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# Mandatory Carbon Reporting in the UK Public Listed Companies.

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**Abstract**

Climate change is one of the most significant threats facing the world today. As to measure is to manage, the mandating of the Mandatory Carbon Reporting Requirements (MCRR) in August 2013 was an important step taken by the UK government in seeking to manage corporate carbon emissions. Even though many companies have disclosed carbon disclosures in their annual reports voluntarily before the introduction of MCRR; Deloitte (2010), reported that only a handful of companies came close to complying with DEFRA guidelines. Failure to follow recommended guidelines may cause disclosures to be less useful to the stakeholders, as it fails to meet stakeholders' expectation and does not facilitate comparison between companies or industry sectors. This paper investigates whether companies have made use of the guidelines issued by the government and report the information as recommended (especially after MCRR); or whether the disclosure is a symbolic action, where the disclosure is just a ceremonial compliance rather than giving useful information to the stakeholders. Further, the paper also investigates whether the regulation has effectively motivated companies to improve their reporting (by following the guidelines) as compared to a voluntary year. The findings provide evidence that there is a significant difference between the two years disclosure, especially in the disclosure of mandatory items. The increase in the number of reporting companies and the improvement of the content of the reports is a sign that companies are committed to complying with MCRR, despite its 'Comply or Explain' approach of enforcement. The significant increment was also found in voluntary items which are related to mandatory items. Besides contents, improvement is also found in the way the information is disclosed in the annual report.

**Keywords:** GHG, carbon reporting, mandatory, climate change

## 1. INTRODUCTION

*"Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen."*

*(IPCC, 2014)*

Climate change is one of the greatest threats facing the world today. Increasing greenhouse gas concentration in the atmosphere is perturbing the environment to cause potentially, and perhaps inevitably, grievous global warming and associated consequences (Pandey, Agrawal and Pandey, 2011). In 2009, UK emissions of the basket of six greenhouse gases covered by the Kyoto Protocol were estimated to be 566.3 million tonnes carbon dioxide equivalent (MtCO2e). The emissions of carbon dioxide alone were estimated to be 473.7 million tonnes (Mt) (DECC, 2012). For the year 2014, Climate Change Committee (CCC) (2015) reported that the total UK emissions

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had reduced by 8% (to 520 MtCO2e) as compared to 2013, resulting in emissions that are 36% below 1990 levels. However, a concern was raised about whether this reflected significant progress in reducing underlying sources of emissions, or whether it was just a one-off event (CCC, 2015).

According to the Stern Review (2007), if we do not act, the estimated overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a broader range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more. In responding to the growing impact of climate change, the UK government have taken an important step in seeking to manage corporate carbon emissions by mandating the Carbon Reporting Requirements (MCRR). The introduction of MCRR is hoped to improve the quality of voluntary reporting as well as encourage for carbon footprint reduction initiative.

Even though many companies have incorporated carbon disclosures in their annual reports voluntarily before the introduction of MCRR; Deloitte (2010), reported that only a handful of companies came close to complying with DEFRA guidelines. Failure to follow recommended guidelines may cause disclosures to be less useful to the stakeholders, as it fails to meet stakeholders' expectation and does not facilitate comparison between companies or industry sectors. This paper investigates whether companies have made use of the guidelines issued by the government and report the information as recommended (especially after MCRR); or whether the disclosure is a symbolic action, where the disclosure is just a ceremonial compliance rather than giving useful information to the stakeholders. Further, the paper also investigates whether the regulation has effectively motivated companies to improve their reporting (by following the guidelines) as compared to a voluntary year.

### 1.1 The UK's Mandatory Carbon Reporting Requirements (MCCR)

MCRR was announced by the UK's Deputy Prime Minister in June 2012, at Rio+ 20 Summit in Rio de Janeiro. MCRR was planned to start in April 2013, but it was not until it was approved by the UK Parliament in August 2013. MCRR finally take effect on the 1 October 2013 and companies with reporting years ending on or after 30 September 2013 need to publish their first report under the mandatory requirement. It is hoped that MCRR will help the UK achieve its carbon targets. Information on carbon emission is needed by the government for different purposes, such as to support emission trading schemes, where they exist; as a complement of domestic climate change policies, and to refine national GHG inventories (Kauffmann, Tébar Less and Teichmann, 2012). Hence, the organization must supply the government with useful carbon emissions information which is reliable, relevant and timely, so that it helps the government in making useful decisions.

