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New Opportunities in Compliance, Energy Efficiency and Sustainability

Mandatory Carbon Reporting in London Stock Exchange Companies

A Market Analysis for
Technology and Services Providers

Cambium - Helping Businesses Grow Through Sustainability

Cambium is a specialist business consultancy based in the UK, which helps technology and services businesses to accelerate their sales. We achieve this by helping our clients to capitalise upon the new market opportunities as companies take action to ensure their operations and business models are resource efficient and sustainable.

Using a combination of research, consultancy and training interventions, we enable our clients to grow their revenues in the major new markets for sustainable innovations. Our services are summarised in the chart below.

Cambium's team comprises experienced scientific and engineering skills from a diverse range of disciplines. These technical skills are complemented by extensive expertise in environmental policy and legislation. As a result, we understand how Government interventions impact both the formation of new markets and the adoption of new sustainable innovations.

What makes Cambium different is that as scientists and engineers, the principals are also pragmatic with extensive experience of successful B2B sales and marketing execution. It is this combination of technical understanding, policy insight and proven sales and marketing experience that enable us to help our clients to maximise their sales and marketing opportunities.

To explore how we can help your business capitalise upon the mandatory Carbon Reporting Market, just email: **info@cambiumllp.com** or visit our website: **www.cambiumllp.com**

NEW OPPORTUNITIES IN COMPLIANCE, ENERGY EFFICIENCY AND SUSTAINABILITY

MANDATORY CARBON REPORTING IN LONDON STOCK EXCHANGE COMPANIES

A MARKET ANALYSIS FOR TECHNOLOGY AND SERVICES PROVIDERS

Cost: £250 (excluding VAT)

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1. Executive Summary

The UK Government is set to to introduce mandatory global greenhouse gas (GHG) emissions reporting for all quoted companies that are UK incorporated as defined by the Companies Act 2006 and officially listed on the main market of the London Stock Exchange (LSE) in the early summer of 2013. The requirement is an integrated part of the new narrative reporting legislation being introduced by the Department of Business Innovation and Skills (BIS). **(1)** This narrative reporting also requires a wider Environmental impact section for each listed company. This new reporting requirement will increase both the transparency and scrutiny into these elements of a company's operations.

Compliance Requirements

The mandatory GHG (often referred to as mandatory Carbon) reporting element of the new regulation requires the affected organisations (Participants) to report on their global Carbon footprint for the six greenhouse gases (identified within the Kyoto Protocol) in their Directors' Annual Report. Participants will be subject to the legislation from the 1st October 2013. This means that the first companies affected will be those whose financial year-end is on 30 September 2013. New processes, systems and information are likely to be required for these businesses to ensure compliance with the new GHG legislation, due to its global scope and the wide range of emissions to be reported.

Market Opportunities

This report analyses the state of readiness of the Participants to comply with this legislation. It provides essential insight for Services and Technology Vendors interested in growing the sales of their Services and innovations in this new compliance driven market. The report shows that there is a clear differentiation in the state of compliance readiness with this legislation between the FTSE-350 (Tier 1) and the remaining Companies listed on the LSE (Tier 2).

Industry Sector Summary

The report provides a breakdown of Participants (see Section 2.3 page 11 for full definition of Participants) affected by the legislation into key industry sectors. All industries are represented, which reflects the diversity of companies listed on the LSE. In Tier 1 the top four industry sectors with the highest percentage of Participants were Manufacturing & Industrial (17%), Financial Services (15%), Information & Communications Technology (ICT) (10 %) and Services (10%). For Tier 2 the top four sectors were Financial Services (18%), Manufacturing & Industrial (16%), Property & Construction (13%) and ICT (11%).

Voluntary Carbon Reporting Penetration

The level of voluntary reporting of greenhouse gases amongst all of the Participants has also been assessed. It was found that, of the 306 Companies in Tier 1, 84% already complete some form of voluntary Greenhouse Gas reporting. Conversely, 70% of the Tier 2 companies appear to be making little or no effort to report their emissions.

Industry sectors have been analysed in both Tier 1 and Tier 2 to determine those sectors with the largest percentage of companies which did not voluntarily disclose their emissions data. Non-disclosure is not a definitive guide to the complete absence of measurement, as companies may choose not to disclose their emissions footprints. In Tier 1, the sectors containing the highest

percentages of non-reporters were ICT, Retail, Pharmaceuticals (Pharma) & Healthcare. For Tier 2 the highest percentages of non-reporters were to be found in Pharma & Healthcare, Property & Construction and Financial Services sectors.

Carbon and Sustainability Interest

Using Cambium's proprietary **Sustainability Prospector™** tool, the level of interest in Carbon and Sustainability amongst the Participants has also been assessed. By analysing the results of the research into the level of voluntary Carbon reporting in combination with the interest levels in Carbon management and Sustainability from the **Sustainability Prospector™**, Cambium has been able to identify key market segments amongst the Participants in Tier 1 and Tier 2.

In Tier 1, where Carbon interest and Sustainability interest levels, were much higher than Tier 2, three segments were identified:

- **Carbon Leaders** – where both the level of public Carbon reporting and the interest in Carbon management shown by companies in the industry sectors in this segment is higher than the interest levels shown by the other Tier 1 sectors. This implies that these companies in these sectors are taking a proactive leading role in managing their greenhouse gas emissions.
- **Proactive Carbon Reporters** – where both the level of public reporting and the interest shown by these sectors in Carbon management within Tier 1 is high, but lower than the benchmark set by sectors in the Carbon Leaders segment.
- **Inactive Carbon Reporters** – for these sectors the level of relative voluntary reporting within Tier 1 is similar to the Proactive Carbon Reporters, but there is a lower interest in Carbon management being shown at present.

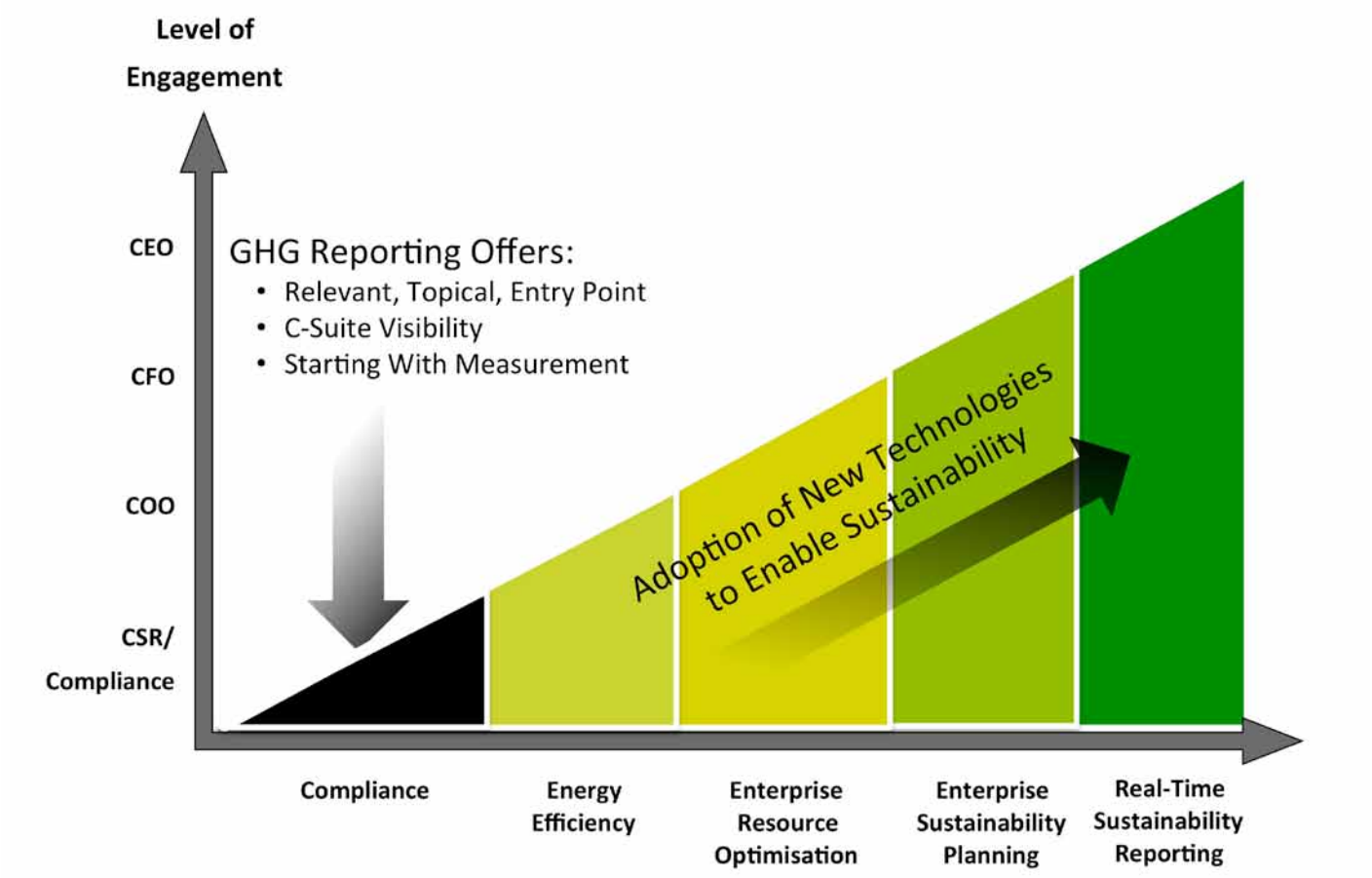
In Tier 2, four distinct market segments were recognised:

- **Carbon Leaders** – where both the level of public Carbon reporting and the interest in Carbon management shown by the sectors in this segment is higher than the levels shown by other Tier 2 companies in other sectors. This implies that the companies are taking a proactive role in managing their greenhouse gas emissions.
- **Followers** – where the level of public reporting is higher than the levels shown by other companies in Tier 2, but where their interest in Carbon management is relatively low.
- **Proactive & Risk Aware** – where the level of public reporting is lower than the levels shown by the companies in the Carbon Leaders and Followers segments, but where the level of interest in Carbon management is moderate. Companies in this segment need to address their compliance challenges.
- **Inactive and At Risk** – where the level of public reporting and interest in Carbon management shown in the sectors in this segment is low.

A New and Growing Market Opportunity

The adoption of Mandatory Carbon Reporting by the companies listed on the main London Stock Exchange marks the beginning of a new wave of investment in Carbon management, energy efficiency Technologies and Sustainability innovations that will catalyse large new markets for Vendors. Growth and market development in this area will continue for the rest of the decade as Companies seek to reduce their emissions footprint, reduce costs and protect their reputations.

This market evolution is depicted in the chart below.



As the X axis shows, Vendors that can deliver effective compliance and energy efficiency solutions in 2013 will experience significant growth in their opportunities as this reporting regime is rolled out.

Market Attractiveness for Services and Technology Vendors

The variations in voluntary reporting and interest in Carbon and Sustainability amongst Participants in both Tier 1 and Tier 2 have significant implications for their market attractiveness to Vendors. The comparative market attractiveness of the segments for both Services and Technology Vendors is summarised in the tables overleaf.

Additional momentum that will support the growth of this market will be provided by the extension of mandatory Carbon reporting to a further 20,000 UK companies in 2016. Vendors that can deliver effective compliance and energy efficiency solutions in 2013 will experience significant growth in their opportunities as this reporting regime is rolled out across the UK economy.

