

Environmental reporting in the Spanish wind energy sector

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Abstract

The aim of this paper is to explore the relevance of institutional influences on corporate environmental reporting practices. The wind energy sector in Spain was chosen for analysis because of its rapid growth and significant impact on moves toward cleaner energy production. A content analysis of recent sustainability reports (2005-2009) from seven main wind energy companies facilitated a longitudinal comparison of the levels of compliance with Global Reporting Initiative indicators of sustainability. Results show that initial institutional pressures for reporting have been replaced by imitation by companies of each other's practices leading to a reduction in the differences between environmental disclosures. Results confirm the importance of examining different institutional pressures on disclosure practices to development of policy. However, a key finding is that the disclosures have been minimal and not conducive to the notion of increasing transparency in the wind generated clean energy

electricity sector. As a result the credibility of relying on a voluntary sustainability standard, such as the Global Reporting Initiative (GRI), as an incentive for informative environmental reporting is challenged.

Keywords: environmental reporting, clean energy production, new institutional sociology, isomorphism, electricity, wind farm, sustainability standards

Research Highlights:

- Exploration of institutional influences on corporate environmental reporting
- Spain's wind energy sector significant because of the greening of energy supply
- Research finds minimal disclosure and subsequent low transparency in the sector
- Credibility of relying on GRI for clean production in the energy sector challenged

1. Introduction to the context and problem being addressed

The energy sector is of growing importance to the economies and social welfare of highly energy dependent developed and developing countries (Brown, 2001; Brown and Ulgiati, 2002; Kudelko, 2006; Söderholm et al, 2007; Vass, 1992)

. The significance of the sector is further augmented by its intrinsic features as in many cases electric utility companies are natural monopolies or part of oligopolistic structures (Adams et al, 1995; Hohmeyer, 1988). These markets are normally regulated by governments through price-fixing policies imposed for social, political and macro-economic reasons, as well as cost sensitivity or market factors (Rowe et al., 1995; Sundqvist and Söderholm, 2002; Söderholm et al., 2007). However, despite governments slowly and reluctantly introducing policies towards ecologically sustainable development and clean energy, problems with the availability of tools, such as carbon offsets, do little to reduce environmental impacts through

direct proactive investment, or to reduce the number of socially deprived people affected by local environmental pollution (Burritt and Lehman, 1995; Clark and Lund, 2007).

Rising energy costs and concern about global warming are increasing interest in alternative sources of energy (Dovi et al, 2009). For a decarbonised future for Spain, the country needs to look beyond national borders and the European Union towards global solutions (Dovi et al., 2009). Solutions require large-scale investment in the construction of concentrating solar thermal plants, as well as the extensive construction of wind farms onshore and offshore (Clark and Lund, 2007) and reconsideration of much criticised nuclear fuel (Farinelli et al., 2005).

In Spain the importance of the energy sector is relatively high because of recent competitive developments and associated dilemmas, policy and technological uncertainties about energy sourcing, local political obstacles to transmission access rights, the lack of locally sourced fossil fuels and a high dependency on importation of energy resources (Dovi et al., 2009). There has been large investment undertaken in onshore and offshore wind farms resulting in Spain being the third largest country in terms of installed wind power capacity (UNESA, 2008). Generating energy is a socially sensitive activity, because the process can entail a heavy impact on the landscape, for example physical and visual impacts upon construction of wind farms, followed by a permanent imposition on pristine environments and vistas (Hohmeyer, 1988; Hohmeyer et al, 1995; Burritt and Lehman, 1995; Adams et al., 1995). Organisations undertaking such construction and operating activities need to be held accountable to relevant stakeholders, such as regulators, local communities, the public, financiers, employees and the environment itself. Such accountability commences with the provision of an account, and only then can stakeholders hold organisations accountable (Ijiri, 1983). Hence, the provision of information about environmental, social as well as economic performance and their integration becomes necessary for accountability processes to work.

Along with demands for accountability from stakeholders, interest in the nature of the account provided has grown within the European Union and elsewhere (Adams and Frost, 2008; Bebbington and Gray, 2001; Wheeler and Elkington, 2001). Hence, physical environmental reporting has come to complement monetary reporting for internal decision making and external legitimacy (Gray et al, 1996). An increasing number of companies are devoting greater attention to environmental and social issues in their reporting (Daub, 2005) with the prospect of corporate environmental credibility increasing over time (University of Cambridge, 2003).

Regulation has also helped to encourage companies to report social and environmental information about business activities related to energy saving, environmental impacts, and environmental contingency plans (Llena et al, 2007).

As compulsory reporting standards begin to concentrate on reporting of relevant environmental information (Cormier et al, 2005) in order to reduce the potential cost of future regulations, some companies are adopting a pro-active, voluntary approach to social and environmental reporting (Daub, 2005). In 2004 and 2005 voluntary information became more popular, coinciding with the implementation of the Global Reporting Initiative (GRI) guidelines (GRI, 2009).

Growing interest in the social and environmental impact of corporations has caused an increasing demand for non-financial, physical information (Aerts et al, 2006; Bebbington et al, 2000; DeTienne and Lewis, 2005), to which businesses are responding either from necessity (Larrinaga et al, 2002) or in a voluntary capacity (KPMG, 2008; Llena et al., 2007). Environmentally sensitive sectors have received specific attention from the public and policy makers as greater accountability is sought (Harte and Owen, 1991; Rahaman et al, 2004). Cleaner energy production is destined to replace the dirty fossil fuel based economies of recent years and this raises the separate issue of the expected accountability of clean energy

sectors such as solar, wind, wave and nuclear energy. Attention in this paper is placed on the wind industry which is being promoted and developed throughout the world, but nowhere more so than in Spain (Reiche and Bechberger, 2004) leading to the research question:

RQ: *'What institutional considerations have influenced the evolution and current state of environmental reporting in the Spanish wind farm sector?'*

Whereas regulated disclosure requirements should lead to uniformity, voluntary disclosure should lead to empirical differences being observed between companies as they strive for competitive advantage and increased legitimacy of their activities (DiMaggio and Powell, 1983). When voluntarily drawing up sustainability reports, companies tend to adopt the GRI guidelines using a method aimed at providing a series of indicators based on the demands of stakeholders (Moneva and Llana, 2000). Yet, as the standards are unregulated, there is limited consistency amongst reports. The increase in separate reports dealing with environmental and social issues enables expansion beyond traditional stakeholders (regulators, shareholders and investors, customers and suppliers) to include other groups, such as society, public administration, the media, etc. (Gray et al, 1996; Adams and Larrinaga, 2007; Moneva and Llana, 2000). Hence, environmental reporting in the wind energy industry is examined with the purpose of analysing the institutional considerations that cause changes in reporting over time, using new institutional sociology as the fundamental theoretical framework. Section 2 develops this conceptual framework for the paper. Content analysis, the method used to select the sample and establish the benchmark against which to compare disclosures, is described in Section 3. Section 4 presents and discusses the content analysis of the published corporate information, and finally, the main conclusions of the study are presented in Section 5 in the context of new institutional sociological explanations for observed disclosure patterns.

