

# Organisational communication on climate change

## The influence of the institutional context and the adoption pattern

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### Abstract

**Purpose** – This paper aims to analyse how the components of the institutional context and the adoption patterns of business practices determine the approach to carbon reporting used by organisations.

**Design/methodology/approach** – Drawing on the New Institutional Sociology theory, this paper analyses, compares and interprets the results of the cases of four large Spanish companies which operate in different organisational fields and therefore they are subject to different institutional pressures. The results of these case studies illustrate the different approaches to carbon reporting used by organisations.

**Findings** – The theoretical proposal of this paper establishes that the components of the institutional context (regulative, normative and cognitive), along with the adoption pattern used by organisations to control their carbon emissions (substantive or symbolic), contribute to determining their approach to carbon reporting (outside-in, inside-out, twin-track and isolated).

**Originality/value** – The approaches to reporting and the adoption patterns have been considered independently in the previous literature, paying also scarce attention to the components of the institutional context that can have an influence on the approach to reporting used by organisations to share their environmental information. This paper contributes to bridge this gap, and its results can be of interest for supporting the decisions of policymakers, managers of organisations and society in general.

**Keywords** Climate change, Case studies, Carbon reporting, Adoption patterns, New institutionalism

**Paper type** Research paper

### 1. Introduction

While some organisations have undertaken effective action in the fight against climate change and have started to provide information on this matter, others have simply used climate change information to provide a positive image of the company through their carbon reporting, although there is no real behaviour to support this (Hrasky, 2012; Wittneben *et al.*, 2012).

In previous literature, there is much concern as to whether environmental information provided by organisations truly reflects effective behaviour or, on the contrary, it is simply a matter of transmitting a positive image to obtain legitimacy (Tilt, 1994; Mobus, 2005; Hrasky, 2012; Marquis and Qian, 2014). In this line, Deegan and Gordon (1996) and Deegan (2002) say that environmental information provided voluntarily by managers cannot be expected to be unbiased; rather, this information is usually “self-laudatory”.



Previous research has considered different approaches to reporting used by companies to disclose sustainability information (Herzig and Schaltegger, 2006; Burritt and Schaltegger, 2010; Schaltegger, 2012). As outlined by Spence *et al.* (2010), accounting and sustainability reporting should provide information which helps the different stakeholders to know how said sustainability information on the business practice has been obtained and how it may be used. The literature also analyses the patterns used by organisations to adopt business practices, such as the control of carbon emissions, mainly distinguishing between substantive adoption and symbolic adoption, depending on the existence or not of the organisation's real conviction and commitment to business practice (Hess and Warren, 2008; González and Zamora, 2013a). However, approaches to reporting and adoption patterns have been considered independently. Furthermore, apart from a few papers (Hoffman, 1999; Bansal, 2005; Brown *et al.*, 2009; Bebbington *et al.*, 2009; Wittneben *et al.*, 2012; Orsato *et al.*, 2015), scarce attention has been paid to the components of the institutional context that may influence the approach to reporting used by organisations to share their sustainability information (Larrinaga, 2007). This paper contributes towards bridging this gap in the literature by means of a theoretical proposal which links institutional components, adoption patterns and approaches to reporting used by organisations related to their carbon emissions and their actions to fight against climate change. More specifically, the main research question this paper aims to address is as follows:

*RQ1.* Do the components of the institutional context and adoption patterns determine the approach to carbon reporting used by organisations?

To respond to this question, this paper is based on New Institutional Sociology (hereinafter, NIS) which provides a highly appropriate theoretical framework in which to study organisational behaviour when faced with the pressure of the institutional context in general (DiMaggio and Powell, 1983; Oliver, 1991; Scott, 1995), and specifically with pressures related to climate change (Pinkse and Kolk, 2007; Wijen and Ansari, 2007; Stal, 2011; Ansari *et al.*, 2013). According to this theory, we may consider that organisations do not opt to control carbon emissions solely for reasons of technical or economic efficiency but also to adapt to their institutional context (DiMaggio and Powell, 1983), which provides legitimacy (Meyer and Rowan, 1977; Suchman, 1995). Similarly, this theory allows us to further examine organisational behaviour consisting of the symbolic adaptation to institutional pressure for the fight against climate change to obtain legitimacy, albeit the day-to-day activities and operations of the organisation are not affected, given the increased costs that would be involved (Boxenbaum and Jonsson, 2008).

The research methodology we have used in this paper is qualitative, as our aim is to analyse adoption and reporting patterns in its social context (Yin, 1994) and to formulate a theoretical proposal to bridge the aforementioned gap in the literature (Eisenhardt, 1989; Woodside, 2010), using different sources of information (Yin, 1994). More specifically, we have studied the cases of four organisations that illustrate different approaches to carbon reporting. These organisations belong to different organisational fields, and are therefore subject to different pressures from the components of their institutional contexts. Also, they have shown different adoption patterns with regard to the control of carbon emissions, which has allowed us to consider the influence of these variables on the approach to carbon reporting used.

Thus, the theoretical contribution of this paper to previous literature consists of connecting the approach to carbon reporting to the social context in which it is carried out, as well as to the way in which the control of carbon emissions has been adopted. More specifically, drawing on the results of this paper, our theoretical proposal establishes that the components of the institutional context (regulative, normative and cognitive), along with the adoption pattern for the control of carbon emissions (substantive or symbolic), contribute to determining the approach to carbon reporting used by organisations (*outside-in*, *inside-out*, *twin-track* and *isolated*). The practical implications of this paper may be of interest to:

- company managers who wish to implement a system of emissions control effectively;
- to policymakers who take into consideration the institutional characteristics of different sectors to address assertive regulation and incentives; and
- to society at large, who is provided with criteria that allow it to judge whether a certain organisation is truly committed to the fight against climate change.

The remainder of the paper is structured as follows: Section 2 defines the components of the institutional context and adoption patterns, establishing their relationship with the approaches to carbon reporting. Section 3 presents the research methodology used in this paper, the results of which are included in Section 4. Section 5 analyses the results of the cases and presents our conclusions, while future scope for research is outlined in Section 6.

## 2. Theoretical framework

According to NIS, we can distinguish three components or pillars existing in the institutional context in which organisations operate: regulative, normative and cognitive. Similarly, organisations may adopt a business practice by following a substantive or symbolic adoption pattern. The theoretical proposal of this paper is that organisations will use different approaches to carbon reporting depending on the level of institutional pressure and the adoption pattern used. In this section, we further examine these concepts and establish the relationship between them.

### 2.1 Institutional pressures

Institutions may be defined as those ways of thinking or forms of action that are “taken-for-granted” and which exert pressure upon organisations so that they behave in accordance with them. In this sense, institutions facilitate but also limit the behaviour of organisations subject to institutional pressures (Greenwood *et al.*, 2008). In addition to institutions, a key concept of NIS is the organisational field, which is formed by:

[...] those organisations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organisations that produce similar services and products (DiMaggio and Powell, 1983, p. 148).

Institutional analysis has identified fields around common technologies or common regulation (Larrinaga, 2007), such as the electricity industry, financial services, etc. NIS establishes that organisations sharing the same organisational field are subject to the same institutional pressures and, as a result, they tend to be isomorphic in their structure and behaviour (DiMaggio and Powell, 1983), which facilitate the maintenance of power and provide them with legitimacy in their environment (Suchman, 1995).