Market Attractiveness Mapping

A = Most attractive

B = Second most attractive

C = Third most attractive

D = Least attractive

	Offering Type	Offering Focus	CPG	Food & Drink Producers	Financial Services	Fuel Producers	ICT	Leisure & Hospitality	Manufacturing & Industrial	Media & Publishing	Pharma & Healthcare	Property & Construction	Retail	Services	Transport & Logistics	Utilities
Tier 1	Services	Carbon Consulting Services	C	C	B	B	B	B	B	A	B	B	B	C	C	C
		Carbon Verification / Certification	A	A	B	B	B	B	B	C	B	B	B	A	A	A
	Technologies	Metering & Reporting Technologies	C	C	A	A	A	A	A	B	A	A	A	C	C	C
		Energy Efficiency Technologies	A	A	B	B	B	B	B	C	B	B	B	A	A	A
Tier 2	Services	Carbon Consulting Services	C	B	B	C	A	B	C	D	A	B	A	D	B	C
		Carbon Verification / Certification	B	D	D	B	C	D	B	A	C	D	C	A	D	B
	Technologies	Metering & Reporting Technologies	C	B	B	C	A	B	C	D	A	B	A	D	B	C
		Energy Efficiency Technologies	B	D	D	B	C	D	B	A	C	D	C	A	D	B

Based on the analysis provided in this report Cambium make the following ten recommendations to Vendors interested in capitalising upon this market opportunity:

1. Be aware that compliance is only the beginning of a major new market opportunity
2. Capitalise on "C-Suite" interest in compliance and risk management
3. Ensure your sales teams understand the size and importance of the market opportunity
4. Urgently exploit the new incremental sales opportunities in key accounts
5. Develop and position Value Propositions with care
6. Ensure the availability of robust documented references
7. Make sure that solutions can be delivered as a service using Cloud models
8. Accelerate the development of a strong Partners network
9. Act with speed - this market is driven by a compelling timetable
10. Pay attention to your own Sustainability credentials

More detail on each of these recomendations is provided in Section 5 of this report on page 45.

2. Introduction - The Beginning of a Large Market Opportunity

Cambium has researched the companies listed on the main market of the London Stock Exchange that will be affected by the impending legislation on Narrative / Mandatory Carbon Reporting. As well as the immediate market opportunity relating to LSE listed companies the Government plans to extend the impact of this legislation to over 20,000 businesses from 2016.

This report provides essential market insight to Services and Technology providers that can enable the affected companies to comply with this new regulatory obligation and to reduce their emissions over time.

2.1 Relevant Services and Technologies:

The Services and Technologies that may benefit as a result of this legislation are summarised below:

Services:

In broad terms, the Services providers that can profit from this market include:

- **Carbon compliance providers** - consultants that support companies throughout the data gathering process and help create reports on Carbon (GHG) emissions
- **Carbon verification businesses** – organisations that assist Participants with third party certification, verification and assurance of Carbon (GHG) related data

Technologies:

The report considers two primary categories of technology vendor that can benefit in the short term as a result of this compliance catalyst:

- Metering and Reporting Technologies
- Energy Efficiency Technologies

Considering each category in turn, the Metering and Reporting Technologies that can benefit include those that enable compliance with the legislation, such as:

- Automatic metering systems
- Carbon accounting software
- Energy analytics systems

Additionally, there are those innovative Technologies that bring secondary benefits to firms, either by reducing emissions through minimising energy consumption, or by combating the fugitive emissions of greenhouse gases from the Company's operations.

This second class of technology covers a wide range of investment opportunities typically from energy efficiency innovations e.g. installation of renewable energy, building management systems or transport and logistics optimisation. Also fugitive emissions might be reduced by technology substitution. E.g. replacement of refrigerant gases with those of a lower global warming potential.

For example GHG gases hydro-and per-fluorocarbons (HFCs and PFCs) found in refrigeration units have a potential global warming of 100-10,000 times that of CO_2. In some instances the HFCs and PFCs can be replaced by CO_2 and as a result the greenhouse gas footprint is reduced.

These Technologies offer the potential to significantly reduce emissions, save energy and reduce costs. They typically represent large investments, particularly if deployed at scale across an enterprise. As a result, companies making these investments typically seek to understand the composition of their GHG footprint and its variation, for example by asset type, in order to establish whether or not there is a clear and compelling business case to buy these Technologies.

This legislation will drive the need for greater transparency into emissions composition and the prioritisation of business cases, using techniques such as marginal abatement cost curves. This analysis will only occur once a firm has achieved a good understanding of its GHG footprint.

For this reason, innovation in this second category mostly occurs after companies have started to report their emissions - in compliance with the legislation. Examples of the innovations that contribute to reduced emissions through the better use of energy and other relevant resources (Energy Efficiency Technologies) are shown in the table below.

ENERGY EFFICIENCY TECHNOLOGIES

Commercial Buildings:	Efficient Electronics:	Industrial Efficiency:	Information Technology:
• Efficient Building Infrastructure • Lighting • Heating & Cooling • Energy Management • Portfolio Optimisation	• Semiconductors • Power Management • Voltage Optimisation	• Advanced Motor Controls • Efficient Motors & Equipment • Water Management • Waste Heat Recovery • Renewable Energy Generation	• Hardware • Software • Building Management Systems • Transport and Logistics Optimisation • Sustainable Data Centre Infrastructure • Virtualisation & Cloud Computing

2.2 Essential Market Knowledge

The information in this report provides the reader with an understanding of the readiness of LSE companies to be compliant with the mandatory Carbon reporting legislation, based upon:

- a breakdown of the affected companies by primary market sector
- a comparison of the readiness to comply with the legislation across the market sectors based on the historic level of voluntary reporting of Carbon emissions
- variation in the compliance readiness between those businesses in the LSE in two distinct groups: the FTSE 350 (Tier 1) and the FTSE 351 and below (Tier 2)
- the interest level of affected businesses in Carbon management across the identified market sectors based on Cambium's proprietary objective research tool, the **Sustainability Prospector™**
- a segmentation of the Participants within each of the two Groups (Tier 1 and Tier 2) into market segments dependent on their current level of preparedness to comply with the legislation. These segments are identified for each group in Section 3.

2.3 Report Structure

The report is organised into sections that address the following topics:

Brief Overview of the Legislation and Terminology Used in This Report

Public links to the proposed legislation are provided. It is expected that the formal legislation will be laid before Parliament and become law in the period May to June 2013, with the inaugural reporting year beginning on or after 1st October 2013.

Research Methodologies

This section explains the methods used in the research to:

- identify organisations with a meaningful footprint and the breakdown by market capitalisation and industry focus.
- assess the level of voluntary emissions reporting observed amongst the identified Participants
- determine the comparative interest in Carbon Management and Sustainability amongst the affected companies

Key Research Findings

This element of the report describes the research findings in terms of:

- **Voluntary Emissions Reporting** - data is provided for absolute and sector based reporting for the Tier 1 and Tier 2 companies. FTSE 350 (Tier 1) and companies outside the FTSE 350 (Tier 2). Additionally, variation in reporting across industry sectors is provided.
- **Interest in Carbon Management** – an analysis of the interest level of affected businesses in Carbon management is provided for both Tier 1 and Tier 2 companies. For each Tier in turn this interest is assessed via the:
  - **Identification of Key Market Segments** – using the research data this part of the report identifies key market segments for the Participants.
  - **Assessment of Market Attractiveness** – the relative attractiveness of these segments is examined for Carbon Service providers and Technology Vendors respectively.

The Mandatory Carbon Reporting Market - Implications for Services and Technology Providers

This section of the report examines why mandatory Carbon reporting is catalysing a major new market. It continues by explaining where Cambium's research indicates that the best market opportunities can be found in the short term. Finally, key implications for Vendors of Services and Technology Providers seeking success in this market in 2013 and beyond are identified.

2.4 Overview of the Legislation

On the 20th June 2012, the UK Government announced its intention to introduce legislation in 2013. This legislation should require all companies registered with Companies House and listed on the London Stock Exchange to report Scope 1 and Scope 2 greenhouse gas emissions (see Appendix 3 for details) as well as commenting on 'significant' Scope 3 emissions, (such as logistics, within their Director's Annual Reports}.

Since this announcement the draft legislation has been subject to consultation with industry by Defra (Department of Environment and Rural Affairs) and a decision has been taken to integrate this new reporting requirement within a single instrument. This instrument is the new narrative reporting requirements being introduced by BIS as part of the Companies Act 2006 (Strategic Report and Directors' Report) Regulations 2013.

More detailed guidance on the implementation will be communicated to Participants in June 2013, but companies will be subject to the legislation for reporting years on or after the 1st October 2013. The legislation is expected to be laid before Parliament and so pass into law in June 2013.

Definition of Participants

Participants are defined here as:

- Companies registered with Companies House or registered as a quoted company, as defined under the Companies Act 2006.

Emissions and activities subject to the legislation

The new legislation requires that Participants state the annual quantity of emissions in tonnes of carbon dioxide equivalent (CO_2e) from activities for which that company is responsible, including:

- the combustion of fuel; and
- the operation of any facility.

Participants must also include the annual quantity of emissions in tonnes of carbon dioxide equivalent resulting from the purchase of electricity, heat, steam or cooling by the company for their own use.

The methodologies used to calculate the quantity of emissions reported must also be stated.

In this latter regard Defra who were the policy owners for the mandatory Carbon reporting element of the legislation, have published detailed guidance on how to measure and report these greenhouse gas emissions **(2)**

These requirements mean that Participants will need to report Scope 1 and Scope 2 emissions (see Appendix 3) for all company operations, processes and activities occurring not just in the UK but for all global operations.

The legislation defines emissions as being emissions into the atmosphere of a greenhouse gas as defined in section 92 of the Climate Change Act 2008 **(4)** which are attributable to human activity.

The Greenhouse Gases referred to above are:

- Carbon dioxide, methane, hydro fluorocarbons, nitrous oxide, per fluorocarbons and sulphur hexafluoride **(4)**.

These gases can be emitted by a number of operational activities. These include:

- the direct combustion of fuels on site (Scope 1 emissions) or indirectly via the consumption of energy produced as a result of the combustion of fuels (Scope 2 emissions)
- fugitive gas emissions that can occur from agricultural processes, waste recycling, refrigerants, air conditioning systems, fire retardants and printed circuit board manufacture

All emissions need to be reported in "tonnes of Carbon dioxide equivalent", which has the meaning given in section 93 of the Climate Change Act 2008 **(4)**. That is to say that one metric tonne of Carbon dioxide or an amount of any other greenhouse gas with an equivalent global warming potential (calculated consistently with international Carbon reporting practice).

Emissions reporting format

In addition to the emissions reported, the Participant's Directors' report must state at least one ratio which expresses the quoted company's annual emissions in relation to a quantifiable factor associated with the company's activities. This implies a Carbon intensity ratio, or an emissions intensity ratio as a measure of business inputs or outputs. For example: X CO_2e (tonnes of CO_2 equivalent greenhouse gases) per £ million revenue. However, the choice of intensity ratio is a decision that is left to the company. See **(4)** above for details.

With the exception of the first year, the report must also state not only the emissions for the current year, but also those for the preceding financial year. This will provide transparency into actions taken to reduce emissions such as the adoption of energy efficiency innovations.

The GHG Emissions reporting information will be included as part of the new Strategic Review to be published with the Annual Directors Report as per the Companies Act 2006. The details of this report will be monitored for accuracy by the Financial Reporting Council (FRC), which is the UK's independent regulator for corporate governance and reporting. If necessary the FRC has the power to use the Companies Act 2006 to force companies to prepare a revised set of reports and/or accounts. In such circumstances an affected company is likely to suffer from significant damage to their reputation and their share prices. The FRC is expected to release guidance on this new r eporting regime to affected companies in the June 2013 timeframe.