2. The new institutional sociology theoretical framework

New institutional sociology can be used to explain the influence of institutions on company behaviour, and the forces that drive the behaviour (Carpenter and Feroz, 1998; Deegan and Rankin, 1999). An organisation exists in institutional surroundings that define and delimit social reality (Selznick, 1996). Organizations are seen as operating within a social framework of norms and values and taken for granted assumptions about what is appropriate behaviour (Oliver, 1997; Scott, 1987). Institutional theory proposes that the survival of an organisation requires efficient production (Mostaque and Gunasekaran, 2002) and social support. To acquire such support the organization should be transparent in both its management (Gray and Milne, 2005) and operations (Wartick and Cochran, 1985). That is, stakeholders demand reliable information about economic, social and environmental issues if they are to support the organization (Deegan and Rankin, 1999). A key issue of concern for organizations is creating transparency through proactive communication of social obligations arising from routine business practices (Hooghiemstra, 2000; Chaudhri and Wang, 2007). Accounting systems play an essential role in the gathering of relevant data and the elaboration and communication of companies' performance based on that data to enhance transparency of management and operations through reporting (Bebbington and Thomson, 2007). But research consistently indicates that the information offered by companies does not always satisfy the needs of special interest groups, normally lacks objectivity and has poor content (Adams and Frost, 2008; Gray, 2006; O'Dwyer, 2003).

Isomorphism, a key concept in new institutional sociology, is a process whereby one organization becomes similar to another organization by adopting the characteristics of the other organization (Rodrigues and Craig, 2007). Different isomorphic processes have the potential to play a key role in the level, quality and variety of information gathered and reported by companies. Hence explanation of different isomorphic pressures provides a

foundation for understanding the drivers of homogeneity in reporting practice. DiMaggio and Powell, (1983) identified three mechanisms by which institutional isomorphism occurs: coercive, mimetic and normative isomorphism.

Coercive isomorphism has a self-interested, regulatory perspective so it can be distinguished from other isomorphic pressures which contain the assumption that individuals act following expectations from other organizations and professions (DiMaggio and Powell, 1983). The organization's environment puts pressure on the organization through the enforcement of structures and can be brought about by stakeholders however in the present context it is most powerful when new legislation is introduced in the form of regulations for sustainability reporting. Without regulatory pressures organizations could experience coercive pressure through the pressure to align with societal protocols, such as the need for the sustainability of cleaner energy production to be more transparent.

In 2002, a new compulsory environmental standard (ICAC, 2002) was introduced into the annual accounts in Spain. The new standard was created to improve environmental information disclosure by companies in the electric utilities sector. The standard was a failure because of the low level of compliance (Larrinaga et al., 2002). In contrast to compulsion, according to institutional theory, some sectors contain agents with enough power to impose structures or practices on subordinate organisational units. These agents constrain the community they are involved in (DiMaggio and Powell, 1983 and 1991). Changes in information are normally adopted by older organisations as they can reach a point where, rather than adapting to their surroundings, they dominate them (Freeman, 1992).

Mimetic isomorphism occurs when organizations imitate actions of the more successful ones in the institutional environment. The performance of these successful companies, which are considered as leaders in their sector, forces other companies in the same sector to become like them, as they face the same environmental conditions (DiMaggio and Powell, 1991). Thus,

organisations gradually alter their behaviour to increase their compatibility with the characteristics of the environment, competing for resources, and also to gain political power and institutional legitimacy in order to achieve financial and social objectives (Aldrich, 1979; DiMaggio and Powell, 1983). Literature shows that institutional constraints, such as country, industry concentration, size of company and media exposure, affect mimetic corporate environmental reporting practices (Aerts et al., 2006; Cormier and Magnan, 1999; Cormier et al., 2005; Neu et al, 1998). The size of the organization is directly linked with the pressure to provide information to be justified (Daub, 2005; DiMaggio and Powell, 1983) and this characteristic has been used to predict mimetic tendencies (Deephouse, 1996; Westphal et al, 2001). A useful example is Greenwood *et al* (2002) study of the change in accounting firm services over a 20 year period which found that the shift from primary service provision of accounting, tax and audit, to the inclusion of services such as financial advisory, management consulting and legal services, stemmed from initial mimetic pressures where the largest firms moved earliest and most efficiently in order to serve large clients (Rose and Hinings, 1999).

The third mechanism for influencing behaviour is *normative isomorphism*, where observed homogeneity of practices and reporting among companies is a result of a professional organization or association promoting a cognitive base and a network to involve all the participants. It is derived from two key aspects of such professionalization: through formal education and legitimation of the cognitive base by discipline specialists and through the elaboration of professional networks that facilitate the rapid diffusion of new models and practices (Rodrigues and Craig, 2007; DiMaggio and Powell, 1983). Normative isomorphism is exerted through the control of registration and certification procedures, and promulgation of normative mandatory rules for use by members of the profession (Rodrigues and Craig, 2007). Environmental reporting is relatively new and companies grapple with such issues as carbon emissions, reporting on waste management, energy and water use and so isomorphic

pressures influence the emerging reporting practices. Normative pressures impel organisations to follow the legal requirements, the quasi legal requirements of professional bodies, or the standards and behaviour of leading organisations as necessitated by competitive forces (DiMaggio and Powell, 1983 and 1991).

The question of the balance between these alternative isomorphic pressures and which of the pressures influence reporting behaviour and lead to the extant state of transparency is a vital concern of policy makers keen to ensure that various markets, capital, product, employment, etc. are well informed about corporate environmental risks. As information is the main element that an organisation can use as a base from which to manage relationships with stakeholders in order to obtain their support or approval (Bebbington and Gray, 2001), a necessary foundation for policy initiatives designed to improve transparency is an understanding of the different isomorphic institutional drivers of behaviour.

3. Methods

Two key issues for the gathering of data about effective isomorphic pressures on environmental reporting behaviour, examined next, relate to the selection of a sample of companies in a particular industry and the tool used to examine disclosures, content analysis.

3.1 Sample of companies selected for analysis

The rationale for examining environmental disclosures of companies in the wind industry in Spain has previously been presented. The companies selected are the seven main producers of wind energy: Acciona, Endesa, Gamesa, Gas Natural, Hidrocantábrico, Iberdrola and Unión Fenosa¹. They have been selected based on their size and production capability, covering about 83% of the national market (UNESA), 2008). All are quoted on the Spanish Stock

¹ Gamesa and Unión Fenosa merged in September 2009.

Exchange, six of them on the IBEX35, the benchmark stock market index in Spain. Five of the sample companies produce gas and electricity as their main business. Gamesa also makes products for wind energy companies and Acciona is one of the largest construction companies with a large energy division and have been included because of its importance to the industry.