Isomorphism is the process by which an organisation tends to resemble others in the same organisational field. As established by DiMaggio and Powell (1983), in the initial stages of their life cycle, organisational fields exhibit considerable diversity in approaches and forms, which come as a result of organisations' adoption of innovations to improve their performance. However, once the organisational field becomes well established, there is an inexorable push towards homogenization among organisations, which seek legitimacy as opposed to improvements in performance. Specifically, isomorphism takes place under three different mechanisms: coercive, regulatory and mimetic (DiMaggio and Powell, 1983). These mechanisms correspond to the three components of the institutional context that exert pressure on organisational behaviour (Scott, 1995):

- (1) regulative (coercive isomorphism) that refers to the explicit regulative processes which are involved in the establishment of regulations, the supervision of their enforcement and the imposing of sanctions which will influence future behaviour;
- (2) normative (normative isomorphism), which refers to the standards, values and assumptions regarding the nature and behaviour shared by individuals that lead them to act in compliance with social expectations, associated with professionalism and standardisation; and
- (3) cognitive (mimetic isomorphism), related to the shared knowledge that constitutes the nature of social reality and which influences the way in which a phenomenon is interpreted.

This last component lies behind the behaviour of those organisations that imitate other peer organisations that are perceived as legitimate and successful.

The components of the institutional context vary greatly among organisational fields (Kolk and Pinkse, 2004), and they can exert a greater or lower level of pressure on organisational behaviour (Pinkse and Kolk, 2007). Considering climate change specifically, we may understand that there is high pressure on organisations when:

- *Regulative component*: A regulation exists, such as the Kyoto Protocol or another specific environmental regulation in the organisational field, which requires companies (or the signatory countries in the case of the Kyoto Protocol) to control and report their carbon emissions, and which imposes sanctions in case of non-compliance. In this regard, Knox and Levy (2011) point out that the significant growth of carbon disclosure in recent years is due to, among other factors, organisations' compliance with regulations.
- *Normative component*: Social expectations identify the industrial sector as a polluting industry and demand that organisations implement measures to control carbon emissions. By way of example, the electricity sector and the paper-making sector are recognised as carbon-intensive sectors and therefore cause higher levels of pollution; hence, public expectations will lead companies in these sectors to disclose carbon information so that their legitimacy is not questioned (Mobus, 2005; Pellegrino and Lodhia, 2012). Also, specific standards that may be followed by companies to fight against climate change and disclose information on it, such as the greenhouse gas (GHG) Protocol and ISO 14064, can exert pressure on organisations to disclose their carbon emissions because these standards

communicate that this is “the right thing to do”, by designating appropriate means to pursue the goals (Scott, 1995).

- *Cognitive component*: There is shared social knowledge in the organisational field regarding how companies are affecting climate change and the strategies and measures that can be implemented to reduce the effect that companies are having on climate change. In this sense, for instance, it is widely acknowledged that the use of fossil fuels aggravates the problem of climate change and therefore organisations are under pressure to reduce their consumption of fossil fuels. Likewise, organisations can fight against climate change and provide carbon reporting because competitors perceived as legitimate and successful in the same organisational field have adopted it. In doing this, organisations can reduce the uncertainty that inhibits their responses to climate change (Munck *et al.*, 2014).

On the contrary, there will be a low level of institutional pressure on organisations to disclose their carbon emissions when there is no specific regulation that requires organisations to disclose their carbon emissions; society does not identify the sector as pollutant; reporting standards are not used by companies in the organisational field; there is no shared social knowledge in the organisational field regarding their impact on climate change; and key competitors do not fight against climate change nor report on the matter.

### 2.2 Adoption patterns

Organisations can adopt a business practice following a substantive or symbolic adoption pattern (Marshall and Brown, 2003; Hrasky, 2012; Marquis and Qian, 2014). The substantive adoption pattern implies the acceptance and commitment of the organisation to said business practice, with the organisation convinced that this practice is valuable for the organisation itself or society at large (González and Zamora, 2013a). This type of pattern implies that, within the organisation, the rules, norms and values of the practice are assimilated and strengthened, thus significantly affecting organisational routines and behaviour (Kostova and Roth, 2002). Companies following this pattern make an “extra effort” (Hess and Warren, 2008) so that the practice is significant, that is to say, so that it achieves the objectives sought (Bromley *et al.*, 2012).

On the other hand, the symbolic or ceremonial adoption pattern consists of adopting the practice in a practical and visible way to adapt to the pressure of the institutional context and thus achieve legitimacy, without the organisation reaching consensus on the real value of the practice (González and Zamora, 2013a). In this case, the practice tends to be in conflict with economical efficiency (Boxenbaum and Jonsson, 2008), hence organisations implement it fundamentally on an external level, but without any significant change to their day-to-day or routine activities. Companies following this pattern try to avoid external inspections and assessments (Meyer and Rowan, 1977) so that their superficial behaviour is not exposed, relying on very general or non-specific objectives which make it difficult to assess the true technical performance of the practice.

According to Zeitz *et al.* (1999) and Kostova and Roth (2002), it may be understood that the adoption pattern of a business practice is substantive when it has been implemented and internalised. Conversely, when the practice has neither been implemented nor internalised, the adoption pattern is symbolic. Implementation refers

to the setting up and rolling out of the practice within the organisation, which, in turn, implies objective and external behaviour in line with the practice. Meanwhile, internalisation entails the consensus between the members of the organisation that the practice is worthwhile, which, in turn, involves their commitment to the principles, norms and values of the practice. Along with implementation and internalisation, improved performance over time as a consequence of the development of the practice may also be considered evidence of a substantive adoption.

In specialised literature on sustainability reporting, it is possible to identify several aspects which are indicative of the factors mentioned, as defined in papers by *Zeitz et al.* (1999) and *Kostova and Roth* (2002). Thus, as regards the control and reporting of carbon emissions, a practice may be understood to have been implemented when the organisation:

- Possesses specific objectives for the control of carbon emissions (*Slawinski and Bansal, 2012*), which allow ceremonial behaviours to be contrasted and identified (*Meyer and Rowan, 1977*).
- Develops specific, integrated strategies and initiatives to reach said objectives (*Slawinski and Bansal, 2012*), imply the use of resources by the company (*Hess and Warren, 2008*).
- Supervises and audits its carbon control and reporting (*Hess and Warren, 2008*), which contribute to an increase in the reliability of the information disclosed (*Tilt, 1994; Mobus, 2005*) and to avoid ceremonial behaviour (*Meyer and Rowan, 1977*).

Meanwhile, a practice may be understood to have been internalised when the organisation:

- Possesses strategic objectives which may encompass the control of carbon emissions (*Hess and Warren, 2008; Porter and Reinhardt, 2007*), as this reduces the reticence of employees to the use of the practice (*Zeitz et al., 1999*).
- Has developed internal norms or indicators for the tracking of its carbon emissions (*González et al., 2015*), which constitutes a benchmark for the behaviour of the organisation's members (*Zeitz et al., 1999*).
- Participates in external initiatives or associations which help to promote effective action and policies for the fight against climate change (*Wittneben and Kiyar, 2009*), through which the principles and values of the practice within the organisation are reinforced (*Campbell, 2007; Orsato et al., 2015*).
- Provides collaboration or guidance regarding the control of carbon emissions to other organisations who may request it (*Hrasky, 2012*), for which in-depth knowledge of the subject by the organisation is required (*González et al., 2015*).

Finally, the improvement in the organisation's carbon performance may be assessed in different ways (*Weinhofer and Hoffmann, 2010*), among which the following may be mentioned:

- The *Carbon Performance Leadership Index* (CPLI) which is drawn up by the Carbon Disclosure Project (CDP)[1] and which, considering carbon intensity among other aspects, grades participating companies according to its carbon performance as follows: A (leaders), B (advanced followers), C (on track) and D

(beginners). Thus, for example, for a company to be positioned in the A band, it is required, among other conditions, to have reduced its GHG emission by at least 4 per cent in the previous year stemming from emission reduction initiatives developed during that previous year (CDP, 2013).