3. Research Methodologies

This section explains the methods used in the research to:

- Identify organisations with a meaningful footprint and how they have been segmented by market capitalisation and industry sector focus
- Assess the level of voluntary emissions reporting observed in these Participants
- Determine the comparative interest in Carbon Management and Sustainability in the affected companies

The rest of this section examines the methodologies used in each case.

3.1 Segmentation of Participants into Key Industry Sectors

This first part establishes how we assessed and defined meaningful Participants.

To identify significant data that would provide insight as to the variation in market potential amongst the Participants, the following companies listed on the LSE were excluded from the research target group:

- Companies listed on the Alternative Investment Market, as they are not affected directly by the legislation at this stage. They will be required to be compliant should they wish to be listed on the main market of the LSE. As the legislation is rolled out more widely in the 2016 timeframe, it is highly likely they will be affected in the future.
- Companies with no significant 'hard' operational presence in the UK (shell companies) and listed in the following sectors according the classification of sectors by the LSE:
  - Company Bonds
  - Convertibles
  - Debentures and Loans
  - Equity Investment Instruments
  - Non-Equity Investment Instruments

Although these companies have a legal obligation under the Mandatory Carbon legislation, they have been excluded from this analysis as their Carbon footprint is likely to be negligible. As such they are unlikely to create meaningful demand for Carbon Services or emissions reductions Technologies.

The resultant target group of Participants comprises:

- 855 Companies in total
- 306 from the FTSE 350 (Tier 1)
- 549 from 'The Rest' i.e. outside the FTSE 350 (Tier2)

To aid analysis, companies operating in sectors with similar operations and outputs have been integrated into Super Sectors (see Appendix 2). The percentage presence of each Super Sector within Tier 1 and Tier 2 was then calculated.

3.2 Assessment of Voluntary Emissions Reporting Adoption

The desk-based research methodology was applied to all organisations identified as being a Participant with a meaningful footprint. This research work was concluded at the start of 2013. The results do not reflect any changes in the voluntary reporting status of organisations after this date.

The research method involved detailed evaluation of each Participant's level of voluntary reporting. The sources used to identify any evidence of reporting included:

- Company Annual Reports – Full and most recent versions
- Company websites
- Web based research

For each company these sources were examined to identify evidence of public reporting of absolute emissions of greenhouse gases, percentage reductions in Carbon footprint, implementation of environmental management systems and commitment to reporting.

Each Participant was classified into one of three categories:

- **Full disclosure** – evidence discovered of absolute reporting of GHG emissions with publicly available footprint data
- **Partial disclosure** - no evidence of a public disclosure of an absolute quantity of GHG emissions was found, but the company either reported a change in their emissions profile or published a commitment to introducing a GHG monitoring and reporting system
- **No disclosure** – no evidence of public disclosure of emissions was found

3.3 Interest in Carbon Management and Sustainability

Cambium has assessed the interest in Sustainability and Carbon management for the 855 selected companies on the LSE. This analysis was completed using Cambium's proprietary tool, the **Sustainability Prospector™**. **(5)**

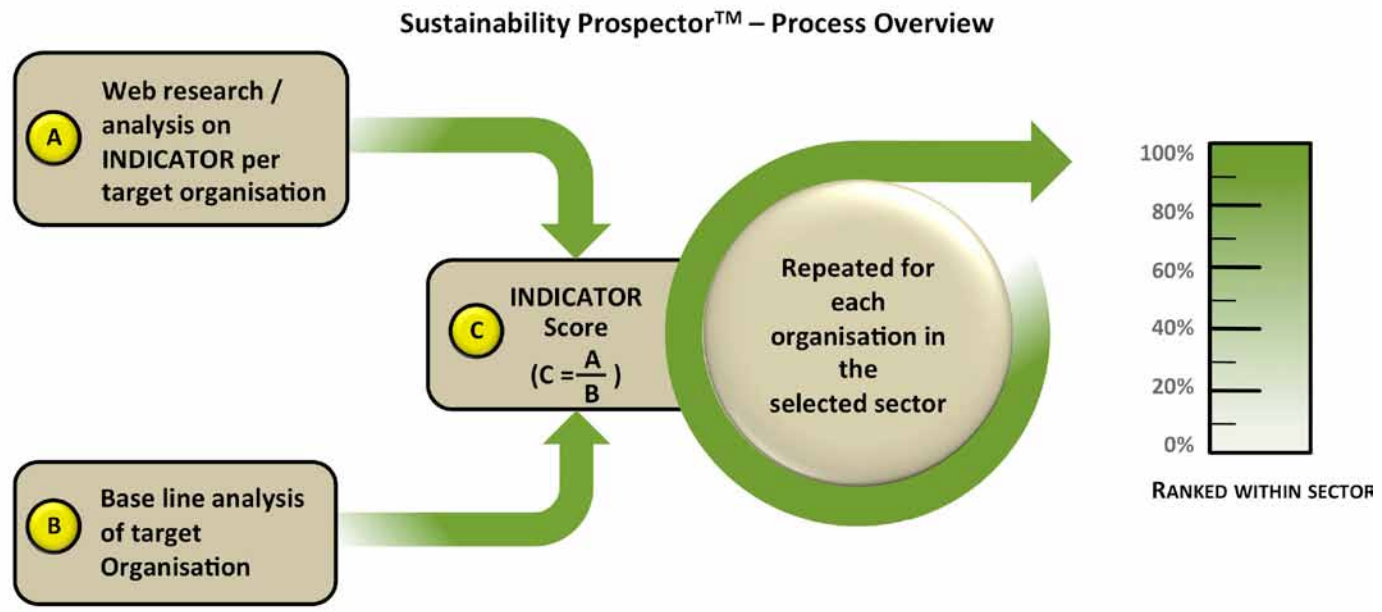
This research tool tracks and assesses the key motivations and indicators behind investing in sustainable technology. It draws from a wide range of sources including formal corporate communications, independent reports, commentaries and other web-based references linking the assessed organisation to carefully selected indicators. It is supported by research carried out and cross-checked since 2010 and uses the data to score organisations against a range of Sustainability criteria. The score for each organisation is 'normalised' by assessing this against the overall level of communications from and about an organisation on all topics from the same or similar sources. This is used to provide a relative rank within a selected target grouping. For this report the selected target groupings are Tier 1 and Tier 2 companies in the FTSE.

The Sustainability Prospector™ provides an objective, robust and realistic assessment of each individual organisation's interest in different aspects of the Sustainability agenda. It also provides a proven and consistent approach for the analysis of interest levels within a given population to different parts of the Sustainability agenda. Although several aspects of each organisation's interest in Sustainability have been collected, this report analyses and publishes the scoring of interest related to Carbon management.

Further information on the research into the interest level in the wider aspects of Sustainability is available, although not covered in this report. To find out more about this data, please email **info@cambiumllp.com**.

Unlike traditional market research techniques, the **Sustainability Prospector™** does not rely on individual responses, the organisations' size, surveys, incomplete data or subjectivity. As a result, it is independent of individual bias or influence. This approach enables Cambium to score each organisation based on a range of Sustainability indicators that provide an authentic index of the level of interest demonstrated by each company.

A ranking for each Participant was developed using the Cambium Carbon management Indicators. The diagram above provides an outline as to how the **Sustainability Prospector™** methodology has been applied.



After calculating the individual indicator scores for the Participants for Sustainability and Carbon management, they were analysed and compared between industry sectors. Using the primary industry sector allocated to each organisation the comparative variation in interest in each Sustainability Indicator for each of the industry sector was completed.

This report focuses on the industry sector interest in Carbon as a proxy of the interest level in emissions management and energy efficiency. This data has been collected for all listed companies.

Data indicating the level of interest in other aspects of company performance relevant to the Sustainability agenda has also been collected. These indicators include:

- Corporate Social Responsibility
- Return on environmental investment
- Sustainability

Dependent on the product or service that is to be marketed to the participating companies, this data is highly valuable in informing targeted marketing programmes to improve sales productivity.

For readers interested in how this data can be used to develop more targeted campaigns, custom reports are available providing tables of comparative interest for individual companies as per the table outlined before. More information on this service can be obtained by emailing **info@cambiumllp.com**.

Sustainability Prospector™ – Sample Output Data

LSE PARTICIPANTS	CARBON INTEREST	SUSTAINABILITY AWARENESS	ENVIRONMENTAL ROI	CSR INTEREST
Sector Averages	73	102	51	44
Company A	61	154	15	52
Company B	43	111	59	32
Company C	78	142	50	24
Company D	37	[illegible]	[illegible]	[illegible]
Etc.				

The next section presents the key findings of this market research. Using the methods described above, the comparative interest between sectors has been assessed in order to measure the market attractiveness of different industries for Vendors of relevant Technologies and Services.

4. Key Research Findings

This section contains the results of the research. These findings are reviewed in the following sections:

4.1 Segmentation of all LSE Participants into key industry Super Sectors

4.2 Tier 1 and Tier 2 Segment Breakdown

4.3 Voluntary Reporting of Carbon Emissions

4.4 Carbon management interest amongst both Tier 1 and Tier 2 Companies including the identification of key market segments within each Tier.

4.5 An analysis of the comparative market attractiveness of each of the identified market segments within each Tier for both Services and Technology Providers

4.1 Segmentation of All LSE Participants into Key Industry Sectors

The Participant companies affected by the legislation can be broken down by Super Sector. This breakdown is shown in the pie charts on the next page.

Hence, the four largest industry sectors in terms of number of Participants in the FTSE 350 (Tier 1) are:

Tier 1 – Top 4 Sectors by No. of Participants

Sector	%
Manufacturing and Industrial	17
Financial Services	15
ICT	10
Services	10

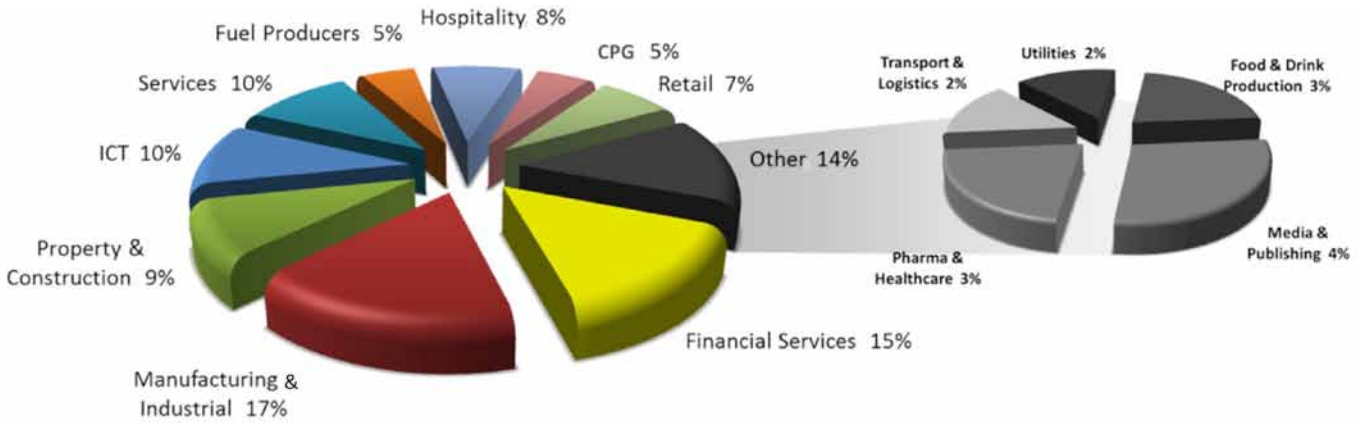
By comparison, the same breakdown for business on the main LSE market but outside the FTSE 350 (Tier 2) is:

Tier 2 – Top 4 Sectors by No. of Participants

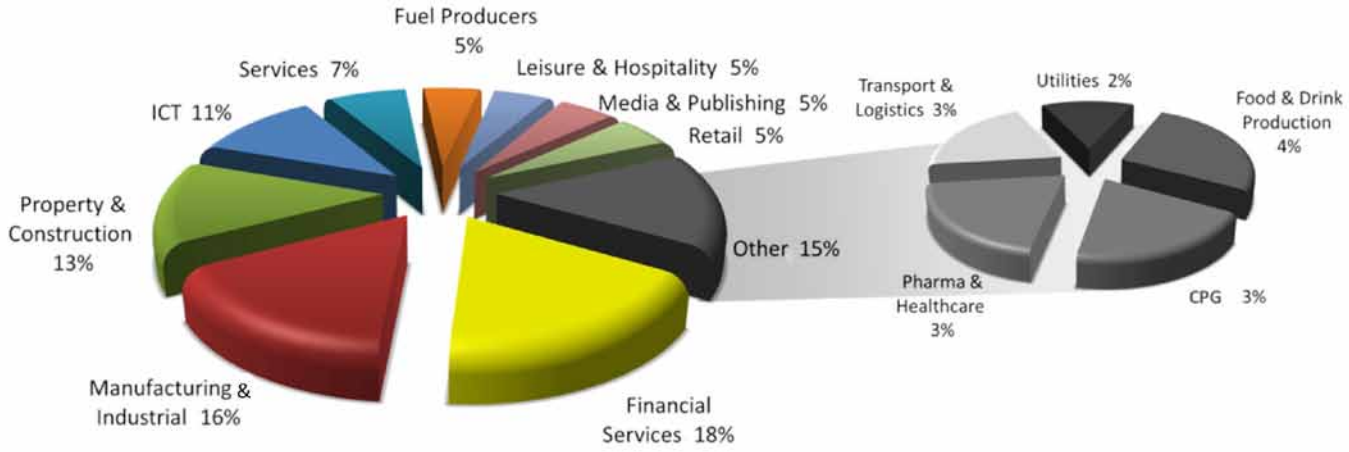
Sector	%
Financial Services	18
Manufacturing and Industrial	16
Services	13
ICT	11

Observation: These analyses indicate that Financial Services, Services, Manufacturing and Industrial and ICT are all key industries impacted by the legislation in both Tier 1 and Tier 2. For Vendors with a track record or particularly relevant expertise in these sectors, mandatory Carbon reporting represents a particularly exciting market opportunity.

4.2 Tier 1 and Tier 2 Segment Breakdown



TIER 1 – FTSE SECTOR RELATIVE SIZES BY COMPANY NUMBERS



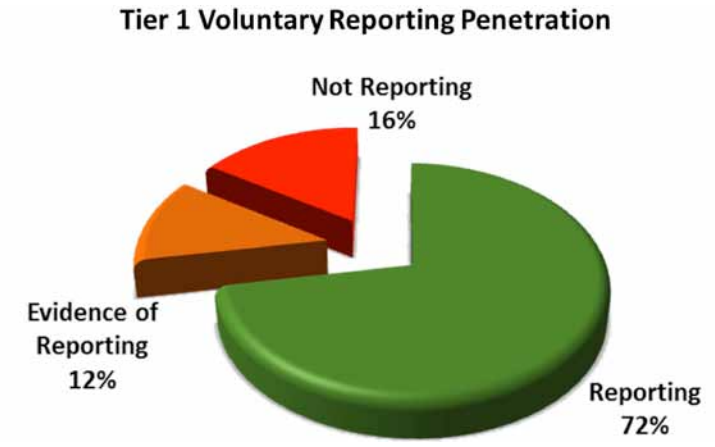
TIER 2 – FTSE SECTOR RELATIVE SIZES BY COMPANY NUMBERS

4.3 Voluntary Reporting of Carbon Emissions (VCR)

This section summarises the findings of Cambium's recent research into the adoption of voluntary greenhouse gas emissions reporting amongst Participants. The adoption of voluntary reporting is considered in four ways:

- Amongst the FTSE 350 (Tier 1)
- Amongst Participants outside the FTSE 350 (Tier 2)
- Comparison of Tier 1 VCR levels with Tier 2
- By Industry Sector within Tiers 1 and 2

Variation in Voluntary Carbon Reporting Within the FTSE 350 (Tier 1)



The breakdown of voluntary reporting in these Tier 1 companies is presented in the pie chart above.

There are a substantially higher percentage of companies within the FTSE 350 who have chosen to voluntarily publish emissions data compared with those companies outside the 350.

Observation: In terms of absolute reporting, 72% of Tier 1 companies currently provide emissions data that would go some way towards meeting the absolute reporting requirements of the proposed legislation. This indicates that 220 of the 350 assessed companies are at least aware of the data and the effort to collate the data required for mandatory GHG reporting.

12% of the FTSE 350 have not published actual emissions data, but have provided strong evidence within public reports that an internal reporting regime is in place, or is in the process of being developed. This typically expressed in terms of percentage reductions achieved on the previous year's emissions performance.

Only 16% (49) of the FTSE 350 companies have not provided emissions data or evidence of reporting in their annual report. By comparison, 70% (382) of the Tier 2 companies do not provide emissions data or show evidence of an internal reporting mechanism.

Observation: Greater voluntary reporting amongst FTSE 350 companies is due in part to recognition of the business value of operating a robust emissions/energy monitoring, measurement and reporting regime. The most frequent references to identified value in annual reports were:

- Reputational Benefits – Promoting Green/Eco-credentials
- Demands for greater transparency by investors and customers
- Reduced energy use and costs.

Cambium research indicates that all of those companies that have disclosed emissions have chosen to publish data in terms of their total Carbon footprints Scope 1 and Scope 2 emissions (tCO_2e). Of those publishing a Carbon footprint, only 7% also provide a Carbon intensity ratio that would meet the requirements of the anticipated legislation.

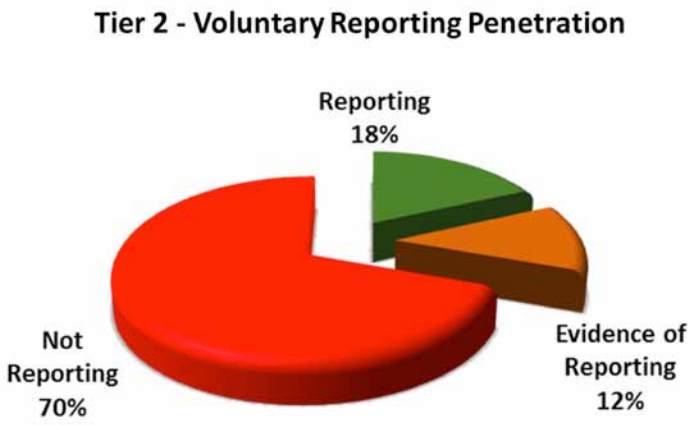
Variation in Voluntary Carbon Reporting Outside the FTSE 350 (Tier 2)

The breakdown of voluntary reporting in the Tier 2 companies is presented in the pie chart opposite.

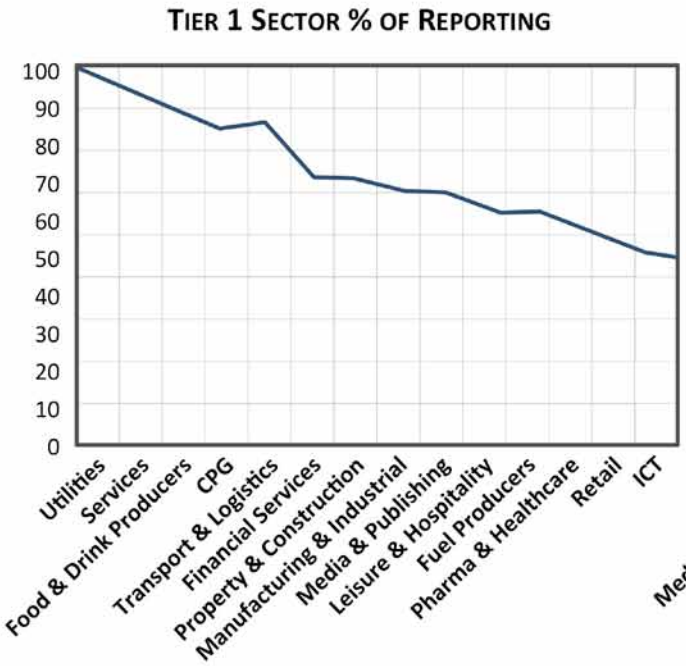
Only 12% (65) of the Tier 2 companies currently meet the requirements in terms of publishing absolute emissions data. However 18% (98) of the companies have provided strong evidence that a reporting regime is in place or being implemented.

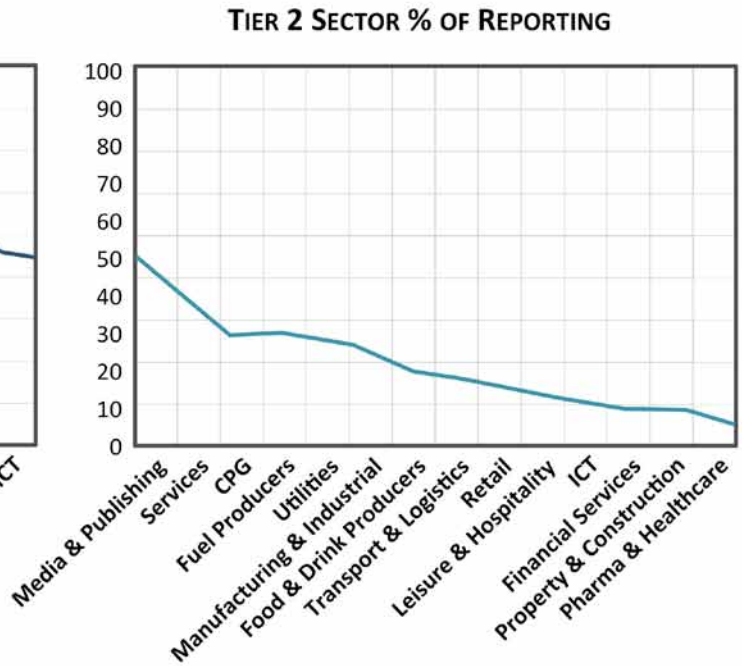
As a result we estimate that there are 384 companies, in the Tier 2 group where there is no evidence of voluntary Carbon reporting.

Observation: These companies will be faced by the greatest challenge in becoming compliant with the legislation and therefore present the greatest opportunity for Vendors of relevant Technologies and Services.