Given the diversity and complexity of these large corporations, as well as their heterogeneity, this study only takes into account data that are relevant and specific to the generation of energy in Spain, so the focus is on Acciona Energy and Gamesa Energy rather than the whole companies. The merger between Gas Natural and Union Fenosa in 2008 led to the formation of Gas Natural-Fenosa in 2009, hence there is no data for Union Fenosa in 2009. Also influencing the selection process is the fact that these companies are considered to be leaders in their sector and are the first to follow the new energy sector specific standards in the GRI guidelines (DiMaggio and Powell, 1991; Adams and McNicholas, 2007;).

The main document normally used to communicate social and environmental performance information with stakeholders is the sustainability report. To see how environmental reporting in these organisations has evolved over time, published reports have been chosen for the five years, 2005-2009. The analysis was started in 2005 because until this year, voluntary disclosure in Spain was not widespread and it is also the first year where it was possible to get environmental reporting from the sample companies (Global Reporting Initiative, 2009). This information was located on the corporate web pages, and in some cases was directly accessed from the GRI website (Table 1). Electronic reports were accessed rather than hard copies because sustainability reports hosted on websites are claimed to be the main tool of communication for corporate social responsibility in the 21st century (Wheeler and Elkington, 2001; Unerman and Bennett, 2004) and facilitate interaction with stakeholders which may enhance value to the business (Coope, 2004; Esrock and Leichty, 1998; Unerman and Bennett, 2004; Wheeler and Elkington, 2001).

Accessing necessary information was more complicated than expected. For example, Unión Fenosa only had one previous year's report (2008) online, and to get access to the earlier reports (2005, 2006, 2007) it was necessary to contact the two prior heads of the communication corporate departments, before the merger with Gas Natural. Also, in order to develop content analysis it is beneficial to know who was responsible for the environmental reports of the sample companies. To confirm this information, supplementary website questionnaires were sent out and follow up phone contact to the company was made. All companies except for Iberdrola, in one case, and Gamesa provided the additional information requested (Table 2).

3.2 Content analysis

Content analysis has been carried out, based on the latest version of the GRI G3 Guidelines (Global Reporting Initiative, 2006), plus the energy sector specific supplement in 2009, if applicable, as reference points.

The GRI is the best known voluntary reporting framework for environmental and social performance indicators (Brown et al, 2009) and it has been adopted by many companies since its inception in 1999 as a worldwide scheme based on the opinions of a network of experts belonging to various groups of stakeholders in collaboration with the United Nations Environmental Programme. These experts took part in working groups that drew up guidelines and principles to create an international reference point for reports that include information about financial, social and environmental performance. The aim of the GRI is to define and homogenise the content of the reports to assure the quality of the information disclosed (GRI, 2006, p-6). Although over 1,800 companies have adopted these principles (Global Reporting Initiative, 2006), academics remain who question the role and objectivity of these organisations when disclosing the interests of the different interest groups (Gray and

Milne, 2005; Moneva et al, 2006), and professionals who are reluctant to apply the GRI indicators when drawing up annual reports (Adams and McNicholas, 2007).

An analysis of key issues provided in environmental reports by organisations requires a reference framework, and although at present there is no consensus (Gray and Milne, 2005), the GRI standards being the most widely accepted. Because of the constant evolution of information required by society, GRI principles and standards are constantly evolving. GRI G3 is the most complete version developed to date. Five specific issues have been identified for the analysis: (1) the reporting format and the report's accessibility, (2) assurance and verification processes, (3) sustainability indexes, (4) stakeholders considered, and (5) information to be supplied. A Supplement for the Electric Utilities Sector was introduced in 2008 (Global Reporting Initiative, 2008) and the first guidelines for this sector were adopted in 2009. However, with the introduction of the sector supplement the only indicator that relates to voluntary environmental information is EU13, where a comparison is required between biodiversity between offset habitats and affected areas.

Report format and accessibility are essential for the target groups interested in environmental reporting (Table 1, Table 2 and Figure 1); information about format, documents, volume, accessibility and navigation through the file and also who has been responsible at the corporation and for the development of environmental reporting in the companies, are presented in these tables and figures.

Reliability of the information has been analysed in Table 3 and provides information about checking environmental reporting *assurance and verification processes* of: (i) the level of adherence, (ii) verification by third parties, and (iii) the rules applied to verifications which are essential to increase the credibility of environmental information reported.

Inclusion in the most prominent *sustainability indexes* has been taken as a legitimising tool for the companies (see Table 4). The list of sustainability indexes has been restricted to what are considered to be the most relevant: the Dow Jones Sustainability Indexes, Global Climate 100, FTSE4Good, and S&P Clean Energy indexes.

According to the GRI G3 guidelines, companies should describe how they respond to the expectations and interests of the stakeholders, so it is necessary to identify the target groups for the information, their interests, and how their requirements have been treated. To examine *stakeholder consideration*, identification of eight different interest groups has been undertaken using content analysis and also whether the companies consider each group can be considered to be a priority group (see Table 5): (i) shareholders and investors, (ii) clients, (iii) suppliers, (iv) workers/employees, (v) society, (vi) media, (vii) environment, and (viii) regulators.

Supply of appropriate information is essential to provide knowledge about the company's environmental performance. In Table 6 and Figure 2, the content of GRI G3 and EUSS has been incorporated, especially the sector supplement environmental indicator, EU13. For scoring purposes, if the environmental indicator has been correctly developed according to GRI G3 it is given a score of 1; if the indicator offers partial or incomplete information it has been scored as 2; finally a score of 3 has been assigned when the indicator data has not been considered material by the company. GRI G3 guidelines suggest that if a company does not report on a specific indicator, it must explain the reason for not doing this.

4. Results and discussion

Based on the scoring system, the results of the examination of environmental reports are presented next for each of the five areas in the wind power sector in Spain as a foundation for

assessing the institutional considerations that have influenced the evolution and current state of environmental reporting.

4.1 Reports

Ample evidence of the growth in the amount of information provided is proved by the volume of the reports (Fig. 1). It is clear that the adoption of GRI G3 guidelines implies greater volume of disclosures in general terms, but two different behaviours can be observed. Firstly, some companies are increasing the volume of their disclosures little by little over time at a steady rate. Secondly, there is an observable increase in the volume of disclosures with introduction of the new standard but after that, there is a sudden decrease. Hence, once the new standard has been adopted volume increases and then decreases again with little net improvement in disclosure. Differences in the number of pages vary considerably from year-to-year as can be observed at Gas Natural, Gamesa and Iberdrola, but as the years go by the differences and the volume appear to converge (Table 2, bottom panel). It seems that the effort in complying with the latest standards set by the GRI, creates pressures within the sector that has directed to reduce the variations in volume of disclosure between companies, thereby trending towards similar but low levels of disclosure (DiMaggio and Powell, 1983).

In addition, despite the amount of information disclosed, the total lack of bookmarks in PDF documents is evident (Table 1) except for Acciona in 2008 and 2009, hence managing a heavy PDF with no bookmarks makes access to the information very difficult.

Website access to the environmental reports over the period is pervasive in all the cases except for Acciona, that has just the last three years, and Union Fenosa, that until the merger with Gas Natural only had available the 2009 report. Since its merger with Gas Natural into Gas Natural Fenosa, Gas Natural's approach to disclosure has prevailed.