- The scope[2] of the GHG inventory drafted by the organisation (González and Zamora, 2013a) because the greater the scope, the more in-depth the company's recording of its emissions will be.

When an organisation has not effectively implemented the control of carbon emissions or its norms, values and principles have not been internalised and no improvement in its carbon performance may be seen, then it may be understood that the organisation has followed a symbolic or ceremonial adoption pattern.

### 2.3 Approaches to carbon reporting

As established by Freedman and Jaggi (2009), if organisations' reporting of GHG emissions does not accurately reflect its performance, then the different stakeholders will be making decisions based on incomplete and/or biased information. In this line, Banerjee (2008), Jahdi and Acikdilli (2009) and Bouten *et al.* (2011) comment on the dissatisfaction that exists regarding stakeholders' instrumental treatment of sustainability reporting used by organisations. Similarly, Gray and Milne (2002) previously warned against the deficiencies of sustainability reporting and against the possible effects of selectively reporting only the positive aspects of an organisation's environmentally related activities.

Based on a review of specialised literature, Herzig and Schaltegger (2006), Schaltegger and Wagner (2006), Burritt and Schaltegger (2010) and Schaltegger (2012) have distinguished four different approaches to sustainability reporting as used by organisations, and which are outlined in Table I. These approaches differ primarily according to whether reporting stems from the organisation's internal conviction and commitment to sustainability ("inside-out"), or from external pressure that requires the organisation to disclose the environmental impact of its activities despite the fact that the organisation has no such conviction or commitment to sustainability ("outside-in"). In the case of the "twin-track" approach, reporting occurs both as a result of the company's commitment to sustainability and of external pressure to disclose the

Approach	Description
Inside-out	The organisation establishes its aims and designs its strategies for sustainability, and its reporting derives from the internal consideration of said objectives and strategies and is transmitted to the outside world
Outside-in	Reporting stems from requirements present in the organisation's external environment, which govern the internal operation of the company in terms of sustainability
Twin-track	Combines "Inside-out" and "Outside-in" approaches
Isolated	Reporting is designed for the sole purpose of transmitting a positive image of the company, without there being any real commitment to sustainability

**Table I.**  
Sustainability

reporting approaches **Source:** Adapted from Schaltegger (2012)

environmental impact of its activities. As regards the “isolated” approach, neither does the company have a commitment to sustainability nor is there any external pressure requiring the company to disclose information, but the company does so as it is considered instrumental in improving the company’s image.

After analysing the aforementioned works by Schaltegger *et al.*, with particular reference to the case of carbon reporting (Schaltegger and Csutora, 2012), we have identified four factors which tend to characterise the approaches to carbon reporting. The first factor is frequency, and refers to whether the organisation does or does not disclose their carbon reporting periodically and systematically. The second factor is the source of disclosure which refers to the fundamental motive behind the organisation’s undertaking of carbon reporting. Specifically, Burritt and Schaltegger (2010, p. 831) refer to three fundamental reasons:

- (1) the organisation’s conviction for the need to control carbon emissions;
- (2) the external pressure of stakeholders; and
- (3) the need to transmit a positive image of the company.

The third factor, which we call the axis of information, refers to the central aspect which lends structure to the content of the reporting, which, in line with the work of Burritt and Schaltegger (2010) and Schaltegger (2012), may be distinguished as follows:

- internal targets and strategies of the organisation with regard to emissions reduction;
- external standards and regulations for emissions reduction; or
- aspects of positive publicity for the organisation.

Finally, the fourth factor, which we have called the information focus, refers to the organisation’s main purpose behind its carbon reporting:

- to communicate its environmental achievements which have resulted from its strategies and activities;
- to comply with external standard or regulations; or
- to transmit a good corporate image (Herzig and Schaltegger, 2006; Schaltegger, 2012).

Table II contains the characterisation of the different reporting approaches according to the abovementioned factors.

#### *2.4 Connecting institutional pressures and adoption patterns with approaches to reporting*

The theoretical proposal of this paper establishes that companies will use different approaches to carbon reporting depending on the level of pressure exerted by the institutional context and the adoption pattern (Table III).

In the cases of both “inside-out” and “isolated” approaches to reporting, there exists a low level of institutional pressure on organisations, yet they disclose their carbon reporting in both cases. In existing literature, several reasons may be found as to why an organisation may report its emissions without being under external pressure to do so, among which the following may be mentioned (Hoffman, 2004; Moon and DeLeon, 2007;

**Table II.**  
Characteristics of  
reporting approaches

Factor	Approach			Isolated
	Inside-out	Outside-in	Twin-track	
Frequency	Regular, in line with the strategy's development	Regular, in line with external requirements	Regular	Irregular
Source of communication	Conviction	Stakeholder pressure	Conviction and stakeholder pressure	Transmission of a positive image
Axis of information	Targets and strategies for the reduction of the organisation's emissions	External standards and regulations related to emissions reduction	Targets and strategies for the reduction of the organisation's emissions, and external standards and regulations related to emissions reductions	Publicity for the company
Information focus	Transmission of improvements in carbon performance	Compliance with emissions standards and regulations	Improvements in carbon performance and compliance with emissions standards and regulations	Corporate image

**Source:** The authors

**Table III.**  
Approaches to  
carbon reporting

Level of institutional pressure	Adoption pattern	
	Substantive (conviction in the business practice)	Symbolic (no conviction in the business practice)
<i>Institutional pressure</i> Weak (low external pressure)	<i>Inside-out</i> (reporting results from the conviction of the organisation in the business practice, while external pressure to report is low)	<i>Isolated</i> (no conviction of the organisation in the business practice and low external pressure; the organisation reports to improve its image)
Strong (high external pressure)	<i>Twin-track</i> (reporting results from the conviction of the organisation in the business practice as well as from high external pressure to report)	<i>Outside-in</i> (reporting results from high external pressure, but the organisation does not have conviction in the business practice)

**Source:** The authors

Wittneben and Kiyar, 2009; Schaltegger, 2012; Slawinski and Bansal, 2012; Orsato *et al.*, 2015):

- to anticipate future reporting demands;
- increase environmental reputation;
- improve access to financial resources;
- attract new clients;
- improve the organisation’s public relations.

In this sense, as reflected by Bortz (2007, p. 32), “failure to disclose can put you at a strategic disadvantage”. However, in the case of “inside-out” reporting, communication is based on a substantive adoption pattern, which involves a committed approach to the control of emissions which in turn leads the company to dedicate resources to the implementation and internalisation of the practice (Hess and Warren, 2008; Moon and DeLeon, 2007), and whose internal development is the starting point for information to the outside world (Burritt and Schaltegger, 2010). Conversely, in the case of “isolated” reporting, communication is based on the organisation’s opportunistic behaviour resulting from a ceremonial adoption of the practice (Meyer and Rowan, 1977), by which the organisation does not intend its behaviour to have a profound impact on its organisational identity (Bromley *et al.*, 2012). As demonstrated by the results of Hrasky (2012), the less carbon-intensive sectors, subject to a lower level of institutional pressure as regards the control of their emissions (Pinkse and Kolk, 2007), generally rely on symbolic behaviour, from which their reporting results.