MCRR requires organizations to disclose the following carbon emission information in their Directors' Report: (1) the carbon emissions from Scope 1(direct emissions); (2) scope 2 (indirect emissions); (3) the methodology used to calculate the carbon emissions; (4) the intensity ratio used to express a company's annual emissions; (5) repeat the relevant information disclosed in its first reporting year in every subsequent directors' report, including the relevant information in the first reporting year if it has been recalculated and last but not least, (6) state if the period of reported emissions is different to the period of which the Directors' report is prepared.

### 1.2 Objective of the Study

a) To investigate whether the regulation has effectively motivated the non-reporting companies to disclose, as well as improve the disclosure of existing reporting companies
b) To investigate to what extend FTSE 350 companies comply with MCRR.
c) To investigate the impact of MCRR to the voluntary items of carbon disclosure as recommend by DEFRA guidelines.
d) To investigate the impact of MCRR on the carbon disclosure presentation

## 2. LITERATURE REVIEWS

### 2.1 Voluntary Reporting and the Needs for Mandatory Reporting

In September 2009, DEFRA produced guidelines on voluntary carbon reporting, including the templates of how the carbon disclosure should be reported in annual reports. Immediately before MCRR was made mandatory in October 2013, a similar guideline was issued by DEFRA in July 2013; incorporating both voluntary and mandatory guidelines for carbon reporting. Even though many companies have incorporated carbon disclosures in their annual reports voluntarily before the introduction of MCRR; it does not mean that the disclosure contents were following the guidelines. Some environmental researchers (such as Adams, 2004; Deegan and Rankin, 1996;

and Criado-Jimenez et al., 2008) suggest that voluntary reporting lacks neutrality and objectivity, thus does not serve the demands of stakeholders. Consequently, compulsory reporting requirements may be an appropriate mechanism to enhance the quality of reporting. A research report published by Deloitte (2010), looking at how 100 UK listed companies publicly and voluntarily report their corporate carbon footprint shows that only a handful of companies in the survey came close to complying with DEFRA guidance. This is somewhat disappointing and signals that enforcement through mandatory regulation is needed. Any disclosures that do not follow recommended guidelines may become less useful to the stakeholders and fail to meet stakeholders' expectation.

In Australia, Cotter, Najah and Wang (2011) found that even the company that has received awards for its disclosure record do not disclose enough as compared to the CDSB framework. The Deloitte (2010) report also reveals the wide variety of both formal and informal carbon reporting practices. This does not facilitate comparison between companies or industry sectors, making it difficult to evaluate the relative performance of companies in monitoring and reducing their carbon footprint. Therefore, it is interesting to investigate whether companies make use of the guidelines issued by the government and report the information as recommended (especially after MCRR); or whether the disclosure is a symbolic action, where the disclosure is just a ceremonial compliance rather than giving useful information to the stakeholders. In addition to that, the researcher is interested to investigate whether the regulation has effectively motivated companies to improve their reporting (by following the guidelines) as compared to a voluntary year. This is because disclosure under specific requirement and enforcement is argued to be better as companies are liable for significant misstatements or non-compliance action (Criado-Jimenez et al., 2008). It is anticipated that there will be cases of non-compliance or not full compliance in the mandatory year especially during the first year of its introduction. In the case of environmental reporting, it was evidenced that many companies fail to comply with mandatory requirements and the disclosure quality is low (Adams et al., 1995; Larrinaga et al., 2002; Llena et al., 2007 and Criado-Jimenez et al., 2008). The UK is the first country to make it compulsory for companies to include emissions data for their entire organisation in their annual reports (DEFRA, 2012). This provides an excellent and timely research opportunity to investigate the compliance level of the companies involved.

