is created off-balance to recognize allowances. And free allowances are recognized at fair value in these "order" accounts!!

Accruals. At the end of the period, the deficit in allowances (emissions > rights) requires to debit for the balance an expense to the profit and loss account and credit a liability for the same amount. This liability for the deficit is value at the future costs needed to purchase the required allowances. In the same vein, the surplus of allowances requires an accrual adjustment in expenses and liabilities.

As for those companies not regulated by the EU ETS, their allowances are assumed to be held for trading. In this case, OIC 8 requires to register emission allowances as inventories, valued at cost, entering the income statement for sales and purchases.
Emission allowances held for trading are subsequently valued at cost less impairment.

6. Portugal

6.1. General law

The Portuguese Government encourages all public companies to develop a sustainability strategy and to adopt sustainability practices. <u>This Resolution of the Council of Ministers, N. º 49 of 28 March 2007</u>, approved the Principles of Good Governance of public companies, according to which companies are compelled to include in their annual report and accounts a sustainability analysis in the corporate governance section. The aim is for these companies to implement high performance business models, contributing to the dissemination of good practices in the sustainability area. This includes the adoption of a sustainability strategy covering the economic, environmental and social areas.

<u>Social Balance Law 7/2009</u>
Companies > 100 employees
Social Balance report
Information on employment, labor/management relations, occupational health and safety, training and salaries

6.2. Accounting standard

The Financial Reporting Accounting Standard no 26, 2010, regulates for Portuguese companies how to account, value and report environmental issues in financial statements. This includes an appendix that interprets the Portuguese accounting regulation for emission rights held by companies participating in EU ETS. Therefore, these rules cannot be applied for allowances held for trading.

This standard is an interpretation of the current NCFR 26 (environmental issues), NCFR 6 (Intangible Assets), NCRF 22 (Government Grants) and NCRF 21 (Provisions, Contingent Liabilities and Contingent Assets).

This interpretation states that allowances are to be recognized as an intangible asset and valued at cost. Granted allowances need to be valued at fair value with the subsequent recognition of a governmental grant.

The emission of greenhouse gases must be recognized as an expense, which will result in the amortization of the allowances.

A provision has to be recognized if emissions of greenhouse gases are above the allowances held.
The Portuguese standard requires separate disclosure in a note to the financial statements.

Appendix : Accounting records for Production Model

In France:

Purchase of allowances	Expense (601) Bank — At cost
Granted allowances	Unrecorded, because non considered as assets acquired free
If Emissions < Allowances available	Inventory (321) Expense (603)
If the emissions induce a consumption of the stock of allowances	Expense (603) Inventory (321)
If Emissions > Allowances available	Expense (601) Liability (449) — At market price at the date

+ Order account created off-balance

In Italy:

Purchase of allowances	Expense Bank — At cost ?
Granted allowances	**Unrecorded** Because considered as an avoided cost of production Order account created off-balance **Valued at fair value**
If Emissions > Allowances available	Accruals (Charge à payer) Liability — Future costs Accruals : so liability estimated at the future costs needed to purchase the required allowance

If Emissions < Allowances available		Liability Accruals (Produits à recevoir)		

NB : A Trade model is possible, in this case allowances must be recognized as inventory
+ Order account created off-balance

In Portugal:

Purchase of allowances		Intangible Bank	At cost	
Granted allowances		Intangible Governmental grant (subvention)	Fair value	
When Emissions The expense results in the amortization of the allowances		Expense Intangible		
If Emissions > Allowances available		Expense Provision		

In Spain : This model is similar to the original IFRIC 3

Purchase of allowances		Intangible Bank	At cost	
Granted allowances		Intangible Other comprehensive income (gov. grant) The allocation of quotas generates an increase in resources	Fair value	

Emissions	Expense Liability Carrying cost
When allowances are surrendered to the authority	Liability Intangible

NB : A Trade model is possible, in this case allowances must be recognized as inventory
Global comments:

- When granted allowances are recorded (in Italy, Portugal and Spain), the valuation is done at the fair value.
- For France and Italy, the annual expense (representative to the annual emissions) is explained by:
    - The allowances purchased
    - The excess emissions calculated at the inventory date: this amount represents a liability in accounting
    - The emissions generate an annual consumption of allowances, that is recorded as expenses
- For Portugal and Spain: there is no offsetting

Preliminary comparison between existing carbon accounting models in Europe

	IFRS	France	Spain	Italy	Portugal
Standard	**IFRIC D1**	**ANC N°2012-03**	**ICAC Resolution 28/5/2013**	**OIC 8**	**FRAS n°26, 2010**
Where are they recorded in the BS?					
granted allowances	intangibles	inventory (net asset)			intangibles
purchased allowances	intangibles	inventory (net asset)			intangibles
Production model			intangibles		
Trading model (if identified)	not considered		inventory	inventory	not considered
Initial measurement					
granted allowances	at fair value	at nil	at fair value	at nil	at fair value with the subsequent recognition of a governmental grant
purchased allowances	at cost	at cost	at cost	at cost?	at cost
Recognition of Liabilities	When the entity emits polluants	when pollutants emissions exceed emissions rights held by the entity at the end of period	when the entity purchases emits polluants (so against expenses)	when pollutants emissions exceed emissions rights held by the entity at the end of	when pollutants emissions exceed emissions rights held by the entity at the end of period
Liability measurement	According to IAS37 : = at the best estimate of the expenditure required to settle the present obligation at the balance sheet date = at the market value at	At the market price of allowances at the date of BS	at the carrying cost of the asset (ie fair value at the entry for granted allowances)	at the future cost ?	
Disclosure					
Order account off-balance		YES	NO?	YES	
compensation assets / liability	prohibited	compulsory			