Comparison of VCR between Tier 1 with Tier 2





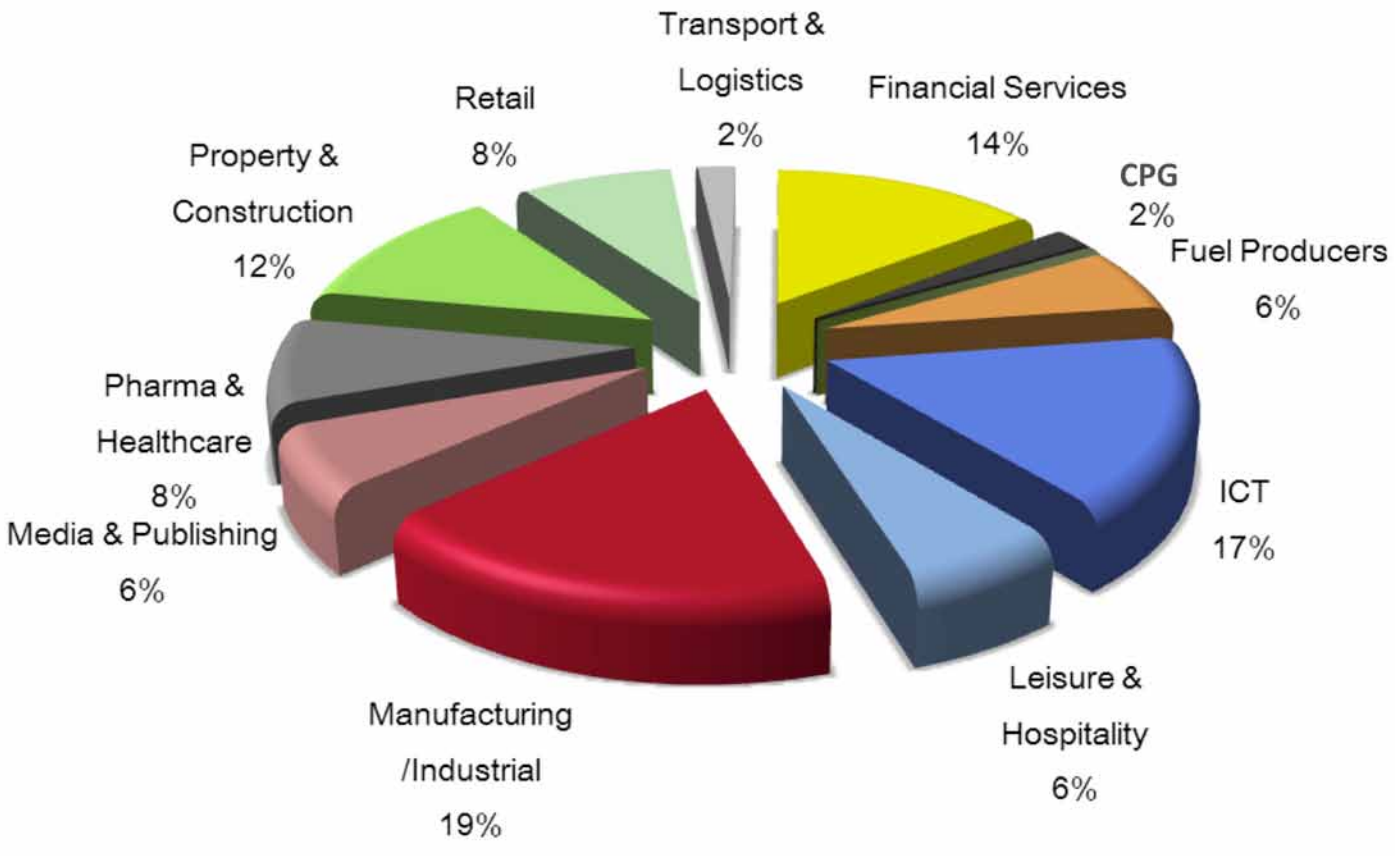
Observation: There is a stark difference in the level of voluntary reporting between Tier 1 and Tier 2 Participants, which strongly indicates that the biggest compliance challenges are likely to be faced by Tier 2 companies.

Evidence for this is provided in the diagram above, which shows the variation in voluntary reporting for Tier 1 and Tier 2 companies. This insight has important implications for Technology and Services Vendors in that the biggest Carbon compliance opportunities will reside within Tier 2. In order to obtain a further degree of transparency into these opportunities the level of voluntary reporting has been analysed by major industry sector.

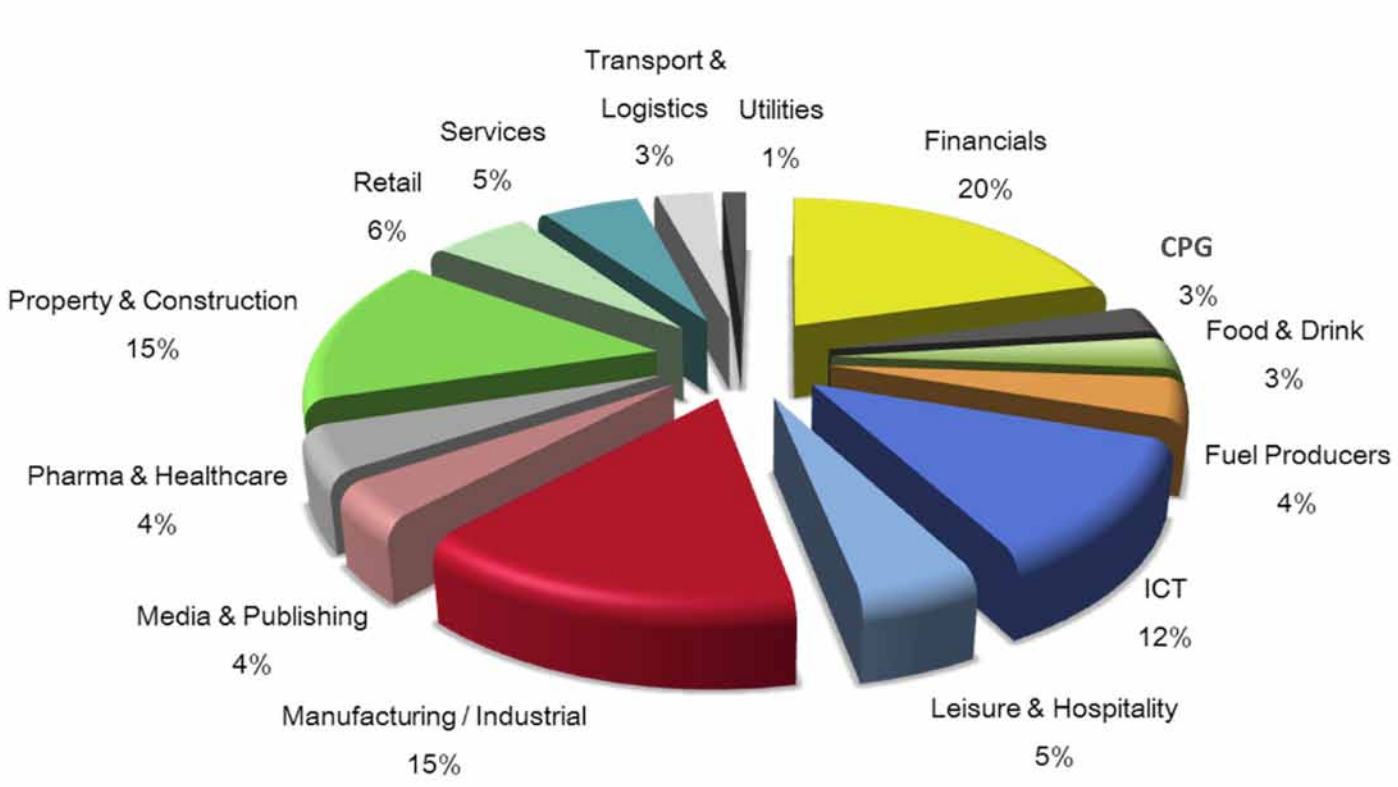
Variation in Voluntary Carbon Reporting Within Major Industry Sectors

The charts on the next two pages respectively show the percentage of Tier 1 and Tier 2 Participants in each Super Sector that did not report their emissions.

Within the FTSE 350 (Tier 1) Sector Non Reporting Breakdown by Industry



Outside the FTSE 350 (Tier 2) Sector Non Reporting Breakdown by Industry



Observation: In both Tier 1 and 2, the four industry sectors containing the largest percentage of companies that have not reported their emissions to-date are: Financial Services, ICT, Manufacturing & Industrial, and Property & Construction.

However, the ranking of these sectors does vary between the two Tiers. A lower percentage of Tier 1 companies in the Manufacturing and ICT sectors reported their emissions data in a given year than companies in the other two sectors. However, fewer Tier 2 companies in the Financial Services, Property & Construction, and Manufacturing & Industrial sectors disclosed this information.

An analysis of the level of Voluntary Reporting in each major Industry sector has been provided in Appendix 1.

The lack of a central record for public voluntary Carbon reporting is only one element that defines the relative attractiveness of the market opportunity for technology and Services providers. Indeed, the absence of public reporting does not necessarily mean that the companies in these sectors are not actively interested in managing their greenhouse gas emissions footprint. For this reason it is desirable to obtain further insight into the comparative market attractiveness of an industry sector for Vendors of Sustainability

Technologies or Services. Cambium is able to derive such insight by the application of our **Sustainability Prospector™** tool.

The following section examines the relative interest of the different industry sectors in Tier 1 and Tier 2 in Carbon management. Using this data it is then possible to identify characteristics of each industry sector that enable distinct segmentations to be made across the total market of Participants in the legislation.

4.4 Carbon Management Interest within Tier 1 and 2 Companies

To provide a deeper insight into the opportunities which will face technology and Services Vendors targeting the sustainable innovations market, the **Sustainability Prospector™** data have been used to analyse the variation in Carbon and Sustainability interest shown by Tier 1 and Tier 2 Participants.

From this, Cambium has calculated average scores for the interest that each sector has taken in Carbon management, and correlated them against the level of voluntary Carbon reporting observed for that sector.

Observation - there is significant variation in the level of interest in Carbon management between Tier 1 and Tier 2 Participants. This provides further evidence that Tier 2 organisations are less ready than their Tier 1 counterparts to meet the compliance challenges created by the legislation.

Carbon Management Interest Amongst Tier 1 Companies – Within the FTSE 350

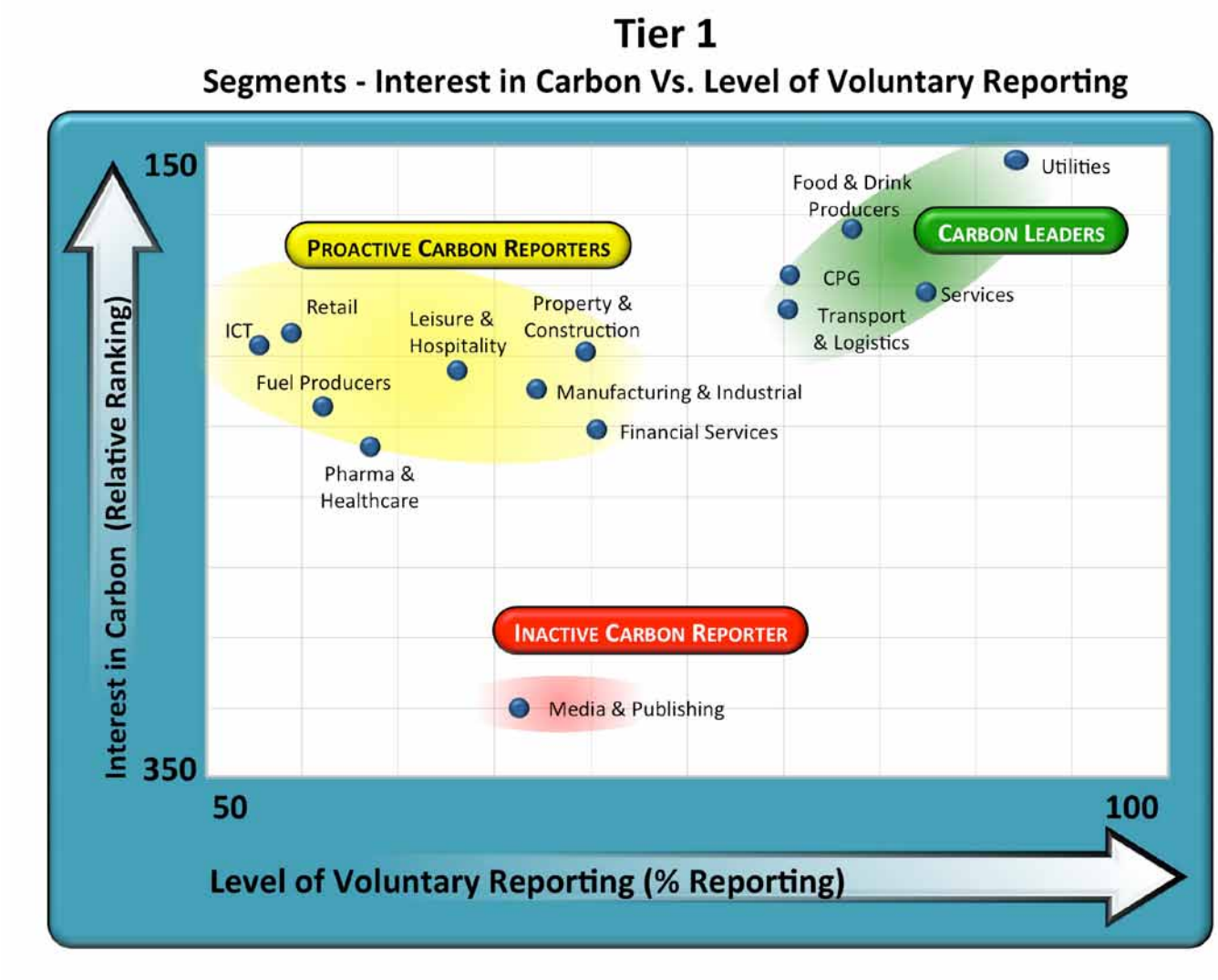
General observations

As noted previously, the level of voluntary reporting amongst Tier 1 Participants is much higher than Tier 2. For example in Tier 1 even a low score for voluntary reporting in this part of the market is higher than the best level of voluntary reporting in Tier 2 Participants.