## 2.2 Impact of Mandatory Requirements

The role of the mandatory requirement is basically to ensure relative uniformity in reporting practices, as well as provide minimum disclosure requirements that voluntary disclosure alone cannot satisfy (Berthelot, Cormier and Magnan, 2003). Uniformity is useful as it can increase comparability. As suggested by Yip, R. W. Y., & Young, D. (2012), adoption of regulation in reporting improve the quality of information as well as comparability. In addition, it can also help in reducing the information asymmetry between investors and managers (Berthelot et al., 2003; Lev, 1988).

A study by Frost (2007) on the impact of the introduction of mandatory regulation in Australia found that there is a significant increase in recognition of environmental regulation within the statutory sections, with a subsequent decline of disclosure in the voluntary section. Criado-Jimenez et al. (2008) investigated the effectiveness of the improved environmental regulation in Spain and suggested that the following and improved regulation could increase the quantity and the quality of disclosure. Despite this increment, however, there is still a problem of non-compliance. Potoski and Prakash (2005 p. 236) suggest that the non-compliance stem from a "willful avoidance or ignorance of what government regulations require". In contrast, an investigation of the mandatory environmental reporting in Denmark shows a high level of compliance with the law (Bebbington and Thy 1990). In addition, the authors also found that the mandatory requirement appears to have saved as much money as it cost; where about 50 percent of the firms who undertook the environmental reporting believed that they had achieved financial benefits which arose from the process of producing the accounts which compensated for the costs involved.

Comparing voluntary and mandatory years, Cowan and Gadenne (2005) found that Australian listed companies have a propensity to disclose higher levels of positive environmental disclosures in the voluntary sections of the annual report that in the statutory sections of the annual report. Their study results also suggest that companies adopt different disclosure approaches when the disclosures are potentially under surveillance or increased scrutiny via mandatory requirements. It is also evidenced that companies continue to provide favourable boosted information within a voluntary reporting environment than within a mandatory reporting environment, and suggests that stakeholders may be more likely to receive information that is less favourable to the corporation (and potentially more decision-useful to stakeholders) within a legislated disclosure environment (Cowan and Gadenne, 2005).

The review of the above literature, therefore, suggests that mandatory requirements may help encourage companies to at least minimum disclosure (Berthelot, Cormier and Magnan, 2003); improve company's climate change disclosure in both quantity and quality (Criado-Jimenez et al, 2008); promote uniformity in reporting practices that enhance comparability (Berthelot, Cormier and Magnan, 2003); reduce bias information (Cowan and Gadenne, 2005) and reducing the information asymmetry between investors and managers (Berthelot et al, 2003; Lev, 1988). According to Potoski and Prakash (2005), compliance with regulation can be improved through the requirement of third-party verification. Compliance with mandatory requirement does not mean that companies stop producing voluntary disclosure. Mandatory disclosure always accompanied by voluntary disclosure voluntary disclosure is the extension and complement of mandatory information disclosure system (Tian and Chen, 2009). On the other hand, the finding from Sukthomya (2011) shows that companies will only disclose voluntary disclosure in addition to mandatory disclosure if only they perceived that the additional disclosure would benefit them.

## 3. RESEARCH METHOD

In achieving the objective of the study, content analysis was carried out to the UK FTSE350 companies' annual reports. The UK companies were chosen for this study, as the UK is the first country that makes carbon disclosures compulsory in the annual report. However, firms in the financial sector are excluded from this study because they are heavily regulated (El-Faitouri, 2012) and are subject to different disclosure requirements that may significantly affect their policies, disclosure and structures (Aburaya, 2012; Duraya, 2011; Mangena and Taurinaga, 2007; Tauringana and Chithambo, 2014). Furthermore, nature and business activities of these firms are less compared to others (Duraya, 2011). The financial companies include banks, insurance companies, investment and unit trust, and real estate companies are therefore excluded.

In comparing the reporting between voluntary and mandatory, cross-sectional comparisons were used. Two comparison years chosen were:

- Voluntary period – Annual reports for years ending in 2010/2011.
- First mandatory period – Annual reports for years ending on 30/9/2013 to 29/9/2014.