The responsibility for preparing the environmental reports rests with the corporate social responsibility or environment departments in five of the seven companies. Unfortunately two companies did not answer the requests, possibly highlighting low attention paid to stakeholders' demands.

The results of research into the voluntary disclosure by companies of GRI information about environmental reporting depicts a consensus in the format chosen by all the companies, all of them have chosen an online report, normally a PDF file (Table 1). All of the companies have an online channel to facilitate contact via e-mail or via the website. The results support the view that online PDF disclosure is accessible for all stakeholders and encouraging of interactive communication (Wheeler and Elkington, 2001). The use of online environmental reporting makes information more accessible than print media and at a lower direct cost in comparison with hard copy.

The GRI website can host an excel file with information about sustainability reports and direct links to individual companies reports and corporate responsibility areas. However, the direct links to the environmental report file do not always work (scored 0) or in several cases do not exist. From Table 1 it is possible to see the evolution of the links to the reports showing the low interest paid to this. The report title changes over time in two of the seven cases, such as with Endesa, there is no consistency as to the language to be used, Spanish or English, suggesting a low interest in fulfilling all the information that GRI requires. A similar result is evident for companies in the form and attention paid to access to the reports.

Companies usually disclose information using just one report that gathers all the environmental issues required by GRI, often called sustainability report. In some cases (Hidrocarbónico and Iberdrola) in order to reveal all necessary information more than one file is incorporated. The need for a user to consult several documents at the same time makes

consulting the information tedious and complex and could discourage people from sourcing the reports (Table 2).

The volume of environmental disclosures increased then declined as the new G3 version of the GRI was introduced. The evidence of convergence in the volume of disclosures reflects a normative pressure to adopt the institutional practice resulting from the pressures to meet group norms and remain competitive. In addition, online distribution of environmental reporting information is pervasive; little cross-referencing to the GRI web site exists; and presentation of data for use by stakeholders is not well considered and can be spread across several files which require parallel use. The net result is reported information that only meets basic requirements in terms of user access needs.

4.2 Verification and assurance

One of the key questions in assessing the credibility of the data supplied by the companies is the trust placed in them by different stakeholders. This credibility relates to two factors: the involvement of special interest groups in how information is collected, and deciding on the need for and intervention of an independent expert to ensure that the data reflects reality (Adams, 2004). As recognised in the GRI guidelines (GRI, 2006), an external third party assurance is essential to increase the credibility and hence value of sustainable reports to users (Wheeler and Elkington, 2001; Moneva et al, 2006). Results show a small increase in verifications by third parties over the five year period, from one in 2005 to two in 2009. Four companies preferred to rely on GRI checking. The tendency in the sector is to adopt the cheapest way with a focus on GRI checked data.

Nearly all the companies reached the highest level of adherence to GRI assurance levels in 2006 except for Gamesa and all companies reached an A+ assurance level by 2009.

Verification processes followed International Standards on Assurance Engagements (ISAE 3000) in all cases, to demonstrate that data are reliable and trustworthy. In contrast, verification processes based on to the implementation of Accountability Assurance Standard AA1000AS increased from one company in 2005 to 4 in 2009 but the standard is not generally applied in the sector. The indication is that environmental reporting in the wind energy sector is only partially aligned with the need for stakeholders to have third party audits in order to rely on reported data, but the tendency is increasing even though there is evidence of few mimetic pressures for independent third party verification.

4.3 Sustainability Indexes

There are a variety of sustainability indexes available but the most important ones for screening and rankings are DJSI and FTSE4Good (Golob and Bartlett, 2007). The proliferation of awards and different sustainability indexes is a sign of the increase in importance of transparency in environmental reporting (Aerts et al, 2006). Table 4 illustrates that in the years between 2007 – 2009 companies have put in a strong effort to reach the requirements necessary to be included in the most prestigious sustainability indexes, with most companies being included in three or more indexes. The number of socially responsible investment indexes reached by these companies (ratings services) increased from 4 (9) in 2005 to 5 (14) in 2009 (Table 4). However, there is no correspondence with the patterns in volume of information supplied in the environment reports over time (Table 2).

Iberdrola, the largest company in electricity sector, has been quoted on the DJSI since inception of the index in 1999, (it was the first Spanish company in the sector to be included) followed by Endesa and Gamesa in 2001. The other companies have been complying with the requirements for quotation on the main indexes with independent assurance (Table 4). An element of copying the leader is discernable.

To take one example, Iberdrola is committed to maintaining itself on the DJSI and sees itself as being the leader of social, environmental and economic sustainability in the industry. Besides the inclusion in the DJSI and other indexes the score reached in every index should be useful for assessing the improvement in company performance, but comparison is not possible over time because for most companies the score is not published.

Additional pressure for being the largest company and the leader in an economically concentrated sector also affects the quality of reporting. The similarity in reporting behaviour is caused through company monitoring by financial markets, high visibility and higher potential political costs (Aerts et al, 2006). Normative isomorphism explains this pressure because normative standards and behaviour of a leading organisation for meeting sustainability indexes is being duplicated as necessitated by competitive forces. Sustainability index engagement is rising in the industry and the variety of indexes included is increasing, with Iberdrola providing the lead.

4.4 Stakeholders considered

Managing the company to integrate the interests of different stakeholders supposes this will lead to an improvement in company performance otherwise such management is not beneficial. Some empirical studies show a clear relationship between companies working with different stakeholders and improved value to the business (Freeman et al 2004; Greenley and Foxall, 1997).

Table 6 reveals that almost all the companies comply with the requirements of the GRI in identifying different stakeholders. But there are significant differences between the companies in the stakeholders they acknowledge. However, only two companies in the wind farm sector in Spain - Iberdrola and Union Fenosa - hold the environment to be a stakeholder in their activities, the GRI and EUSS recognising that natural resources should be considered and by

inference the environment seen as a stakeholder. The result is somewhat at odds with the notion of the wind farm sector being driven by the environmental agenda and need for increased non-fossil fuel cleaner energy supplies to contribute towards the reduction of global warming.

Six companies explicitly identify two levels of interest groups as recognised through the identification of priority and non-priority groups of stakeholders in the environmental reports. There is a clear pattern of customers, employees, shareholders and investors considered as priority groups by all companies. Society, suppliers and public administration or regulators in that order are the next most important. Bringing up the rear are media and environment as stakeholders. Society and also public administration are receiving greater recognition as priority groups as well.

The information offered in reply to the demands of these secondary groups is not treated with the same importance as the information reported seems to be limited to listing and describing the channels of communication used with these groups. The medium is the message. The GRI guidelines encourage this distinction by asserting that not all groups will make use of the information in an environmental report. This distinction could bring about the lower engagement of certain stakeholders (Larrinaga et al., 2002).