Meanwhile, in the cases of “outside-in” and “twin-track” approaches to reporting, institutional pressure on the organisation to control and report emissions is high. Generally, higher carbon-intensive sectors, such as those covered by the European Union Emissions Trading Scheme[3] (EU ETS), tend to be subject to a higher level of institutional pressure. In this respect, Al-Tuwaijri *et al.* (2004) indicate that these sectors are identified as pollutant and, therefore, are subject to greater social scrutiny and

coverage in the media. As before, the difference between both reporting approaches resides in the adoption pattern used by the organisation. Thus, in the case of an “outside-in” approach, the components of the institutional context will exert pressure on the organisation so that it behaves in a certain way, following the directives established by the said institutional context, which are internally considered by the organisation to respond to climate change and also to report on it (Herzig and Schaltegger, 2006; Burritt and Schaltegger, 2010). However, given the company’s lack of commitment to the practice because it has been adopted ceremonially (Meyer and Rowan, 1977), carbon reporting takes place while the pressure of the institutional context is maintained, and it is reduced or even disappears if the pressure ceases (Bromley *et al.*, 2012). On the contrary, in the case of a “twin-track” approach, the company adopts the practice substantively. As a consequence, the organisation believes in the value of the practice and establishes its goals and strategies and reports on them. It also considers the requirements of the components of the institutional context, regulations, norms and standards in particular, that its carbon reporting should follow (Burritt and Schaltegger, 2010; Schaltegger, 2012).

### 3. Research methodology

This paper uses a qualitative research methodology, specifically the study of multiple cases, as it intends to analyse the practices pertaining to the control and reporting of carbon emissions of four companies in their institutional contexts (Yin, 1994; González and Zamora, 2013a). Case study is particularly suited to the detailed analysis of the factors which may encourage the adoption of a specific practice by an organisation (Scapens, 1990), such as carbon emissions control and reporting. Furthermore, because the aim of this study is to formulate a theoretical proposal to bridge the gap in existing literature regarding the influence of institutional pressures and adoption patterns on the approach to carbon reporting, case study is considered to be the most appropriate methodology (Eisenhardt, 1989; Woodside, 2010; Tregidga *et al.*, 2012). Specifically, our theoretical proposal arises from the review of existing literature and from our considerations of it; it is not the result of the case studies we have undertaken. This theoretical proposal is illustrated in the following section by the results of the four case studies; hence, the aforementioned case studies are of an illustrative and not exploratory nature (Coller, 2000). Likewise, a case study allows for the use of different sources of information (Yin, 1994), which are of great importance to our research to be able to gather information on the different factors under consideration.

The companies studied belong to different organisational fields, which allow environments with different levels of institutional pressure to be considered. In this respect, although the companies selected operate in the same country, the institutional pressure to which they are subject is different, as the organisational fields are characterised by the fact that they each have their own institutional life (DiMaggio and Powell, 1983). In this line, as indicated by Porter and Reinhardt (2007), each company’s approach to climate change will depend on its own particular corporate environment. Likewise, the companies in question have been selected because of their suitability for the purpose of the study, as they externally communicate that they are fighting against climate change, have adopted mechanisms for the control of their emissions and have drafted their own carbon reporting.

Given that one of the characteristics of case study is that it permits use of different sources of information, we have used the following sources for this paper:

- archive documents and secondary information sources from companies, including annual and sustainability reports, GHG inventories, responses to the CDP questionnaire, vision, mission and value statements, internal newsletters, internal regulations on emissions control, news on the corporate website, sector regulation and press releases; and
- semi-structured interviews with ten key informants from the organisations being studied (Table IV), which have been essential for comparing with the information collected from other sources and for qualifying certain interpretations made by the researchers.

The ten interviews were held during the second semester of 2013, with an average duration of 1 h and 45 min. These interviews could not be recorded, but were transcribed by the researchers who carried them out. Managers preferred the interviews not to be recorded to guarantee confidentiality and to protect anonymity. In this regard, the researchers also preferred not to insist on recording the interviews to ensure that interviewees would speak unreservedly and divulge both positive and negative behaviours of their organisation. As well as the professional experience of the interviewee in relation to matters of climate change, the blocks of information considered were institutional pressure, the type of adoption and the company's approach to carbon reporting used. The majority of the questions put to the interviewees may be found in Table V. Furthermore, we have maintained informal conversations throughout the study with other members of the organisations, which have been of great relevance for the contextualisation of the cases under study.

To analyse the content of the information obtained from the different sources, the disclosure-scoring method was used (Al-Tuwaijri *et al.*, 2004; Freedman and Jaggi, 2009), as the point of interest of this research lies in the content of the information as opposed to the quantity. The information obtained was classified as per the categories, codes and sub-codes indicated in Table V. In accordance with Yin (1994) and Woodside (2010), to strengthen the internal validity of the study, the two authors took part in coding the information, first individually and subsequently as a group, both discussing and resolving discrepancies. Similarly, the authors carried out the triangulation of the information obtained from the different sources and had the opportunity of discussing the preliminary results with the key interviewees of each of the companies studied, which helped to qualify the authors' interpretations.

Once the information was obtained for each company, we proceeded to analyse each individual case and compared the cases to identify differences and similarities that could condition their approach to carbon reporting. Finally, the results were interpreted according to the theoretical framework, and they were later discussed with some of the interviewees. The connection between institutional pressure, adoption patterns and approaches to reporting, as illustrated and compared in the results of the different case studies, constitute the theoretical contribution of our study, strengthening its external validity (Woodside, 2010).

Finally, the protocol followed in this study (company selection, gathering of information, categorisation and codification of information in accordance with the items set out in Table V; triangulation of the information; interpretation of the results and the

**Table IV.**  
Description of  
interviews

Case	Infra	Paper	Energy	Finan
Number of interviewees (rank: senior managers) Interviewees' departments	3 Environment, communications	2 Environment, communications	3 Environment, communications, carbon consultancy	2 Business development, communications

**Source:** The authors

(continued)

Information categories	Codes	Sub-codes	Questions used in the gathering of information	Supporting references
Components of the institutional context	Regulative	Coercive regulation	Does the company belong to a sector covered by the Kyoto Protocol? Is there any binding regulation which obliges the company to reduce its emissions?	Kostova and Roth (2002), Pinkse and Kolk (2007), González and Zamora (2013a), Orsato <i>et al.</i> (2015)
	Normative	Reporting standards	Is there a widely used carbon reporting standard in the sector?	
	Cognitive	Social expectations Shared knowledge	Does the company belong to a carbon-intensive or particularly pollutant sector? Is there widespread knowledge among companies in the sector as regards emissions control and reporting?	
Adoption pattern	Implementation	Adoption by competitors	Have competitors taken measures with regard to emissions control and reporting?	Zeit <i>et al.</i> (1999), Kostova and Roth (2002), Campbell (2007), Hess and Warren (2008), Weinhofer and Hoffmann (2010), Hrasny (2012), Slawinski and Bansal (2012), González and Zamora (2013a), González <i>et al.</i> (2015)
		Reduction targets	Does the company have specific, defined objectives for the reduction of its emissions?	
		Strategies and initiatives	What specific strategies has the company adopted and what actions has it undertaken in order to reduce its emissions?	
		Auditing	Is the company's carbon reporting externally audited?	
		Internalisation	Adaptation to strategic objectives	
Performance		Internal regulation and indicators	Has the company drawn up any internal regulation for emissions control or indicators on carbon emissions?	
		Participation in associations	Does the company participate in associations or initiatives whose aim is the reduction of carbon emissions?	
		Advice to other stakeholders	Does the company provide guidance to other stakeholders in terms of emissions control and reporting?	
		Evolution of carbon performance	How has the company's carbon performance evolved in recent years?	
		Scope of emissions inventory	Does the company draft an emissions inventory? What is its scope?	