The 2010/11 annual reports are chosen as the voluntary year because the Department for Environment, Food and Rural Affair (DEFRA) has produced first voluntary guidelines for measuring and reporting carbon emissions in September 2009. With the existence of such guidelines, some organizations might have their first attempts to report their carbon emissions in the following fiscal year ending 2010/11. As reported by Tauringana and Chithambo (2014), the increase in GHG disclosure for the year 2010 impliedly shows that the issuance of this guidelines had a positive effect on GHG disclosure. The year before the introduction of the legislation is not chosen (2012/13) as MCCR was announced in June 2012. Therefore the GHG disclosure in that particular year is assumed to be affected by the announcement; thus does not reflect a fair voluntarily disclosure (not affected by the introduction of new legislation). Therefore, the 2010/2011 is viewed by the researcher as a perfect time to explore the cross-sectional comparison of disclosure because the voluntary disclosure is at the peak with the introduction of the first reporting guidelines. On the other hand, MCRR was mandated on August 2013. The first mandatory reporting year is for the year ending on or after 30 September 2013. Therefore, for the companies with fiscal year ending 30/9/2013 to 31/12/2013, the first MCRR year will be 2013. On the other hand, for the companies with the accounting period ended on 31 December, the first MCRR year will be 2014.

Edelman and Suchman (1997) suggest that regulation is meant to control organizations; and compliance with this regulation is the organizational responses to regulation. Therefore the introduction of MCRR with its new guidelines from DEFRA is speculated to change the quantity and the quality of the disclosure; as a companies' response to comply with the regulation (Criado-Jimenez et al., 2008). One of the reasons is that compliance with regulation give positive impact to stakeholders' perception (Lewis et al., 2014) and help to maintain and to improve their legitimacy. Therefore these two years shared a common ground of having a 'trigger' for better disclosure. Thus they are more comparable, and the comparison is more credible and valid. Excluding companies under financial sectors, companies which were not placed in the same FTSE index for both years and those which annual reports were not yet published, the final sample for data collection is 158 companies.

In analysing the content of disclosure, data from annual reports were categorized and coded according to the disclosure index from DEFRA guidelines 2009. The coding is based on the item disclosed, and scoring is based on finding the disclosure item. As for the mandatory items, even though MCRR has six mandatory items (refer to Section 1.1), items (5) and (6) were excluded in the analysis. Since 2013/14 is the first year of reporting, then requirement (5) is not required. Companies can only start to include the first year data in their report starting in the next reporting period. As for requirement (6), it is assumed that companies that did not state that the period of the disclosure is not the same as the period of Directors' report are prepared; their reporting period is the same. Therefore, in calculating the level of compliance, the author only includes the following elements in the calculation. Thus, the total compliance score is four (1 point for each item). The analysis used is more in the form of descriptive content analysis. The guidelines disclosure items are reclassified into mandatory items and voluntary items.

## 4. FINDING AND DISCUSSIONS

### 4.1 Change in the number of reporting companies

The finding shows the increase in the number of reporting companies in the mandatory year as compared to a voluntary year. In the selected voluntary year (2010/11), there was already a high disclosure rate for climate change and carbon disclosure among FTSE350 companies (95%). The introduction of MCRR has encouraged the small number of non-disclosing companies to provide some carbon-related information, thus increasing the reporting percentage to 100 percent. In addition, MCRR has also encouraged the existing reporting companies to further improve the contents of their disclosure in order to comply with the regulation.

The increase in the number of reporting companies is consistent with the finding from Cowan and Deegan (2011), Hollindale (2012) and Choi, Lee and Psaros (2013) when the introduction of new environmental and climate change regulation such as the National Pollutant Inventory (NPI) and National Greenhouse and Energy Reporting Act 2007 (NGER) were similarly seen to increase the number of companies reporting carbon disclosures. It is suggested that the introduction of regulation has also increased public awareness on climate change, thus pressuring companies to disclose (Choi et al., 2013).

### 4.2 Reporting of mandatory items

Although there is an increase in the number of reporting companies; it does not mean that the content of the reporting is following the suggested contents from DEFRA guidelines for voluntary and mandatory requirements under MCRR. The analysis of changes for the compliance items shows a large increase in all of the mandatory items in the mandatory year as compared to the voluntary year. Table 4.1 and Figure 4.1 below show the increase in the number of reporting for each of the mandatory items and the companies mandatory items disclosure score respectively.