One common denominator for the communication channels is the low cost of mass communication, with the basic tools used being the corporate website and press briefings. A standard script on the means and instruments of communication with the special interest groups was only used by four companies, with Iberdrola, Gamesa and Gas Natural following their own approaches. Hence, there is less evidence of a mimetic institutional effect in relation to communication mechanisms for conveying data to users. However, all companies in the sample have complaint and suggestions boxes on their website, but for this study information was requested from Iberdrola and Gamesa, but no answer was forthcoming to web requests,

meaning that the opportunity for dialogue was ineffective in those cases. Iberdrola and Gas Natural also give informational talks to various special interest groups. Iberdrola, Unión Fenosa and Gas Natural ask for readers' opinions, from which they try to obtain information on the profile of the user of this type of information, as well as the areas of interest to users. Practice is clearly still emerging in relation to the development of dialogic tools for communication, with only a low level of mimetic effect.

4.5 Information supplied

Information in Table 7 shows that, with the exception of Endesa and H-C, since the introduction of the GRI G3 standard in 2006 there has been an upward trend in the reporting of well-developed core environmental indicator information. This development supports the view that mimetic behaviour is at work with the evolution from GRI G2 to GRI G3. The increase in the number of the indicators developed and reported can be seen as a response of the companies to the new G3 standard and is reflected in the movement towards the issuance of A+ assurance. Although there is variation, the adoption of the new G3 standard has meant an increase in disclosure of core indicator and supplementary indicator information by the companies that did not previously meet the standard. But in the cases of Acciona, Endesa, Gas Natural and Union Fenosa once the company has reached the G3 standard set for itself, there seems to be no additional effort made to further improve environmental information. The incentive for continual improvement of the quality of reporting seems to have disappeared (Fig. 2). Analysis shows that effort mostly focuses on the core indicators (71% properly developed), to the detriment of supplementary indicators (48%). Iberdrola, the largest company in this sector, seems to act as a leader in its application of G3 and it provides more accurate information in core and secondary indicators throughout the period.

It is possible to observe how the rest of companies are moving towards the level reached by the Iberdrola. Within the supplementary standards, the indicators most developed are those,

such as EN 6, 7, 13 and 4, where a company can demonstrate positive impacts. On the other hand, less information is provided about supplementary standards EN 15, 24, 25 and 29, involving the identification of damage, spills and negative impacts. The results suggest that in the electric utilities sector companies are providing positive data, especially those provided by renewable energies such as wind energy, to portray a favourable corporate image in their reports, such as emissions avoided, habitats restored, listing in sustainability indexes, etc. while at the same time masking any negative impacts (Deegan and Rankin, 1996a). Likewise, companies tend to present online sustainability reports using similar data which shows a positive image of the company (Daub, 2005). Hence, the observable mimetic affect has had a focus on positive rather than balanced information and needs an additional incentive for companies to adopt balanced reporting.

GRI guidelines consider that information supplied must allow stakeholders to track the company's performance over time and to be able to compare data using the company own benchmarks. This degree of latitude means that, in spite of the plethora of information provided, as the same units are not always used, comparisons in performance are not easy to make either over time or between companies. To cite a common problem, for standards EN 16 and 17 the following measures are reported by different companies - Tn CO₂; KTn of CO₂; MT CO₂; Kg of CO₂/Kwh; gr CO₂/Kwh – indicating little consistency amongst measures.

Concerning provisions and contingencies, the trend in the sector is to disclose very little specific data, with many cases like Gamesa and Iberdrola being limited to a set script, clearly following a formula, assuring us that "... many of its activities do not affect the environment, and should they do so, these are amply covered by insurance". This indicates that the disclosed information is insubstantial (Adams, 2004; Criado et al, 2008; Deegan and Rankin, 1996a).

Companies are tending to use a standardised discourse which suggests the lack of concern they have for this indicator regardless of its relevance to stakeholders. Although completing core indicator information is essential if stakeholder relationships are to be maintained, it seems to be regarded as a routine technical activity to tick the right boxes (Wheeler and Elkington, 2001).

In summary, in spite of the fact that the average volume of information disclosed by the companies is high when assessed against the GRI G3 guidelines for environmental disclosures, there is a lack of quality regarding the degree of comparability, which prevents stakeholders from being able to assume full credibility of reported data to help them with their decisions. The relationship of each of the five areas to the corresponding isomorphic pressures is highlighted visually in Table 4.

5. Conclusions

The purpose of this paper is to examine the behaviour in environmental reporting practices in the wind energy sector in Spain, an industry where it might be expected that environmental considerations form an important part of the competitive milieu within which companies are located. The question addressed is ‘*What institutional considerations have influenced the evolution and current state of environmental reporting in the Spanish wind farm sector?*’ In particular the growth of voluntary reporting stimulates the notion that mimetic institutional considerations will encourage improved reporting by companies competing for market share in the Spanish wind farm industry. In addition, coercive isomorphism stems from the leadership role of one company, Iberdrola.

Results of the content analysis of reported information over a five year period for Spanish wind utilities reveal that there are strong elements of mimetic culture embedded in the development of reporting. New core GRI reporting standards have been adopted by most utilities. However, despite the plethora of data supplied by the sample of electric utility companies online and in PDF format to their stakeholders the disclosures are of marginal use for a number of reasons. First, the use of different metrics by different companies, as well as by the same companies over time, hinders comparisons of performance being made by users. Second, the focus on positive results instead of balanced positive and poor performance indicators detracts from the usefulness intended by GRI G3. Third, the assurance process is flawed as the scope of assurance is limited to the indicators the companies choose to disclose; hence A+ adherence levels mask the underlying shortage of balanced information. In addition third party independent assurance is not yet the norm in the industry. Third, inclusion in sustainability indexes has proliferated leading to uncertainty as to the value of information related to any specific index. Finally, for an industry that relies on an environmental rational it

is astounding to find that the environment is not considered as a stakeholder by five of the seven firms. Again mimetic pressures have not worked in this important area.

The evidence indicates that the behaviour of these companies with their high environmental impact has been an important influence on the amount of information disclosed in recent times throughout the electricity sector (Larrinaga et al., 2002; Moneva and Llana, 2000). The findings for wind farm companies are consistent with established research that electricity companies needed to legitimise their behaviour by taking coercive regulatory concerns into account when establishing wind farms (Golob and Bartlett, 2007; Moneva and Llana, 2000; Moneva et al, 2001). But the results show that a change in the reason for disclosure has occurred over time with current results showing that the emphasis is now on mimetic pressures exerted by markets and competition in this oligopolistic industry. The importance of different institutional reasons for disclosure are reconfirmed, with movement between the key pressures changing over time through the life cycle of the industry as, first, companies seek to initialise their credibility in the eyes of society, in the wind energy sector by responding to pressure from society on governments to encourage non-fossil fuel alternatives in the face of growing social outrage over the need for action over climate change. Second, as the new industry begins to consolidate its position results confirm that the need to meet the competition pushes companies to emulate each other in terms of strategic disclosures about environmental impacts.