By charting the voluntary reporting levels against the Sector level interest in Carbon management, a number of segments were revealed. The research indicates a significantly more proactive approach to Carbon management in these larger members of the FTSE 350 than the Participants in Tier 2.

Identification of Segments

The data identifies 3 clusters within Tier 1 in terms of their interest in Carbon using the **Sustainability Prospector™** data and are shown in the chart below.



These segments are the:

- **Carbon Leaders** – where both the level of public Carbon reporting and the interest in Carbon management shown by companies in the sectors in this segment is higher than the levels shown by the other Tier 1 sectors. This implies that these companies in these sectors are taking a proactive leading role in managing their greenhouse gas emissions.
- **Proactive Carbon Reporters** – where both the level of public reporting and the interest shown by these sectors in Carbon management within Tier 1 is high, but lower than the benchmark set by sectors in the Carbon Leaders segment.
- **Inactive Carbon Reporters** – for these sectors the level of relative voluntary reporting within Tier 1 is similar to the Proactive Carbon Reporters, but there is a lower interest in Carbon management being shown at present.

The trends in response within each of these segments will be examined in turn:

Carbon Leaders – This segment comprises five sectors which contain 23% of the Tier 1 Participants. These sectors are:

- Utilities
- Services
- Food & Drink Producers
- CPG (Consumer Packaged Goods)
- Transport & Logistics

Observation: Utilities are the leading Tier 1 sector in both Carbon reporting and interest in Carbon management. These energy and water companies have very Carbon intensive businesses and significant costs and reputational exposure. In the case of electricity generators, they are heavily impacted by the UK Government's policies to reform energy markets and to transition to a low Carbon economy. Their interest and desire to demonstrate best practice in this vital area is evident.

Observation: As was noted earlier, some companies in the **Services** sector are able to provide specialist advice to Participants on how they can comply with new policy in the Environmental and Social Governance (ESG) space. As a result, their membership of the Leaders segment is not surprising.

Observation: The presence of the **Food & Drink Producers** and **CPG industries** in the Carbon Leaders segment is also as expected. Both of these sectors serve consumers, who can be very conscious of the reputation and credentials of the suppliers of their preferred CPG and food products. Recent scandals particularly in the Food sector, such as the issues of contamination of beef supply chains with horse meat, have only heightened this interest. For this reason, companies in these sectors are proactive in demonstrating that they are socially and environmentally responsible. Energy consumption constitutes a significant financial and environmental (emissions-related) cost for these Participants, who are therefore keen to optimise consumption and to save money.

The final sector in the leaders segment is **Transport & Logistics**. Given the importance of emissions both as an environmental impact and a key proxy of energy use, it is understandable that they are present in this segment.

Proactive Carbon Reporter – This segment comprises eight sectors accounting for 72% of the Tier 1 Participants. These sectors in order of declining level of voluntary Carbon Reporting are:

- Financial Services
- Property & Construction
- Manufacturing & Industrial
- Leisure & Hospitality
- Fuel Producers
- Pharma & Healthcare
- Retail
- ICT

Although the level of voluntary public Carbon reporting is lower than the industries in the Leadership segment, between 52% and 74% of companies still disclosed absolute emissions data. The high level of interest in Carbon as a subject is consistent with this voluntary reporting level.

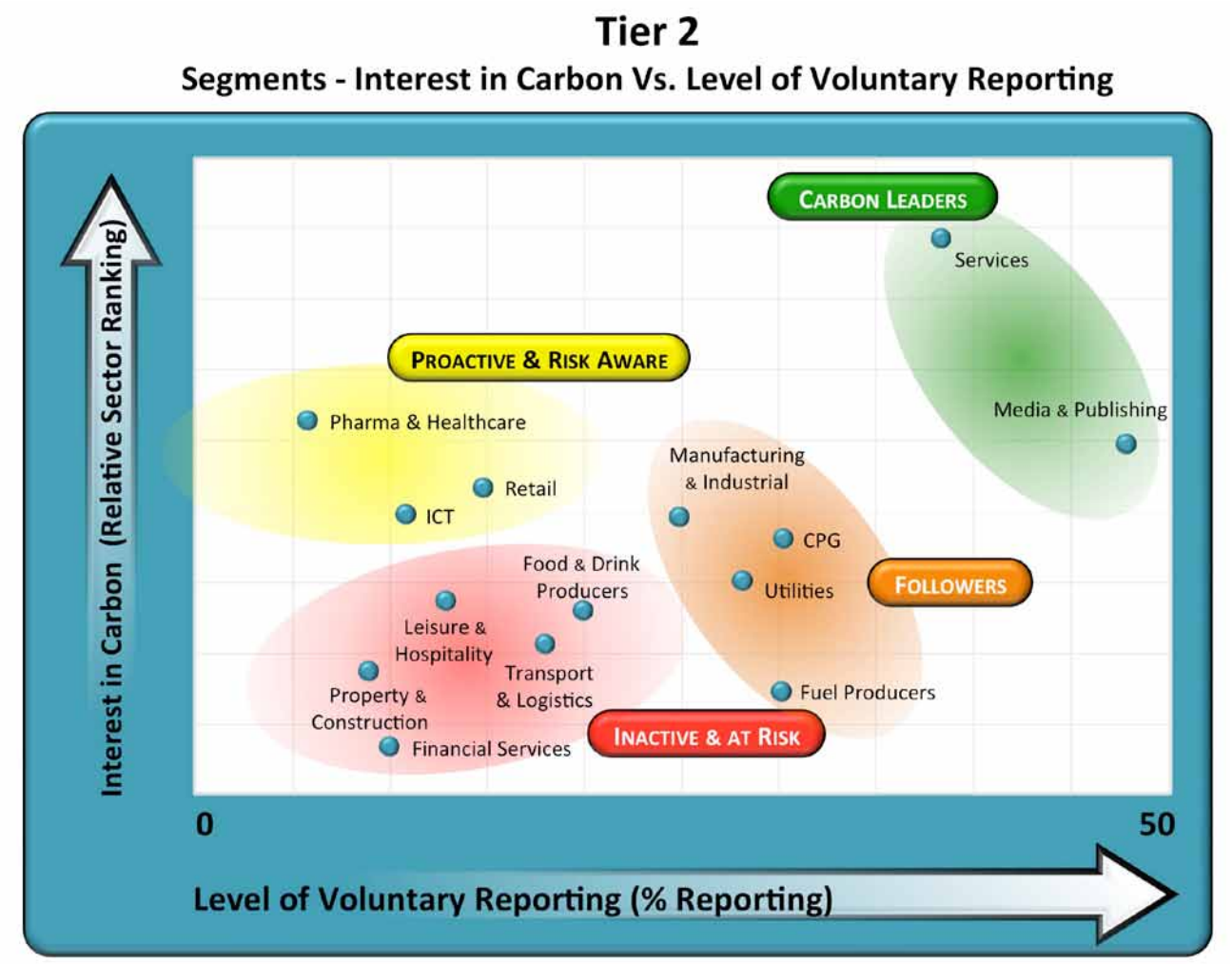
The level of interest in Carbon management in all of these sectors is fairly consistent across the segment, and all Participants in these sectors can be expected to be taking proactive action to ensure compliance with the reporting legislation and to mitigate any reputational risks.

Inactive Carbon Reporters – This segment accounts for 4% of the Participants in Tier 1 and comprises only one sector, **Media & Publishing**. The percentage of Tier 1 Media & Publishing companies showing an interest in Carbon management was lowest in this Super Sector.

The Media & Publishing Companies in the FTSE 350 do have a higher level of public reporting than their competitors in Tier 2. However, the difference in interest in mandatory and voluntary Carbon reporting between Tier 1 and Tier 2 Participants in this industry is narrowest. The reasons for this difference are not clear, but at present Media & Publishing companies in Tier 1 do not have such a high level of interest in Carbon as other industry sectors within this Tier.

Carbon Management Interest Amongst Tier 2 Companies – Outside the FTSE 350

The interest in Carbon management amongst the Tier 2 companies is presented in the Chart below.



General observations

The average level of voluntary reporting is low in all Industries. In none of the sectors did 50% or more of the Participants disclose absolute emissions data.

Compared with other industry sectors in this Tier, the Media & Publishing companies had a high average of voluntary reporting. This is in marked contrast with the performance of the Tier 1 companies, when similarly compared with their peers.

Identification of Market Segments

Cambium has identified 4 clusters of Sectors that appear close to each other in terms of their correlated interest in Carbon management and level of voluntary Carbon reporting. Cambium defined these segments as follows:

- **Carbon Leaders** – where both the level of public Carbon reporting and the interest in Carbon management shown by the sectors in this segment is higher than the levels shown by other Tier 2 companies in other sectors. This implies that the companies are taking a proactive role in managing their greenhouse gas emissions.
- **Followers** – where the level of public reporting is higher than the levels shown by other companies in Tier 2, but where their interest in Carbon management is relatively low.
- **Proactive & Risk Aware** – where the level of public reporting is lower than the levels shown by the companies in the Carbon Leaders and Followers segments, but where the level of interest in Carbon management is relatively moderate.
- **Inactive and At Risk** – where the level of public reporting and interest in Carbon management shown in the sectors in this segment is relatively low.

The trends in response within each of these segments will be examined in turn:

Carbon Leaders – This segment comprises two sectors: Services and Media & Publishing. They account for 12% of the total number of Tier 2 Participants.

Services have the highest interest in Carbon, indicating that it is a good potential audience for Carbon management consultancy and auditing. Many of the companies in this sector will provide specialist consulting Services related to various aspects of corporate governance, so all Participants also comprise key clients for these businesses. For this reason it is expected that they will possess a higher awareness of the need to comply with new legislation.

The other major industry falling into the Carbon Leaders segment is the **Media & Publishing** sector. This is especially noteworthy as the companies in Tier 2 in this sector appear to be responding differently, when compared with similar, yet larger companies in Tier 1. This shows that on average larger Media & Publishing companies are much less interested in the management of Carbon than their smaller competitors in Tier 2.

Observation: It is interesting to speculate as to what is driving this sharp difference in response.