Table 4.1: Number of companies reporting mandatory items

| | **Mandatory Disclosure** | **Total** | | **Total Change** |
|---|---|---|---|---|
| | | **Voluntary Year** | **Mandatory Year** | |
| 1 | Scope 1 emission/direct | 14 | 126 | 112 |
| 2 | Scope 2 emission/indirect | 14 | 127 | 113 |
| 3 | Intensity emission/ratio | 56 | 146 | 90 |
| 4 | Measuring and reporting methodology | 34 | 149 | 115 |

As shown above, all items show an increment in reporting and measuring and reporting methodology item report the highest number of the disclosure.

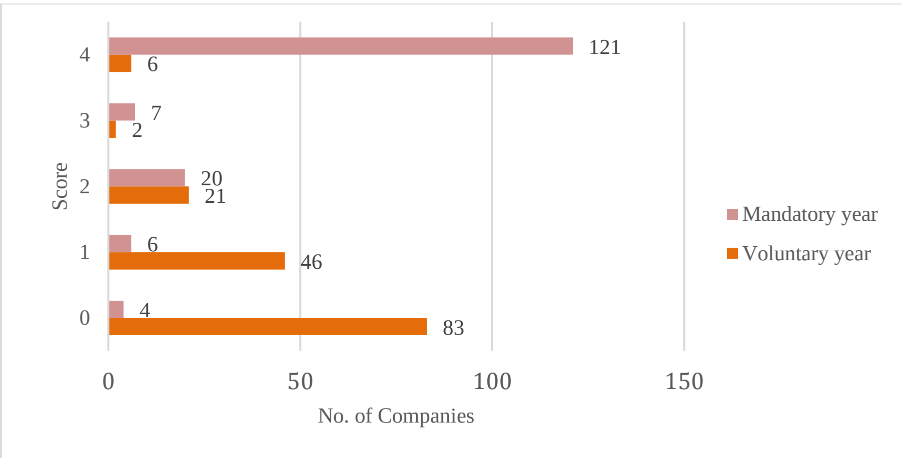


Figure 4.1: Comparative score for compliance items by year

In the voluntary year, the majority of the companies (83 companies) do not disclose any of the mandatory items (score 0 points). However, this figure has dropped massively in the mandatory year, leaving only the total of 4 companies with total non-compliance. With the massive decrease for the zero scorers, the companies that have full compliance with the total score of 4 have soared to 121 companies, an increase of 115 companies from the voluntary year. Further, the number of companies with only 1 score has decreased from 46 to only 6 companies; while companies that score 3 points has increased slightly from 2 companies to 7 companies. Meanwhile, the number of companies that 50% complied is almost the same for both years, with 21 and 20 companies respectively for voluntary and mandatory year. This finding suggests that MCRR does motivate companies to improve their reporting and fulfil the compliance requirements.