Analysis of sustainability reports from the main Spanish wind energy producers, based on the set of GRI criteria (version G3) for environmental information reveals some quality and quantity differences in the initial information disclosed. However, these differences are reduced over time through a mimetic process as companies converge on similar disclosure sets tending towards homogenization of the information supplied orientated towards the voluntary GRI sustainability standards (DiMaggio and Powell, 1983).

In terms of information disclosure, a strategic company leader has emerged, Iberdrola, which, in volume and quality of environmental reporting, stands ahead of the other companies. It has assumed leadership and demonstrates coercive pressure by differentiating its environmental disclosure policy from those of rival companies. Its larger size also reconfirms the influence of the size on susceptibility to pressure for environmental reporting; so the firm sets the national disclosure standard for others in the sector to follow, or copy because they consider it to be a successful organization. Copying large successful firms represented the mimetic behaviour adopted by other companies in the sector.

An additional pressure for environmental disclosure in the wind energy sector is linked with the general notion that external rating agencies and rankings have an influence on the credibility of the reporting organisation. The pressure exerted by the desire to be included in prestigious indexes appreciated by financial markets encourages companies to report environmental data. Iberdrola is the utilities global group leader in terms of environmental reporting and industry leadership. The attainment of a worldwide award and being quoted in different prominent sustainability indexes, also exerts mimetic pressure on the rest of the companies to disclose environmental information.

Assurance of reported data has hardly increased over the period analysed, the standard followed and the verification process by third parties has been extended to all of the companies whose reports were examined. ER users can be sure that data offered by companies are trustworthy and relevant but the real utility of the information to check environmental performance is not the expected according to GRI to assess and compare environmental performance. In the absence of disclosure regulations a similar behaviour can be observed; the prevalence of positive aspects is clear, and commitment to the environment by the sector in general is poor, and is usually linked to complying with a particular standard or regulation. Limited interest from the financial markets in this type of corporate behaviour

contributes to the situation (Deegan and Rankin, 1996a; Deegan and Rankin, 1996b, Deegan and Rankin, 1997; Deegan, 2004), and investment appraisal does not consider environmental matters (Burritt, 2004).

The problem that arises with increased institutional pressure to undertake environmental disclosure by wind farm companies, is that the effectiveness using GRI for preparing environmental reports in order to reflect and to improve environmental performance is questionable. The pattern of disclosure adopted by companies is similar; once companies have reached their objectives there is no improvement in the information disclosed. Companies use the GRI G3 standard for forms sake and after this the companies examined do not put any effort in improving the type or quality of the information.

Further research is necessary to check the differences in environmental reporting against other benchmarks to obtain a sense of relative performance in terms of disclosures and to check whether there is collusion in the sector to reveal the same environmental information.

In conclusion, the voluntary commitment to the GRI is not effective in showing differences in performance or in increasing credibility in environmental reporting, or to compare and assess environmental performance in the Spanish wind farm sector. One of the key purposes of sustainability reporting is comparability within an organization and between different organisations over time and the results show that current institutional pressures do not encourage such an outcome. However, not only did voluntary standards fail, but accounting regulation to increase transparency in the sector also failed. Hence, it seems that some type of incentive/punishment needs be included in future law to assist with change.

Table 1. Format and links from GRI website

	Sector	2005				2006				2007				2008				2009			
		Report Title	format	Report Pdf Access	Report Html Access	Report Title	format	Report Pdf Access	Report Html Access	Report Title	format	Report Pdf Access	Report Html Access	Report Title	format	Report Pdf Access	Report Html Access	Report Title	format	Report Pdf Access	Report Html Access
Acciona Energía	Construction	Memoria de Sostenibilidad 2005	pdf	0	0	Memoria de Sostenibilidad 2006	pdf	0	0	Memoria de Sostenibilidad 2007	pdf	1	No	Memoria Sostenibilidad 2008	pdf	No	No	Memoria Sostenibilidad 2009	pdf	No	No
Endesa	Energy Utilities	Sustainability Report 2004	pdf	1	No	Sustainability Report 2006	pdf	No	No	Sustainability Report 2007	pdf	No	1	Sustainability Report 2008	pdf	No	0	Informe de Sostenibilidad 2009	pdf	No	No
Gamesa Energía	Equipment	Annual Report 2005	pdf	No	0	Annual Report 2006	pdf	No	0	Sustainability Report	pdf	No	No	Annual Report 2008	pdf	No	No	Sustainability report 2009	pdf	No	No
Gas Natural	Energy Utilities	Corporate Responsibility Report 2005	pdf	No	1	Corporate Responsibility Report 2006	pdf	No	1	Corporate Responsibility Report 2007	pdf	No	No	CSR Report 2008	pdf	No	1	CSR Report 2009 *	pdf *	1*	1*
Unión Fenosa Generación	Energy Utilities	Sustainability Report 2005	pdf	No	No	Sustainability Report 2006	pdf	No	No	Sustainability Report 2007	pdf	No	0	Sustainability Report 2008	pdf	No	No				
Hidrocarbónico Energía	Energy Utilities	Memoria de Sostenibilidad 2005	pdf	No	No	Memoria de Sostenibilidad 2006	pdf	No	1	Memoria de Sostenibilidad 2007	pdf	1	No	Memoria de Sostenibilidad 2008	pdf	No	1	Memoria de Sostenibilidad 2009	pdf Html file	No	1
Iberdrola	Energy Utilities	Sustainability Report 2005	pdf	No	1	Sustainability Report 2006	pdf	No	1	Sustainability Report 2007	pdf	1	No	Sustainability report 2008	pdf	No	1	Sustainability Report 2009	pdf	1	No

1= direct link from GRI website

0= direct link from GRI that does not work

* Missing lines on 2009 represent the merger between Union Fenosa and Gas Natural resulting in Gas Natural Fenosa

Table 2. Type and amount of environmental reporting

	Type of document	Additional docs	2005		2006		2007		2008		2009*		Adopt.	Source	Confirmed by	Bookmarks in pdf					Explicit Indicators				
			number of pages	Dev	number of pages	Dev	number of pages	Dev	number of pages	Dev	number of pages	Dev				G3	05	06	07	08	09	05	06	07	08
Acciona Energía	Sustainability Report	-	105	38	171	31	203	20	211	42	242	19	2006	web available last 2 years	Corporate Social Responsibility Department	No	No	No	Yes	Yes	No	No	No	No	No
Endesa	Sustainability Report	-	140	3	156	46	188	35	204	35	252	29	2005	web available 05, 06, 07, 08	Sustainable Development and Environ. Management	No	No	No	No	No	No	No	No	No	
Gamesa Energía	Sustainability Report	-	131	12	341	139	329	106	137	32	107	116	2007	web available 05, 06, 07, 08	-	No	No	No	No	No	No	No	Yes	Yes	
Gas Natural	Corporate Sustainability Rep.	-	163	20	226	24	148	75	130	39	161	62	2006	web available 05, 06, 07, 08	Corporate Social Responsibility Department *	No	No	No	No	No*	No	No	No	No	No*
Unión Fenosa Generación	Sustainability Report		71	72	160	42	214	9	205	36			2006	web available just last year			No	No	No	No	No	No	No	No	No
Hidrocarbónico Energía	Sustainability Report	GRI report 09, GRI Index 09	96	47	124	78	112	111	124	45	118	105	2006	web available 05, 06, 07, 08	Environment, Sustainability, Quality and Innovation Department	No	No	No	No	No	No	No	No	No	No
Iberdrola	Sustainability Report	Complementary Sustainability report 09 Preguntas comité indep expertos 08	295	152	236	34	369	146	169	0	182	41	2006	web available 05, 06, 07, 08	-	Yes	No	No	No	No	No	No	No	Yes	Yes
	average		143	49,1	202	56,3	223	71,8367	169	32,78	177	62													