It may form part of a competitive differentiation strategy on behalf of the aspiring Tier 2 companies or alternatively may reflect the age of the business or differences in the demands of the markets they are serving. There is insufficient data in this analysis to be prescriptive as to the reasons for the difference, but it is significant for vendors wishing to target these companies.

Proactive & Risk Aware – This segment accounts for 19% of the Participants from three sectors: ICT, Retail, and Pharma & Healthcare.

Although the level of voluntary public Carbon emissions reporting is relatively low in this segment, there is a higher level of interest in Carbon as a subject. This high level of interest implies that their focus on Carbon management is increasing and becoming important to the companies in these sectors. This trend suggests that the sectors in this segment are becoming more proactive and aware of the compliance risks from the legislation.

Amongst the sectors in this segment, **Pharma & Healthcare** is showing the greatest interest in Carbon, although their level of voluntary Carbon reporting is the lowest. This indicates that these Participants appear to taking the emerging compliance challenge seriously.

ICT companies in Tier 2 are relatively low in terms of their level of voluntary Carbon reporting, when compared with the other sectors within the Tier. This mirrors the trend shown by their Tier 1 sector counterparts. This absence of public reporting is a surprise given the technological focus of many of these companies and the essential nature of energy for their operations. The recognition of this compliance challenge appears to be rising in these Tier 2 ICT companies.

Of these three industries the Retail companies have demonstrated the highest level of public reporting. However, like the **ICT** sector, retailers in both Tier 1 and Tier 2 have relatively low levels of public reporting to date.

Followers – This segment accounts for 26 % of the Participants in Tier 2 and comprises four sectors:

- CPG
- Fuel Producers
- Manufacturing & Industrial
- Utilities

For all of these sectors there are low levels of voluntary public reporting of emissions. Of these sectors, the levels of reporting in **Manufacturing & Industrial** is lowest on average, but with the highest levels of interest in Carbon management. This reflects a growing awareness of the compliance need.

By comparison, **CPG** and **Fuel Producers** has the highest average levels of public voluntary reporting to date, with a higher degree of interest in Carbon being shown by the CPG sector. These smaller competitors are lagging their larger sector competitors both in terms of the level of voluntary reporting as well as interest in Carbon.

Observation: The need for compliance within **CPG** is likely to grow as the consumer markets they serve are very sensitive to negative news that impacts their trust in a preferred brand. These companies are likely to be interested in mitigating this reputational risk and to ensuring that they are compliant with the legislation.

Another sector where the level of reporting and interest in Carbon within Tier 2 companies is significantly less than their larger competitors is the **Utilities** sector. Overall Tier 1 companies in Utilities have the highest levels of voluntary reporting and also the highest interest in Carbon of any sector in the FTSE 350.

The data does not indicate the reasons as to why this difference in interest between the Tiers is so sharp. However, what can be assumed is that these Tier 2 companies are likely to experience pressure from key stakeholders to improve their performance to be more in line with the rest of their industry, as their performance becomes more transparent in a post-compliance environment. This heightened reputational exposure can be expected to catalyse action amongst the Participants in this segment.

Fuel Producers in Tier 2 have a high level of public voluntary reporting of Carbon amongst the industries in this segment. This track record does not indicate a high level of interest in Carbon management as their interest level is amongst the lowest of all industries in Tier 2.

Observation: This indicates that businesses engaged in Fuel Production are interested in compliance with legislation, although this compliance may be seen more as a cost to the business rather than an opportunity. This distinction has important implications for suppliers of Technologies and Services, which will be discussed in the following section.

Inactive and At Risk – This segment comprises five sectors and accounts for 43% of the Participants in Tier 2. The five sectors falling into this sector are:

- **Financial Services**
- **Food and Drink**
- **Leisure & Hospitality**
- **Property & Construction**
- **Transport & Logistics**

The sectors in this segment have yet to show interest or take public action on Carbon reporting and compliance. This is by far the largest segment amongst Tier 2 and means that there are many companies that will find compliance with the requirements of the new legislation to be challenging.

Observation: Due to the mandatory nature of the impending legislation, it is likely that these companies will be in urgent need of assistance to become compliant by October 2013. As a result they will be an ideal target for any vendor capable of helping them to achieve compliance within this timescale.

The lowest level of public reporting and the lowest level of interest in Carbon in Tier 2 is **Financial Services**. Whilst this sector covers a wide range of business models e.g. banking and insurance, the sector as a whole are likely to be subject to great scrutiny. This will arise due to the wide reputational challenges that the sector has encountered post the financial crisis of 2008.

Additionally, they will be subject to increased scrutiny as corporate investors are mostly investment management or pension funds. These corporate investment managers prefer to invest in businesses that have proactive Sustainability / corporate social responsibility (CSR) strategies.

This increased scrutiny is being driven by two factors.

Firstly, investment management firms are experiencing growing demands from their retail customers to invest their funds in equities that are ethical and sustainable.

Secondly, there is a growing body of evidence that businesses that seek to adopt sustainable business models are more likely to create sustainable shareholder value. This view is emerging as these Sustainability leaders are taking action to control costs and mitigate the risks arising from global threats, such as resource scarcity and climate change.

Property & Construction has the lowest level of public reporting amongst industries within Tier 2. This sector faces a clear compliance exposure, but there appears to be limited interest in taking action at present. This sector is likely to need urgent assistance to meet the obligations of the legislation once it comes into effect.

Both **Food & Drink** and **Transport & Logistics** companies face similar pressures to the companies from the other sectors in this segment. The Participants in these sectors all have a significantly different response to their larger competitors in the same sector in Tier 1. The reasons for this variation are not clear from the data. What can be said is that they face two challenges. Firstly, a short-term compliance challenge to meet the demands of the legislation. Secondly, by reporting these emissions data, stakeholders such as consumers and investors are likely to put pressure on these companies to continually cut their emissions. In doing so, companies will have a larger incentive to compete with competitors from their sector to continually cut their emissions in the longer term. In this sense their challenge is not merely tactical, but also strategic. This has important implications for vendors forming propositions to offer sustainable Technologies and Services in these segments.

A lower percentage of companies in the **Leisure & Hospitality** sector have voluntarily disclosed their emissions than was observed by Tier 2 companies from many other sectors. Initially, the Leisure companies are more likely to be focused on meeting the reporting requirements of the legislation, until a compelling business case for taking action to reduce their emissions becomes clear.

4.5 Market Attractiveness for Segments for Vendors of Services and Technology

The following sections consider the results of the segmentation presented in Section 4.3. Using this information, the relative attractiveness of these segments is examined for Carbon Service Providers and Technology Providers respectively. This assessment will be made for each Tier in turn.

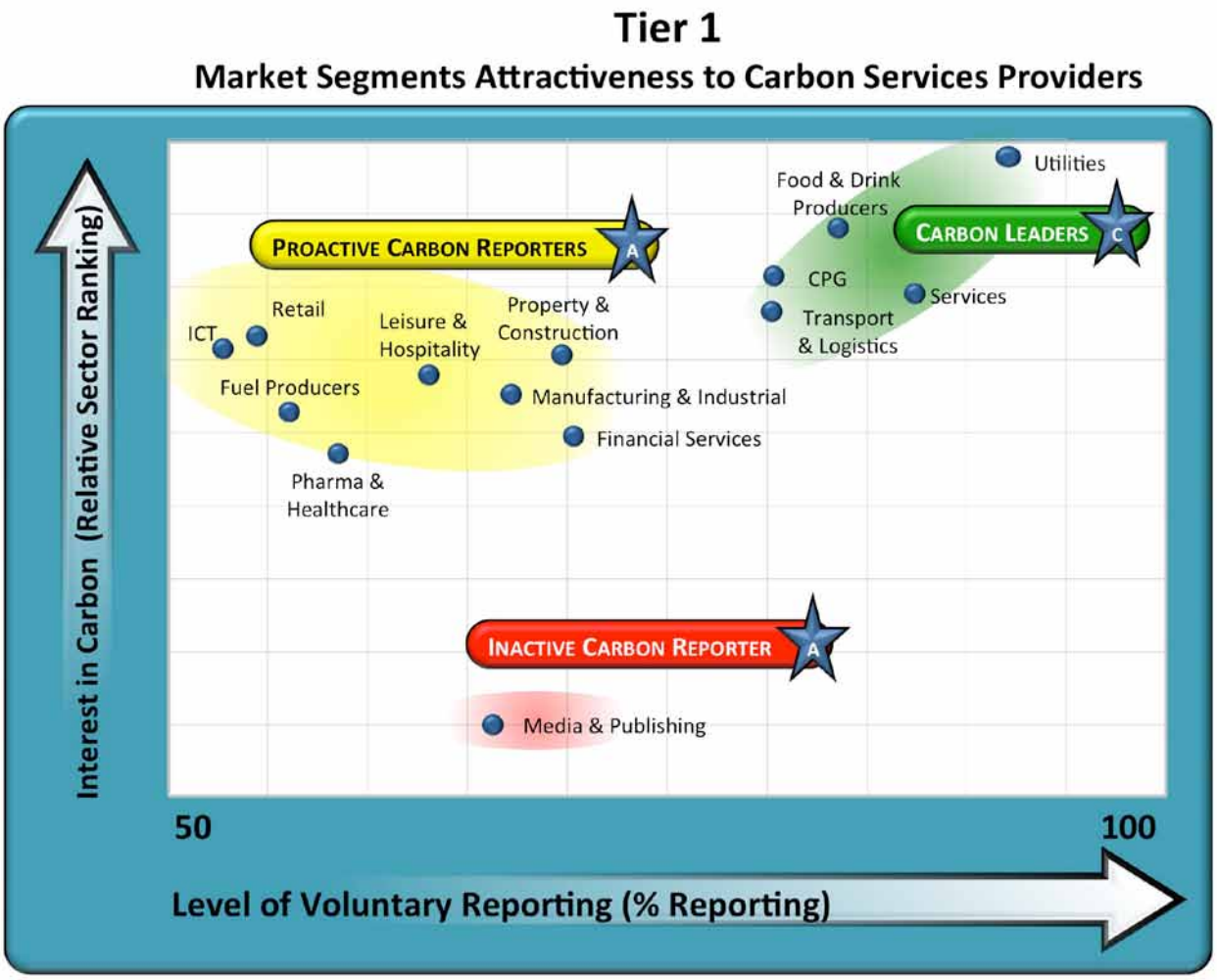
Market Attractiveness of Tier 1 Segments for Vendors of Services and Technology Carbon Service Providers

The relative attractiveness of the identified market segments within Tier 1 for Services providers is considered first.

Carbon Services Providers

Given the level of maturity of existing voluntary reporting within the FTSE 350, the opportunities for Carbon Service Providers may be constrained. It is likely that most of these Companies will have their own in house expertise or existing suppliers of Carbon Services.

The chart below covers the segments identified in 4.4. In the blue star next to each segment is the letter A, B or C, which ranks the likelihood that companies in each segment will be interested in offers from Carbon services providers.



The attractiveness of each segment has been considered in turn.

Inactive Carbon Reporters – The Media & Publishing companies within this industry segment represent a good opportunity for Carbon service providers. They are experienced in voluntary reporting, but their comparatively low level of interest implies that they may need assistance in achieving compliance with the new GHG legislation. For this reason they have been allocated an attractiveness rating of **(B)**. This will need to be qualified at the individual company level.

Information on the specific interest levels within individual Participant companies is available from the authors of this report at **info@cambiumllp.com**.