### 4.3 Change in the Disclosure of Voluntary Items

Table 4.2: Changes in disclosure of voluntary items

| | Voluntary Disclosure Items | FTSE 100 | | FTSE 250 | | Total | | Total Change |
|---|---|---|---|---|---|---|---|---|
| | | VY | MY | VY | MY | VY | MY | |
| 1 | Scope 3 emission/other indirect | 1 | 16 | 5 | 27 | 6 | 43 | 37 |
| 2 | Total gross emission | 30 | 54 | 27 | 79 | 57 | 133 | 76 |
| 3 | Carbon offsetting | 2 | 1 | 0 | 0 | 2 | 1 | -1 |
| 4 | Green tariff | 1 | 2 | 0 | 0 | 1 | 2 | 1 |
| 5 | Comparative emissions data from previous reporting | 34 | 45 | 35 | 50 | 69 | 95 | 26 |
| 6 | Base year emission data | 7 | 19 | 3 | 15 | 10 | 34 | 24 |
| 7 | Reporting period | 4 | 32 | 5 | 52 | 9 | 84 | 75 |
| 8 | Organizational boundary | 6 | 33 | 3 | 48 | 9 | 81 | 72 |
| 9 | Changes in emission since previous year | 25 | 31 | 40 | 39 | 65 | 70 | 5 |
| 10 | State intensity measurement | 29 | 60 | 30 | 86 | 59 | 146 | 87 |
| 11 | State the reason for intensity measurement choice | 1 | 6 | 0 | 8 | 1 | 14 | 13 |
| 12 | State the reason for any significant changes in intensity measurement from the previous year | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | Stating for each activity the percentage of activity data estimated | 1 | 4 | 0 | 3 | 1 | 7 | 6 |
| 14 | State and specify each scope | 6 | 21 | 4 | 36 | 10 | 57 | 47 |
| 15 | State the conversion tools / emission factors used | 8 | 34 | 11 | 70 | 19 | 104 | 85 |
| 16 | State the base year chosen | 26 | 31 | 9 | 24 | 35 | 55 | 20 |
| 17 | State approach used to set the base year | 0 | 1 | 2 | 4 | 2 | 5 | 3 |
| 18 | State base year recalculation policy | 0 | 1 | 2 | 0 | 2 | 1 | -1 |
| 19 | State reason for base year emissions recalculation | 2 | 2 | 2 | 3 | 4 | 5 | 1 |
| 20 | State emission or reduction target. | 35 | 39 | 31 | 24 | 66 | 63 | -3 |
| 21 | State scopes covered in the target | 3 | 6 | 4 | 2 | 7 | 8 | 1 |
| 22 | State target completion date | 35 | 39 | 31 | 24 | 66 | 63 | -3 |
| 23 | Provide a brief overview of progress towards target | 17 | 22 | 10 | 10 | 27 | 32 | 5 |
| 24 | State the name and position of the person(s) responsible for achievement of this target | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25 | Detail of specific emission exclusion | 4 | 17 | 3 | 19 | 7 | 36 | 29 |
| 26 | Percentage of emissions excluded (estimation) | 0 | 1 | 1 | 2 | 1 | 3 | 2 |
| 27 | Explanation for the reason of exclusion | 1 | 15 | 2 | 12 | 3 | 27 | 24 |
| 28 | Provide a breakdown by country of total GHG emissions | 1 | 0 | 0 | 5 | 1 | 5 | 4 |
| 29 | Provide detail of any exclusions of countries if a global total is reported | 0 | 1 | 0 | 1 | 0 | 2 | 2 |
| 30 | State external assurance received | 7 | 19 | 2 | 21 | 9 | 40 | 31 |
| 31 | Provide copy or link to assurance statement | 1 | 10 | 1 | 6 | 2 | 16 | 14 |
| 32 | State the type of carbon credit/ Carbon Offsetting | 1 | 0 | 0 | 0 | 1 | 0 | -1 |
| 33 | State the supplier and the name of the tariff | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| 34 | State the percentage of additional carbon saving associated with the tariff | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

In measuring the disclosure performance on voluntary items, the scoring index is classified into four groups; 0 score, low, medium and high score. Since the total index is 34, the range for each scope is about 11 each (34 divided by 3). This has resulted in the classifications and findings produced in Table 4.3 below.

Table 4.3. Reporting performance classification based on voluntary disclosure scoring index

| **Disclosure Score** | **Number of Company** | | | |
|---|---|---|---|---|
| | **FTSE100** | | **FTSE250** | |
| | **Voluntary Year** | **Mandatory Year** | **Voluntary Year** | **Mandatory Year** |
| 0 point | 7 | 1 | 36 | 1 |
| Low (1-11 points) | 55 | 47 | 55 | 90 |
| Medium (12-22 points) | 1 | 15 | 0 | 5 |
| High (23 -34 points) | 0 | 0 | 0 | 0 |
| Total | 63 | 63 | 95 | 95 |
| Weighted average | 4.57 | 8.98 | 2.71 | 7.12 |

From the above table, it can be summarised that the level of voluntary disclosures has increased in the mandatory year. This is evidenced through the changed in the weighted average scores. Despite of the increase, the average score is still at the low level for mandatory year, which is between 1-11 points.