Dev.= Deviation from the average

* Missing lines on 2009 represents the merge between Union Fenosa and Gas Natural resulting in Gas Natural Fenosa

Table 3. Verification of the sustainability report

	2005		2006		2007		2008		2009		Sector suppl	sector	2005		2006		2007		2008		2009	
	adherence level	declared as	adherence level	declared as	adherence level	declared as	adherence level	declared as	adherence level	declared as			ISAE 3000	AA1000 AS	ISAE 3000	AA1000 AS	ISAE 3000	AA1000 AS	ISAE 3000	AA1000 AS	ISAE 3000	AA1000 AS
Acciona	G2	Content Index only	G3	A+	G3	A+	G3	B+	G3	A+	GRI-checked	not applicable	construction	1		1	1	1	1	1	1	1
Endesa	G3	C	G3	A+	G3	A+	G3	A+	G3	A+	Third-party-checked	electric utilities	energy utilities	1	1	1	1	1	1	1	1	1
Gamesa	G2	In Accordance	G2	In Accordance	G3	A+	G3	A+	G3	A+	GRI-checked	not applicable	equipment	1		1		1				APS
Gas Natural	G2	In Accordance	G3	A+	G3	A+	G3	A+	G3	A+	GRI-checked	electric utilities	energy utilities	1		1		1	1	1	1	
Unión Fenosa	G2	In Accordance	G3	A+	G3	A+	G3	A+	G3	A+	GRI-checked					1		1		1		APS
Hidrocarbónico	G2	In Accordance	G3	A+	G3	A+	G3	A+	G3	A+	Third-party-checked	electric utilities	energy utilities	1		1		1		1		1
Iberdrola	G2	In Accordance	G3	A+	G3	A+	G3	A+	G3	A+	Third-party-checked	electric utilities	energy utilities			1	1	1	1	1	1	1

* Missing lines on 2009 represents the merge between Union Fenosa and Gas Natural resulting in Gas Natural Fenosa

Table 4. Theoretical Summary Table

	Type of Isomorphic Pressure		
	Coercive	Normative	Mimetic
Nature of Pressure	Regulation, strong social pressure	Professional standards, industry norms	Imitation of more successful firms, usually largest move first
Evidence of Pressure and Related Section	Large company Iberola leadership role in industry (5.)	Report form and access (4.1) Sustainability indexes (4.3)	Verification and assurance (low pressure) (4.2) Stakeholders considered (4.4) Information supplied (4.5)

Table 5. Sustainability indexes

	2005	2006	2007	2008	2009	1st Year DJSI
Acciona			DJSI Global 100 S&P Clean Energy KLD Global Climate 100	DJSI Global 100 S&P Clean Energy KLD Global Climate 100	DJSI S&P Clean Energy KLD Global Climate 100	2007
Endesa	DJSI KLD Global Climate 100	DJSI	DJSI	DJSI (70)	DJSI (78)	2001
Gamesa	FTSE4Good Global 100	FTSE4Good Global 100 KLD Global Climate 100	DJSI (61) FTSE4Good S&P Clean Energy KLD Global Climate 100	DJSI (61) FTSE4Good S&P Clean Energy KLD Global Climate 100	DJSI FTSE4Good S&P Clean Energy KLD Global Climate 100	2007 2004 2006
Gas Natural	DJSI (64,9) FTSE4Good	DJSI (70) FTSE4Good	DJSI (73) FTSE4Good KLD Global Climate 100	DJSI (76) FTSE4Good KLD Global Climate 100	DJSI (83) * FTSE4Good * KLD Global Climate 100 *	2005 2001
Unión Fenosa		DJSI	DJSI	DJSI	*	2006
Hidrocantábrico						
Iberdrola	DJSI Global 100 KLD Global Climate 100	DJSI Global 100	DJSI Global 100	DJSI (82) Global 100	DJSI Global 100 FTSE4Good (IBERENOVA)	1999 2005 2009

* Missing lines on 2009 represents the merge between Union Fenosa and Gas Natural resulting in Gas Natural Fenosa

Table 6. Stakeholders considered by companies

	Shareholder and Investors					Clients					Suppliers					Workers / employee					Society					Media					Environment					Regulators				
	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09
Acciona	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	1	1	1	1	1	2	2	2	2	1	0	1	1	0	0	0	0	0	0	0	0	2	2	2	1
Endesa	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	2	2	2	2	2	0	0	0	0	0	2	2	2	0	1
Gamesa	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	2	2	2	0	0	2
Gas Natural	1	1	1	1	1*	1	1	1	1	1*	1	1	1	1	1*	1	1	1	1	1*	1	1	1	1	1*	0	0	0	0	*	0	0	0	0	*	0	0	0	0	*
Unión Fenosa	1	1	1	1		1	1	1	1		2	2	2	2		1	1	1	1		2	2	2	2		0	0	0	0		2	2	2	2		2	2	2	2	
Hidrocarbónico	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0		1	1	1	1	1
Iberdrola	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

0 = no groups

1= priority groups

2 = non priority groups

* Missing lines on 2009 represents the merge between Union Fenosa and Gas Natural resulting in Gas Natural Fenosa