**Table V.**  
Information  
categories and  
coding

Table V.

Information categories	Codes	Sub-codes	Questions used in the gathering of information	Supporting references
Carbon reporting	Frequency Source Axis Focus	Regular, irregular Conviction, stakeholder pressure, transmission of a positive image Targets and strategies, regulation and standards, publicity Communicate carbon performance achievements, compliance with regulation and standards, corporate image	Does the company regularly draw up and publish its carbon reporting? What is the main reason why the company carries out carbon reporting? On what central aspect is the information contained in the company's carbon reporting structured? What is the main aim pursued by the company when it undertakes carbon reporting?	Hertzog and Schaltegger (2006), Schaltegger and Wagner (2006), Burritt and Schaltegger (2010), Schaltegger (2012)

Source: The authors

discussion of them with key interviewees) helps to strengthen the reliability of the results obtained (Yin, 1994).

#### 4. Results of the case studies

This section presents, for each of the four large Spanish companies studied (Infra, Paper, Energy and Finan – pseudonyms of the real companies), information pertaining to the pressures of their institutional context, to the pattern used for the adoption of emissions control and to the approach to carbon reporting used. Table VI presents the evolution of carbon performance of the companies according to the CPLI, while Table VII summarises the main results of each company.

##### 4.1 The case of Infra

Infra’s business activity involves the construction of technical infrastructures for electricity and telecommunications companies. The time period for the study of this company goes back to the end of the 1990s, at which time the company started working on renewable energies and the environment, which is currently one of its main lines of business. This company belongs to a sector that is not covered by the EU ETS and, therefore, it is not required to control its carbon emissions. Similarly, in terms of its institutional context, it should be noted that at the end of the 1990s, the emissions standards had not yet been disseminated, although the company did participate from the beginning of the development of the GHG Protocol as a pilot company. Society’s expectations regarding the need to control emissions were scarce, as it was not until the mid-2000s that the society at large started to become more aware following the publication of the Stern Review and the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Bebbington and Larrinaga, 2008). With regard to the Spanish infrastructure sector, there were no practices for the control of the reduction of emissions implemented by its competitors, and furthermore knowledge about climate change was extremely limited, as at the end of the 1990s, it was of concern to the sector.

In the mid-2000s, Infra created the mission statement of the company: “To contribute to sustainable development, through the development of environmentally-friendly technologies that reduce carbon emissions and environmental impact” (Infra Vision, Mission and Values Statement). In 2006, Infra started drafting the internal regulation for the control of carbon emissions, which it finished in June 2008 and became the reference for the elaboration and publication of its first emissions inventory in 2009. Since then, the company annually drafts and publishes its inventory of Scope 3 emissions. In fact, Infra was the first company in the world to draft a Scope 3 inventory. Furthermore, since

Company	2010	2011	2012	2013
Infra	C	B	A	A
Paper	–	–	–	–
Energy	B	A	B	B
Finan	–	–	–	D

**Table VI.**  
Carbon performance  
of the companies:  
CPLI

**Source:** The authors

**Table VII.**  
Institutional pressures, adoption patterns and approaches to carbon reporting of the studied companies

Concept	INFRA (Sector: Infrastructures)	PAPER (Sector: Paper and cardboard)	ENERGY (Sector: Electricity)	FINAN (Sector: Finance)
Institutional pressure	<p><b>WEAK</b> Not covered by the regulations, scarce dissemination of standards, scarce social expectations, very limited shared knowledge and no references from competitors</p> <p><b>SUBSTANTIVE</b> Including the specific goal of reducing emissions in the vision and mission statements of the company, drafting internal regulations, continuous improvement of the carbon performance, inventory of Scope 3 emissions, voluntary external verification, participation in associations, advice to other actors</p>	<p><b>HIGH</b> Covered by the regulation, high dissemination of standards and better techniques available, high social expectations, wide shared knowledge and references from competitors</p> <p><b>SYMBOLIC</b> Coherence with the mission and vision of the company, without a specific goal of emissions reduction, actions described in a generic way, standardised external methodology to draft inventories, increase of carbon emissions, inventory of Scope 1 emissions, mandatory external verification, no participation in associations, no advice to other actors</p>	<p><b>HIGH</b> Covered by the regulation, high dissemination of standards, high social expectations, wide shared knowledge and references from competitors</p> <p><b>SUBSTANTIVE</b> Including a specific goal of emissions reduction in the vision and mission of the company, specific actions developed by strategic lines, applications of several external standards, improvement of carbon performance, inventory of Scope 3 emissions, mandatory and voluntary external verification, participation in several associations, advice to other actors</p>	<p><b>WEAK</b> Not covered by the regulation, low dissemination of standards, scarce social expectations, limited shared knowledge and references from competitors</p> <p><b>SYMBOLIC</b> Not included in the vision and mission of the company, no general or specific goals, occasional actions, no specification of the methodology for the calculation of emissions, low qualification in carbon performance, it emissions inventory is not public, lack of external verification, no participation in associations, no advice to other actors</p>
Approach to reporting	<p><b>INSIDE-OUT</b> Continuous reporting, conviction in the practice as the source of reporting, goals and strategies as the axes of information, focus on specific environmental performance achievements</p>	<p><b>OUTSIDE-IN</b> Reporting complying with the regulation's demands, government pressure as the source of reporting, mandatory regulation as the axes of information, focus on compliance with the regulations</p>	<p><b>TWIN-TRACK</b> Continuous reporting, conviction in the practice and governmental pressure as the sources of reporting, goals and strategies as the axes of information, focus on environmental performance achievements and compliance with the established regulations</p>	<p><b>ISOLATED</b> Sporadic reporting, communication of a positive image as the source of reporting, publicity for the company as the axis of information, focus exclusively on positive image aspects</p>

**Source:** The authors

the beginning, all its annual emissions inventories have been verified by PriceWaterhouseCoopers.

Since the drafting of its first emissions inventory, Infra's carbon performance has improved with each year, having achieved a 30 per cent reduction in its ratio of carbon emissions over sales in the past five years. According to one of the interviewees, essential to this has been the establishment of a specific annual target for emissions reductions (e.g. 366,000 tonnes of equivalent carbon dioxide, CO<sub>2</sub>e, in 2013), along with the implementation of specific actions to achieve it (e.g. 123 initiatives in 2012, 170 initiatives in 2013), including prioritising the use of materials of vegetable origin, carbon dioxide (hereinafter CO<sub>2</sub>) labelling of company products and services and the capture of CO<sub>2</sub> during the fermentation process in bioethanol plants. This improvement in the carbon performance has been accredited by the CDP CPLI, in which the company has received an A, the maximum qualification, in recent years.

Infra's substantive adoption of emissions control is also apparent through its participation in external associations and initiatives for the fight against climate change, and in its guidance to other stakeholders on emissions reduction related issues. Thus, for example, it should be noted that Infra is one of the founding members of, among others, the National Association of Producers and Investors in Renewable Energy (*Asociación Nacional de Productores e Inversores de Energías Renovables*, ANPIER); the Association of Producers of Renewable Energies (*Asociación de Productores de Energías Renovables*, APPA); the Spanish Association of the Thermoelectric Industry (*Asociación Española de la Industria Termoeléctrica*, Protermosolar); and the Spanish Association of Fuel Cells (*Asociación Española de Pilas de Combustible*, APPICE). Additionally, Infra participates with the World Resources Institute and the World Business Council for Sustainable Development on the development of two new GHG Protocol standards to measure carbon emissions. Furthermore, since the mid-2000s, Infra also started to demand compliance with its internal regulation for emissions control from its suppliers, and trained them in this practice over a six-month period. Thus, at the beginning of the 2010s, over 14,000 suppliers had signed the agreement for the reporting of its carbon emissions in accordance with the norm set by the company.