### 4.4 Change in the Presentation of Data

The differences between the two year's disclosures are not only found in terms of the content of the disclosure, but also the way the data is presented. In the voluntary year, despite having guidelines complete with the template of reporting, companies choose to disclose their data in the simplest and most convenient way to them including sentences, tables or graphs/diagrams. With the introduction of MCRR, the presentation of carbon reporting becomes more standardised. In relation to the change in the disclosure presentation, one of the company reported that their 2013 disclosure has been improved to incorporate MCRR and the information was presented in a new format.

The observations on the companies' annual report show that the voluntary year's carbon report is simpler and most companies prefer to use narrative rather than any other presentation tools. The following Table 4.3 shows the use of other presentation tools in climate change and carbon disclosure besides narratives in both reporting years.

Table 4.3: Presentation tools used in reporting

| Presentation tools | Voluntary year | Mandatory year |
|---|---|---|
| Table | 69 | 141 |
| Graph | 51 | 71 |
| Diagram | 14 | 20 |
| Picture and others | 36 | 36 |

The above table demonstrates the changes and improvement made by companies in their disclosure presentation in the mandatory year as compared to the voluntary year. In the mandatory year, the use of table scores the highest point where 141 companies (89.2%) have used it in their report, represent a 45.5% of increment as compared to voluntary year. Meanwhile, the use of graph falls second with 71 companies (44.9%) have used it in their report. The finding suggests that companies found the use of tables and graphs are helpful in presenting their current emission performance, as well as in making comparison with previous years' performance. The investigation of companies' reports found that table is commonly used by the company to summarise or report all the emission data including the MCRR required elements; including emissions by scopes, total emissions, intensity emissions, as well as emissions for previous years and base year. As for the use of diagrams, pictures and other presentation elements, the difference between the two years in not significant. The 'other' presentation tool includes the use of symbols, and the highlighted performance numbers. In addition, it was also found that 53.8% of the companies in mandatory year have used more than two presentation tools in addition to narrative.

For certain companies, the improvement may not be in term of presentation tools used, but the content included in the presentation tools. For companies like SIG Plc, even though both years make use of both narrative and tables, and the way they present the table is similar, however improvement is made to the details. In their emissions table for 2010/11, they report the detail source of the emissions for each scope, covering scope 1, 2 and 3, as well as the intensity emissions for the overall total. In comparison, for the year 2013/14, the table was enhanced with the comparative emissions with previous two years data, both absolute and intensity emission.

## 5. CONCLUSION

Overall, the result shows that MCRR has resulted in more companies reporting their carbon emissions and related information. The findings provide evidence that there is a significant difference between the two years disclosure of the two FTSE indices, as well as between industries, especially in the disclosure of mandatory items. The increase in the number of reporting companies and the improvement of the content of the reports is a sign that companies are committed to comply with MCRR, despite its 'Comply or Explain' approach of enforcement. On the other hand, it can be argued that explaining non-disclosure is also complying with requirements.

For voluntary reporting, the disclosure of items like total emissions, base year emissions, comparative emissions, intensity measurement, reporting year, reporting boundary and conversion tools disclosure increase massively in the mandatory year. One of the reasons for this tremendous increment is because some of the items are closely related to the mandatory items. For example, intensity measurement is used when disclosing intensity emissions; thus the increment in intensity emissions has led the intensity measurement reporting to increase too. The same situation is observed to conversion tools. Since many companies regard conversion tools as part of the reporting methodology, this information will be included together with the reporting methodology as required by MCRR.
In addition to the above mentioned items, the number of companies that commissioned independent party verification of their data has also increased, even though this is not required by the regulations. This a good sign for the company effort towards proving a reliable, credible and more accurate data to the user of their annual reports.

Marked changes were also found in the presentation of reports. Instead of using only text and narrative to tell the story of their carbon performance, companies have applied other presentation tools like graphs, diagrams, photos and tables in mandatory year reports. This help making carbon data more understandable and easy to read, especially to those which is not familiar in this area. MCRR has also found to cause some of the companies to invest in a better capturing and measurement of carbon data. With the changes made, company reporting is expected to improve over the years. These improvements should result from a greater experience of data collection; more time for report preparation; and better modelling, measurement strategies and systems.

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