Table 7. Developing level of GRI indicators

	Acciona					Endesa					Gamesa					Gas Natural					H-C					Iberdrola					U-Fenosa									
	G2	G3	G3	G3	G3	G2	G3	G3	G3	G3E	G2	G2	G3	G3	G3	G2	G3	G3	G3	G3E	G2	G3	G3	G3	G3	G2	G3	G3	G3	G3E	G2	G3	G3	G3	G3E					
	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09	05	06	07	08	09*
Materials																																								
c EN-1	2	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
c EN-2		1	1	1	1	2	2	2	2	2	0	0	0	2	2	0	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2
Energy																																								
c EN-3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
c EN-4		1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EN-5	2	1	1	1	1	0	0	0	0	0	0	2	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	2	2	2	2					
EN-6	2	1	1	1	2	0	0	0	0	0	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	2	2	2
EN-7	0	1	1	1	2	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	2	2	2	0					
Water																																								
c EN-8	2	1	1	1	1	1	2	2	2	2	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EN-9	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	0	1	1	1	1	0	0	0	1	1	0	1	1	1	1	0	1	1	1	1
EN-10	2	0	1	1	1	0	0	0	0	0	0	0	0	1	1	0	1	1	1	2	0	1	1	1	0	0	0	0	1	1	0	0	0	3	3					
Biodiversity																																								
c EN-11	0	0	0	0	0	2	1	1	1	2	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
c EN-12	0	0	0	0	0	1	1	1	1	2	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1
EN-13	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	0	1	1	1	0	0	0	1	1	1	0	1	1	1	1	0	1	1	1	1
EN-14	2	2	2	2	1	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1
EN-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	0	0	0	0	1	0	0	0	1	1	0	0	0	2	2					
Emissions, Effluents and Waste																																								
c EN-16	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
c EN-17	3	3	3	3	0	0	1	1	1	3	0	0	0	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1
EN-18	0	1	1	1	1	1	0	0	0	0	0	0	0	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1	0	1	1	1	1
c EN-19	3	3	3	3	3	2	1	1	1	3	1	1	1	1	1	1	1	1	1	1	3	3	3	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
c EN-20	0	2	2	2	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
c EN-21	0	1	1	1	1	1	2	2	2	2	0	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
c EN-22	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
c EN-23	0	1	1	1	1	3	1	1	1	1	0	2	2	2	1	0	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EN-24	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	2	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	3	3	3					
EN-25	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	0	0	0	0	1	0	0	0	1	1	0	1	1	1	1	0	1	1	1	1
Products and services																																								
c EN-26	2	2	2	2	1	0	2	2	2	1	1	1	2	2	1	1	1	1	1	1	0	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
c EN-27	3	3	3	3	3	3	3	3	3	3	1	1	2	2	0	3	3	3	3	3	0	3	3	3	3	1	1	1	1	1	3	3	3	3	3					
Compliance																																								
c EN-28	0	1	1	1	1	0	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1					
Transport																																								
EN-29	2	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	0	1	2	2	1					
General																																								
c EN-30	1	1	2	2	2	0	0	0	0	0	2	2	2	2	2	1	1	1	1	1	1	1	0	1	1	1	1	1	1	0	1	1	1	1						

C= Core indicator

1= Well developed, gives complete and proper information according to GRI guidelines

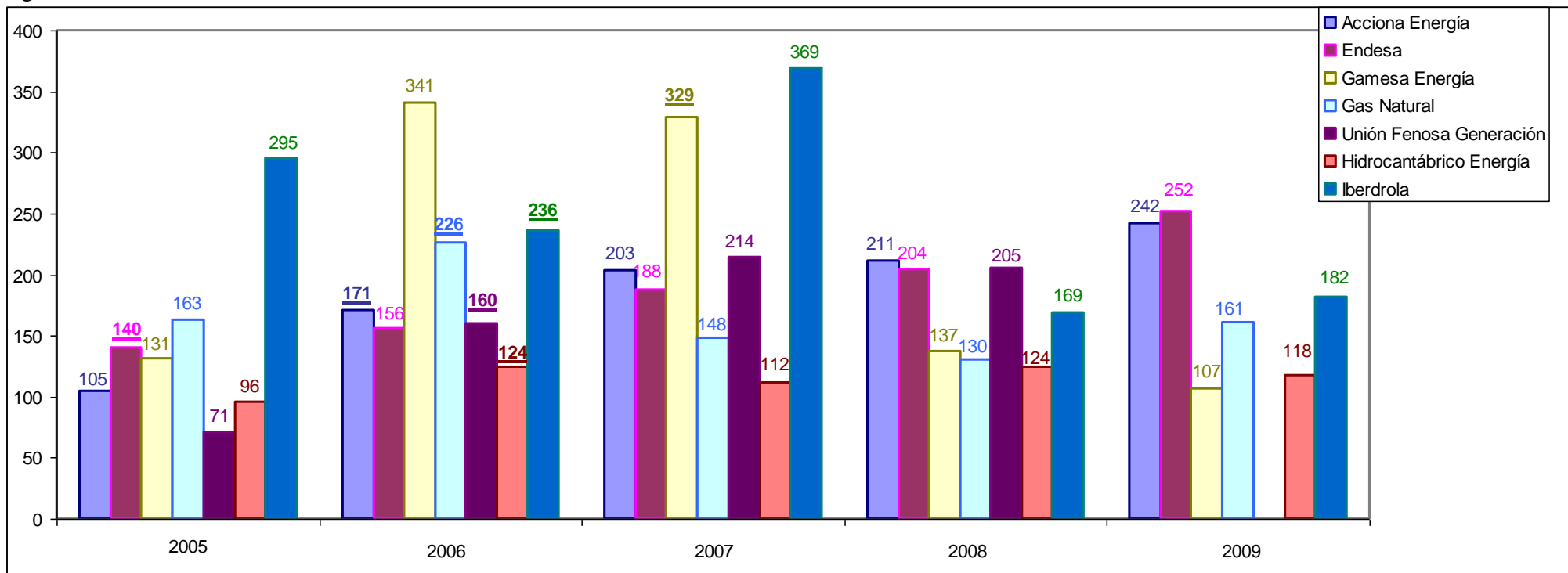
2= Partial developed, gives incomplete information according to GRI guidelines

3= Considered not material by companies

0= not mention and not explanation

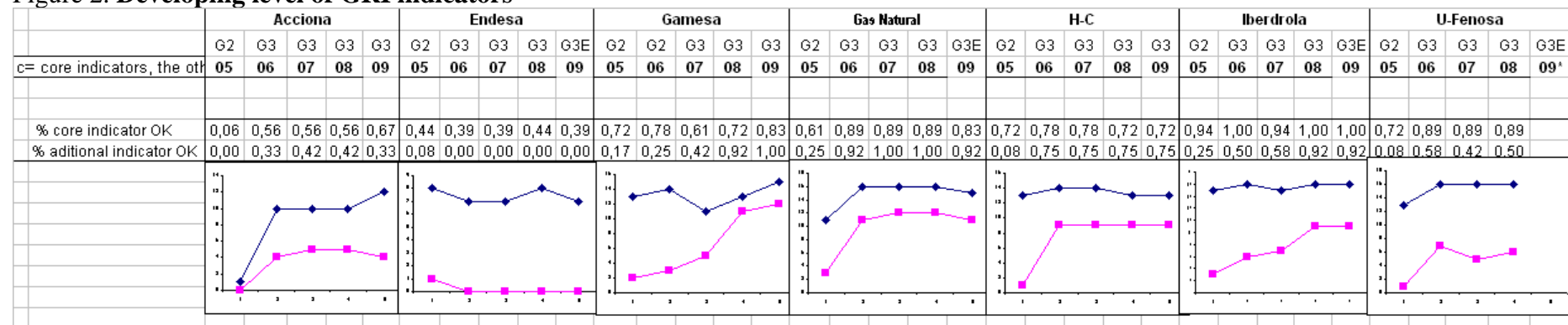
* Missing lines on 2009 represents the merge between Union Fenosa and Gas Natural resulting in Gas Natural Fenosa

Figure 1. Volume of information



Underlining numbers represent the year where G3 were adopted

Figure 2. Developing level of GRI indicators



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