Infra's carbon reporting has been characterised by its continuousness, using different means for this purpose, such as the annual publication of its emissions inventory, its annual participation in the CDP and the annual publication of its sustainability reports. In this respect, one of the interviewees said:

The company is not pressured to report its carbon emissions, but does so because it is convinced that it is an important step in the fight against climate change. Our information does not seek to publicise ourselves, but rather to transmit our concern regarding climate change and report on what we are doing about it.

In this regard, the information provided by Infra, especially in its annual sustainability report, states in detail its emissions reduction targets as well as the strategies and initiatives developed to achieve this aim, and also shares the company's achievements in carbon performance over recent years.

#### 4.2 *The case of Paper*

Paper's business activity involves the production of paper and cardboard for packaging. Because it is one of the sectors covered by the EU ETS, the company has several

installations subject to this mechanism. Regulatory pressure is also high, as in addition to the dissemination in this field of standards such as the GHG Protocol and ISO 14064, there also exists a directive from the Spanish Ministry of Environment for the calculation and estimation of carbon emissions for companies in the paper and cardboard sector, a document setting out the best available techniques for the paste and paper industry (that specifically considers carbon emissions), as well as a standardised methodology for the drafting of emissions inventories for paste and paper companies developed by the sector's business owners association. Together with these standards, it is important to highlight that, as a polluting sector, social expectations regarding their contribution to the environment are higher and they are also subject to greater social scrutiny. For example, the NGO Greenpeace has been warning for years about "the lack of concern that the paste and paper sector has historically shown with regard to caring for the environment and citizens' health" (Greenpeace, 2004, p. 11).

The sector's business owners association is contributing to the dissemination of knowledge on the influence of the paper and cardboard sector on climate change. Thus, it promotes the recovery and recycling of waste as relevant actions to mitigate emissions, defining the industry as "a sector seeking to play a key role in the emerging bioeconomy, based on the efficient use of renewable resources and with low carbon emissions" (Sectorial Sustainability Report, 2011, p. 1). Similarly, it is developing the Edufores Project, one of whose main objectives is to increase social awareness of the sector's responsibility as regards climate change. In addition to this shared knowledge, it is important to note that several competitors in the sector have adopted practices that contribute to the reduction of emissions, such as the use of biomass boilers, improved techniques for recycling processes and the use of co-generation.

Paper's mission is to be a benchmark group of the sector, developing its activities "within a framework of social and environmental responsibility" (Paper Website, 2013). In no time has this company established a specific target for emissions reduction, but it does transmit that it has carried out certain initiatives, although these are usually generic and focus mainly on economic efficiency, such as saving fuel by the proximity of paper factories and waste management centres.

Paper drafts its inventory of Scope 1 emissions following the sector's standardised methodology which is adapted to established regulations. External and mandatory verification of its inventory is carried out by a verifier duly accredited by the competent public authority.

Notwithstanding the above, Paper's carbon emissions have increased over recent years, especially since 2010, in which year it doubled its energy capacity from 79 MW to 153 MW, which involved a significant increase of carbon emissions (from 89,490 to 188,643 tonCO<sub>2</sub>e). Similarly, Paper neither participates in external associations or initiatives designed to promote emission reductions nor does it provide guidance to other stakeholders. This fact responds to what happened in the mid-2000s, when the business owners association and companies in the sector showed their opposition to the Kyoto Protocol, as they considered that it would result in an important decline in the competitiveness of the sector (Negocios, 2004).

Paper's carbon reporting is characterized by being constant in time, although it is exclusively limited to complying with information requirements set out by the regulations, more specifically its inventory of Scope 1 emissions which furthermore it does not make public. In this sense, and despite carrying out business activities which

cause pollution, the company does not issue sustainability, environmental nor corporate social responsibility reports. The only public information provided by Paper with regard to its carbon emissions is what is required by Spanish accounting regulations for the drafting of their annual financial report. In this respect, in its 2012 financial report (p. 63), Paper stated the following: “for the purpose of complying with current legislation, the company applies environmental improvement policies designed to reduce their emissions, among others”. In this way, information is not provided on the basis of the organisation’s conviction regarding the practice, but rather in response to governmental pressure for the reporting of emissions in order to comply with current regulations.

#### 4.3. *The case of Energy*

Energy operates in the Spanish electricity sector and is required to participate in the EU ETS. The GHG Protocol and ISO 14064 standards are used by all the largest Spanish companies of the sector, which itself is one of those most easily identified by society as connected to pollution from carbon emissions. The main competitor of Energy invested strongly in renewable energies at the beginning of the 2000s, and therefore constitutes an important benchmark in its fight against climate change. Likewise, knowledge on climate change is widespread in this sector, with it being one of the main concerns of companies due to the repercussions it may have on the electricity trade. As one of the interviewees said, “the commitment and the role of the electricity companies will be key in the fight against climate change”.

Energy aims to “be a responsible, efficient and competitive multinational company in the energy sector, committed to the environment” (Energy’s Vision, Mission and Values Document), and the fight against climate change is one of its main challenges (Energy Sustainability Plan, 2008-2012). The company set a specific target to reduce its emissions by 33 per cent in 2012 compared to its emissions in 2007, and also drafted their Climate Change Programme for this purpose. This is structured in five strategic lines with different initiatives that are specific to each of them:

- (1) development of renewable energies;
- (2) technological development;
- (3) energy efficiency;
- (4) sustainable transport; and
- (5) development of Clean Development Mechanisms.

Energy has drafted its inventory of Scope 3 emissions and calculated its carbon footprint since 2009, following internal directives based on ISO 14064-1, the GHG Protocol and the 2006 *Guidelines for National Greenhouse Inventories*. Its annual emissions inventory is externally verified both on a mandatory basis (by a verifier accredited by the competent public authority), and voluntarily (by the organisation AENOR). From the beginning, Energy has participated in the CDP, obtaining a B qualification in the CPLI, a group that includes those companies that recognise the importance of climate change and strategically consider it a priority.

Energy has been a very active organisation, both in its participation in external associations and initiatives for the fight against climate change and in providing guidance to other stakeholders and agents. Thus, it has been the founding partner of, among others, the Spanish Technology Platform of CO<sub>2</sub>, the Spanish Association of CO<sub>2</sub>

and the National Strategic Consortium for Technical Research on CO<sub>2</sub>. Likewise, it has participated in numerous external activities, such as the Euroelectric Climate Change Work Group and the European network CO<sub>2</sub>NET. Similarly, it created its own carbon consultancy to advise other stakeholders on different aspects, such as the implementation of technical solutions to control emissions, the calculation of emissions and the drafting of inventories and technical and legal aspects for the development of Clean Development Mechanisms projects.

Energy's carbon reporting is characterised by being continuous since the mid-2000s, and provides information through its annual reports and its sustainability reports, and, more specifically, through its inventory of emissions and carbon footprint, as well as participating in the CDP questionnaire since the beginning. Energy's carbon reporting stems from both the conviction the company has in the practice, as well as from the pressures of its environment. In this sense, as one interviewee said:

We are required to report our carbon emissions, because regulations demand it and society at large is interested in this matter, since it identifies this sector with climate change. However, Energy's concern dates from before these pressures, since it had already implemented measures given our conviction of the need to reduce our emissions.

Following the structure of the Sustainability Strategic Plan, Energy reports its strategies and actions against climate change, but it also creates its carbon footprint following the ISO 14064-1 standard, which is considered the standard by Spanish authorities for organisational carbon reporting. Therefore, it follows that this company's "twin-track" approach to carbon reporting is due to both compliance with information requirements existing in its environment and to its efforts to raise awareness of the actions undertaken against climate change beyond those required.

#### 4.4 The case of Finan

Finan is a financial company and therefore its sector is not subject to the EU ETS. The regulatory component of its institutional context is weak, as standards such as the GHG Protocol and ISO 14064 are less applicable than in industrial companies, as the financial sector is not socially considered as a polluting sector. However, the pressure from the cognitive component is higher, as several companies in the sector participate in the CDP questionnaire and have adopted practices to reduce their emissions, although existing knowledge in the sector is mainly limited to energy-saving measures (e.g. heating, air conditioning and lighting). In this regard, one interviewee of Finan said:

The participation of Finan in the 2013 CDP has been due to a copy-effect, in other words, we followed a trend. There is no concern for climate change in the organisation, but we have to offer information so we are not left behind *vis-à-vis* our competitors.

Finan's Vision, Mission and Values Document does not include any reference to climate change and sustainability. This company has not set general or specific targets for the reduction of its carbon emissions, although it does report to its environment on the occasional measures it adopts against climate change, such as the purchase of green energy in its offices and the use of video-conferences to avoid employee travel and the resulting emissions. However, as one interviewee of Finan said:

In the company, there is no committee or area responsible for the development of strategies or actions against climate change. In fact, there isn't even an area responsible for corporate social responsibility or sustainability. The organisation has no concern for these issues.

Finan has not produced any specific internal regulation for the drafting of its emissions inventory, but it issued its first Scope 1 inventory in 2013, although it was not made public. Also, its emissions inventory has not been subject to external verification and the company has not specified what emissions have been calculated. In 2013, Finan took part for the first time in the CDP questionnaire, obtaining a D (minimum qualification) in the CPLI. According to the CDP, “the companies that are in the D range are those that believe that matters regarding climate change are not relevant to them” (CDP, 2012, p. 32).

The symbolic adoption pattern used by Finan to control its emissions is also evident by its lack of participation in associations related to climate change, and in its lack of guidance to other stakeholders with regard to measures for fighting against climate change.

Finan’s carbon reporting is characterised by being very sporadic and it is limited to provide isolated news on its website, without elaborating any sort of environmental or sustainability report. In fact, the information disclosed by Finan stems from the transmission of a positive image of the company to society, focusing mainly on the transmission of positive aspects to improve its corporate image and reputation. The following information from an interviewee was very enlightening:

Finan has focused on its business and has proceeded to respond to any type of questionnaire, such as the CDP, in order to provide information that contributes to improve the image of the company, but under the premise that this does not imply any kind of commitment, obligation or cost.

## 5. Discussion of the results

The companies studied operate in different organisational fields, and therefore they are subject to different levels of institutional pressure (DiMaggio and Powell, 1983). Specifically, Energy and Paper face a high level of institutional pressure from the normative component (dissemination of standards and social expectations), the cognitive component (shared knowledge and references from competitors), as well as from the regulatory component (their sectors are covered by the EU ETS) of their institutional contexts (Scott, 1995; Pinkse and Kolk, 2007). On the other hand, there has been a low level of institutional pressures on Infra and Finan mainly due to the fact that they operate in sectors that are not covered by the EU ETS, where, furthermore, social expectations are reduced either because the sector has not been identified as pollutant (Hrasky, 2012), as in the case of Finan, or because it is in an emerging state in which the institutional components are still being formed (Stal, 2011), as in the case of Infra.

The adoption pattern used by the companies has also been different. Thus, Infra and Energy, despite being subject to different levels of institutional pressure, have substantively adopted emissions control because they have both implemented and internalised this practice (Zeitz *et al.*, 1999; Kostova and Roth, 2002), and they have improved their carbon performance over recent years (Table VI). According to Table V, this is evidenced by the fact that both companies have established specific and quantitative targets for the reduction of their carbon emissions by means of specific strategies and actions, which, according to Meyer and Rowan (1977), facilitates the inspection and assessment of carbon performance, which helps to avoid ceremonial behaviour. Similarly, the fact that these targets and strategies are coherent with the company’s vision and mission (Zeitz *et al.*, 1999), and also represent benefits for society

at large (Hess and Warren, 2008), makes it more probable that the adoption pattern will be substantive. Both companies have also developed internal regulations or directives for the drafting of their inventories, which implies the formalisation of the practice within the organisation, thus facilitating the reproduction of the behaviours by the organisation's members in compliance with the practice (Zeitz *et al.*, 1999; González and Zamora, 2013a). Furthermore, it is important to note that both companies draft their inventory of Scope 3 emissions, which may be interpreted as the "extra effort" mentioned by Hess and Warren (2008) required for the practice to become significant. In this sense, Scope 3 implies the establishment of a detailed control system of less relevant emissions in quantitative terms, which, in turn, implies a strong commitment to the practice. Other aspects that have also contributed to the adoption pattern used by these companies being substantive are the external supervision and auditing of the information provided by the companies, which hinder symbolic behaviour based on principles of good faith (Meyer and Rowan, 1977; González and Zamora, 2013a), and their great broad participation in external associations and initiatives, as well as the provision of guidance to other stakeholders (Hrasky, 2012; Slawinski and Bansal, 2012; González and Zamora, 2013b), which contribute to an increase in the consensus on the behaviours that could subsequently become institutionalised in their respective sectors.

Although Energy and Infra have used a substantive adoption pattern, their approaches to carbon reporting have been different (Burritt and Schaltegger, 2010). Both companies start from an internal conviction regarding the value of the practice for the organisation and its benefits for society, making their reporting "inside-out". In this respect, Schaltegger and Burritt (2000) and Burritt *et al.* (2002) demonstrate that this type of approach facilitates the taking of better-quality decisions regarding sustainability, as managers have at their disposal specific data related to the organisation's sustainability targets. Furthermore, in the cases of Infra and Energy, sustainability is integrated at the strategic level of the organisation (Ratnatunga *et al.*, 2011), as may be observed in their vision and mission statement. However, because the pressure of Energy's institutional context is high, this company makes its response to the requirements of the institutional context very visible through its reporting, meaning the reporting has become "twin-track" (Schaltegger, 2012), thus maintaining its legitimacy or even increasing it (Suchman, 1995). As indicated by Schaltegger and Wagner (2006), this approach consists of elements from both the "outside-in" and "inside-out" approaches.

On the other hand, Paper and Finan also started with an institutional context with different levels of pressure, but both used a symbolic or ceremonial adoption pattern because they have not internalised the principles of the practice and, in the case of Finan, the practice was also not implemented (Kostova and Roth, 2002). In the case of Paper, its commitment to the practice is higher, but it did not adopt it in a substantive way, as it is strictly limited to complying with the requirements of its environment, especially those proceeding from the regulatory component, which have a greater coercive power (DiMaggio and Powell, 1983; Scott, 1995), therefore not making any extra effort to reap benefits beyond mere compliance. This is inferred, for example, from the fact that no specific and voluntary target for emissions reduction has been established; from the lack of implementation of specific and more in-depth initiatives against climate change; and from their non-participation in associations against climate change and their non-collaboration with other stakeholders (Hrasky, 2012; Slawinski and Bansal, 2012).

As Warren and Hess (2008) said, the symbolic adoption pattern may also generate benefits for society, but not to the same degree as a substantive adoption. As a result of the symbolic adoption of the practice, Paper's carbon reporting does not stem from within the organisation, but from external institutional pressures that restrict and configure (Giddens, 1984) Paper's environmental behaviour, which the organisation will subsequently report in compliance with the requirements of its environment, thus constituting an "outside-in" approach to reporting (Burritt and Schaltegger, 2010). In this case, Paper's main objective is to communicate with its main stakeholder to be judged positively and thus gain its support and resources (Schaltegger and Wagner, 2006).

As regards Finan, it should be noted that in the case of those companies with lower and less visible environmental impact (Marshall and Brown, 2003), or those that are not identified with the environment (Hess and Warren, 2008), the symbolic adoption pattern is more likely to be used (Al-Tuwaijri *et al.*, 2004; Moon and DeLeon, 2007). In this line, and with specific reference to companies in the Australian financial sector, Hrasky (2012) says that, as it is not a carbon-intensive sector, financial companies are implementing a symbolic strategy against climate change which is not representative of any substantive underlying activity. The case of Finan shows that the adoption of the practice was essentially symbolic and opportunistic, seeking above all a positive image of the company, regardless of their real contribution to the fight against climate change. As Bromley *et al.* (2012) suggest, the symbolic and opportunistic adoption of a new business practice consists of facing a pressing demand or challenge, but without intending the practice to have a profound impact on organisational identity or behaviour, as occurred with Finan. As maintained by NIS, the pioneers or early adopters of a practice (as, for example, Infra, in our study) are willing to do so substantively, while the late adopters (such as Finan in its sector) tend to hide their real behaviour behind their apparent enthusiasm (Boxenbaum and Jonsson, 2008; Delmas and Montes, 2010).

The difference in the level of pressure in Finan's institutional context as compared to Paper's, even though both have followed a symbolic adoption pattern, can account for the different approach to carbon reporting used, which, in the case of Finan, was "isolated" (Schaltegger, 2012). Therefore, because there is no internal conviction regarding the value of the practice and no high pressure from the institutional context to which they must adapt their behaviour, Finan used its carbon reporting as an instrument fundamentally for the transmission of a positive image of the company to society and to obtain legitimacy in its environment (Hogan and Lodhia, 2011). Thus, Finan considered carbon reporting to be a public relations exercise with no further consequences for the company (Unerman and O'Dwyer, 2007; Schaltegger, 2012), and it developed selective reporting (Gray and Milne, 2002) by focusing only on those aspects that were positive for the image and reputation of the company. In this sense, we can understand the following statement by Wittneben *et al.* (2012, p. 1443):

In the climate change debate, information becomes a deliberate weapon (instead of a tool or resource to transmit knowledge) that is used instrumentally by both corporations and environmental organizations to influence public perception.

## 6. Conclusions

The aim of this paper was to analyse the influence of the pressure exerted by components of the institutional context and the adoption pattern used by organisations

to control their carbon emissions on the approach to carbon reporting used by them. The theoretical proposal we have developed, as illustrated in the four case studies, contributes to previous literature by providing a link, previously overlooked, between institutional pressures, adoption patterns and approaches to reporting. Thus, according to our theoretical proposal, in environments with a high level of institutional pressure, organisations will tend to provide “outside-in” carbon reporting, if they have used a symbolic adoption pattern, or “twin-track” carbon reporting if the adoption pattern has been substantive. Meanwhile, in environments with low levels of institutional pressure, organisations’ reporting will tend to be “isolated” when they have used a symbolic adoption pattern or “inside-out” if, on the contrary, the practice has been adopted substantively.

The four case studies analysed in this paper demonstrate, on the one hand, the importance of considering both external and internal influences on sustainability reporting in general (Adams, 2002; Bebbington *et al.*, 2009), and on carbon reporting, in particular, to better understand the reporting used by organisations. On the other hand, they also demonstrate that the credibility of information disclosed by companies via its carbon reporting should not lie in its visibility to external or internal recipients, but rather in the material achievements and improvements accomplished (Patten, 2002; Schaltegger, 2012).

The results of this study may be of interest to policymakers, managers of organisations and society in general. In this way, through pressure from the institutional context, policymakers and regulators can influence the behaviour and approach to carbon reporting used by organisations (Mobus, 2005; Knox and Levy, 2011). For example, this may be carried out by means of the mandatory establishment of periodical reporting; greater specifications on the level of detail to be used; the requiring of external verification of information disclosed; or incentives to organisations to participate in associations, as well as in agreements or public voluntary programmes, related to climate change (Pinkse and Kolk, 2009). On the other hand, managers can find important references in this paper for the analysis of their institutional context, and on the factors that may contribute to the practice eventually being adopted substantively, as well as on the aspects to be taken consideration for a “twin-track” approach to reporting, if that was their objective (Wittneben and Kiyar, 2009; Schaltegger, 2012; Slawinski and Bansal, 2012). Finally, this paper may be of interest to society in general, as it provides it with a series of criteria which allow it to evaluate whether a specific organisation’s behaviour regarding the fight against climate change corresponds to a true commitment or rather to superficial “green-washing” (Wittneben *et al.*, 2012). In this respect, the information categories, codes, sub-codes and questions contained in Table V help to systematise the analysis of the institutional context, adoption pattern and approach to carbon reporting of organisations that may be subject to study.

One of the limitations to this paper is the fact that only four case studies were undertaken; hence, the results may not be generalised statistically. In this regard, the aim of the paper was not that of statistical generalisation, but rather to put forward a theoretical proposal based on a review of existing literature for which purpose illustrative case studies have been used. A further methodological limitation was the inability to record the interviews, albeit these were transcribed immediately afterwards by the researchers using the extensive notes that were taken during the interviews, so that as few details as possible were lost. In this respect, the fact that the results of the

case studies were revised by the interviewees themselves has been very helpful in addressing this limitation.

This research paper may be developed further by an in-depth analysis of the consequences that the generalised symbolic adoption of emissions control by companies in the same organisational field may have on the fight against climate change. In this regard, Riaz (2009) notes that the continuous symbolic use of a practice by organisations can generate illegitimate structures in the organisational field, which may question the legitimacy of organisations and generate an institutional crisis. Likewise, it would be interesting for research purposes to identify and study those factors that may allow companies to continue and consolidate their symbolic behaviour (Boxenbaum and Jonsson, 2008), based on the use of an “isolated” approach to reporting with the sole purpose of obtaining legitimacy, as its knowledge will allow it to plan appropriate avoidance measures.

### Notes

1. CDP is a non-governmental and non-profit organisation, which aims to provide a channel for companies to measure and disclose GHG emissions and climate change strategies (Luo *et al.*, 2012). The CDP questionnaire is currently being responded to by over 4,000 companies globally (CDP, 2013) and the information provided by companies considers different aspects of their climate change management (corporate governance, risks and opportunities, strategies, emissions inventory, communication and transparency).
2. The GHG Protocol standard differentiates three scopes to elaborate an emissions inventory: Scope 1 (direct emissions from sources that a firm owns or controls), Scope 2 (indirect emissions from the consumption of electricity purchased from an upstream generator) and Scope 3 (other indirect emissions from the development of activities by the company).
3. The EU ETS (regulated by the EU Directive 2003/87/EC) is a mechanism under the Kyoto Protocol that requires to the companies from the EU that operate in specific carbon-intensive industrial sectors (for instance, electricity, cement, steel, paper and ceramic) to participate in the European carbon market.

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### Further reading

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