Proactive Carbon Reporters – The companies in this segment have a high level of interest in Carbon management, but also have a range of performance in terms of emissions reporting to date. The industry sectors with the lowest levels of public reporting will be worthy of approach by Carbon Services providers. They represent the most attractive segment for Carbon Service Providers as Companies within these industries have a high interest in Carbon management, but less experience of voluntary reporting relative to other Tier 1 industry sectors. For this reason they have been rated as **(A)** for market attractiveness.

Carbon Leaders – This segment comprises industries that are leaders in terms of their voluntary reporting efforts and their interest in Carbon management. Companies within these sectors will have limited interest in merely compliance with the legislation. Due to their high level of voluntary reporting they are unlikely to need external assistance in complying with the new regulations. Additionally, they may already have suppliers of Carbon reporting audit services. Any demands for the services of Carbon consulting companies may be in spreading their current level of reporting further to assess Scope 3 emissions and potentially extending their leadership by measuring the footprint of their products or supply chains.

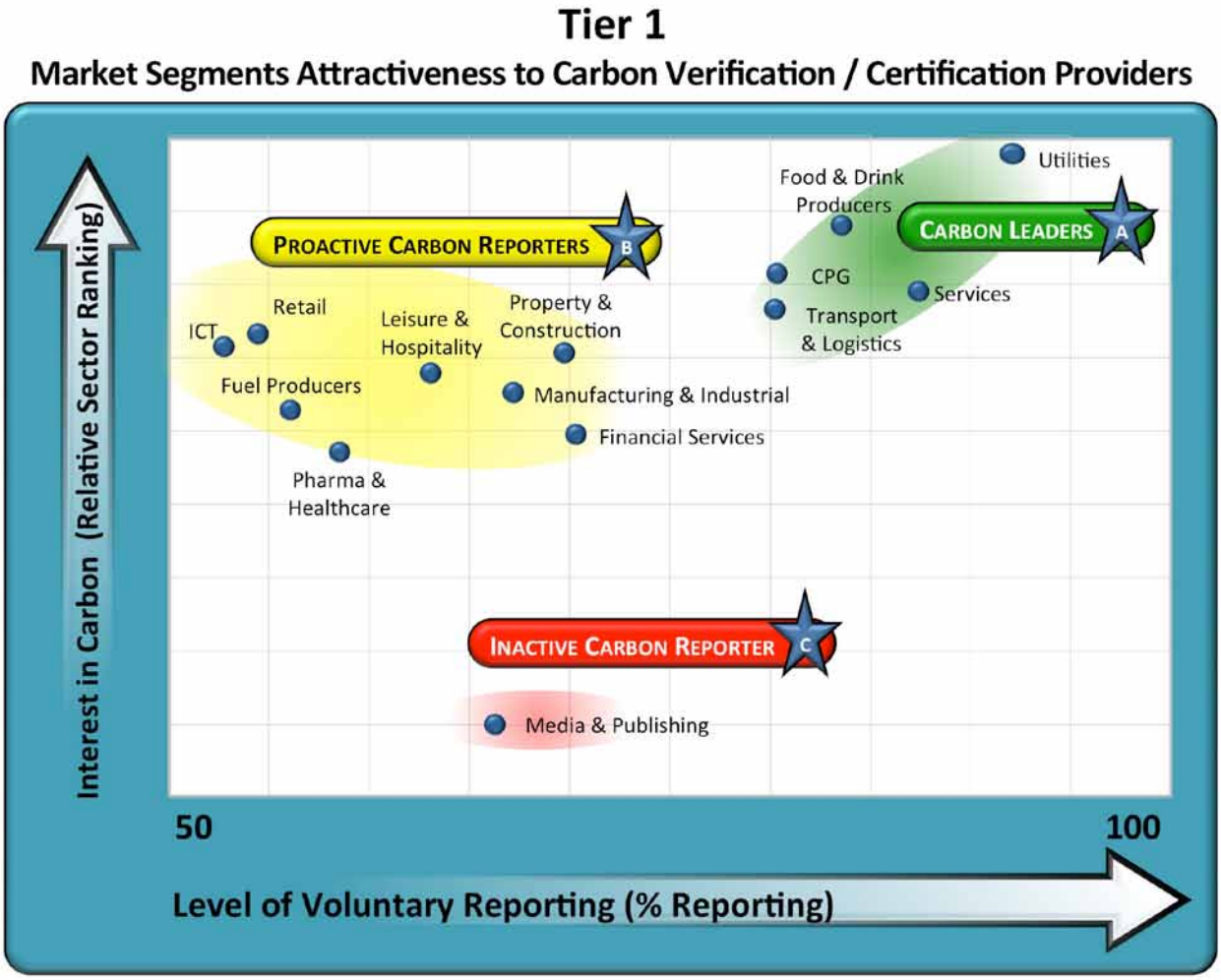
For this reason they are rated **(C)** in terms of attractiveness to Carbon Services firms.

Carbon Verification / Certification Providers

Given the level of maturity of existing voluntary reporting within the FTSE 350, the opportunities for Carbon Verification providers within Tier 1 may be good. The chart below covers the segments identified in 4.4. In the blue star next to each segment is the letter A, B or C, which ranks the likelihood that companies in each segment will be interested in offers from Carbon Verification / Certification Services.

The attractiveness each of these sectors to vendors of monitoring and reporting Technologies has been assessed below.

Inactive Carbon Reporters – As professional communicators, some Media and Publishing Companies will recognise the importance of both compliance and negative PR. Consequently given their high public profile and in order to mitigate any reputational risk, these companies will have an interest in having their reports independently audited. With that said their low level of interest in Carbon means that they may not yet be aware of these risks. For this reason they have been rated **(C)** in terms of attractiveness for Carbon Certification Providers



Proactive Carbon Reporters – Although the Carbon interest level in this segment is high there is a wide range of experience in voluntary reporting. Companies within the industries in this segment will need to ensure that the compliance reports can be produced, before considering certification and audit. Consequently over time once compliance is achieved Carbon audit services will be of great interest. As a result they are rated as **(B)** for Attractiveness to Carbon verification and certification providers.

Carbon Leaders – Carbon Leaders will be keen to ensure compliance with the legislation, but their proven track record in voluntary reporting means that they will be also interested in the public validation of these reports. For this reason they are rated as **(A)** in terms of Attractiveness to Carbon Verification and Certification providers.

In order to provide the reader with an easy, accessible summary of the analysis, Cambium has created a GHG Compliance Market Attractiveness Summary Chart for both Tier 1 and 2, which can be viewed on pages 50 and 51.

Technology Providers

The variation in both the level of voluntary Carbon reporting and interest in Carbon management within Tier 1 businesses has important implications for Technology providers. For the purposes of this assessment two categories of Technology are considered. These are:

- Metering and Reporting Technologies
- Energy Efficiency Technologies

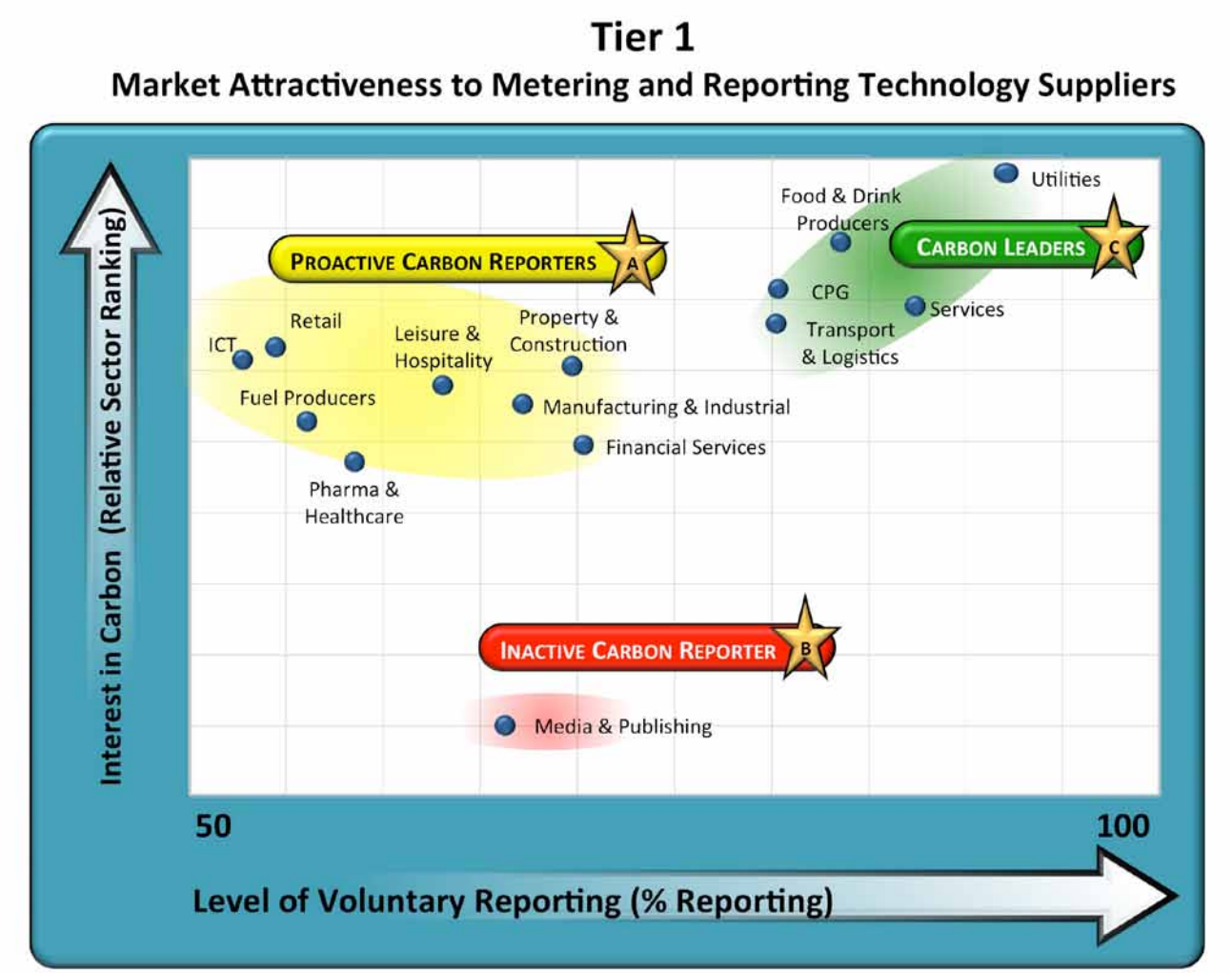
These technologies and the drivers of their adoption are reviewed in more detail in Section 2.1 on page 8 of this report. For these reasons, the segments have important characteristics and implications for Technology Vendors in both categories. The relative attractiveness of the segments identified in Tier 1 for each of these types of Technology is considered in turn.

Metering and Reporting Technologies

The chart below covers the segments identified in 4.4. In the yellow star next to each segment is the letter A, B or C, which ranks the likelihood that companies in each segment will be attracted to propositions from Metering and Reporting technologies and their providers.

Observation – With a high level of interest and existing public voluntary reporting of Carbon in Tier 1, the opportunity for Metering and Carbon reporting innovators may be constrained. This is because the Companies in the FTSE 350 are likely to have already begun to invest in these solutions. There remains the possibility that these companies have focussed only on GHG's from energy sources and as a result may need more support to measure fugitive emissions of other greenhouse gases.

The new mandatory Carbon reporting also requires the creation of a global footprint report, and since many of the companies in the FTSE 350 have global operations there may be new opportunities to establish Metering and Reporting infrastructures in new geographic locations. For some of the companies in this Tier with wider interest in sustainability, there may be an interest in measuring, reporting and monitoring other elements of environmental impact and associated costs, such as water or waste. The attractiveness of



each of these sectors to Vendors of monitoring and reporting technologies has been assessed below.

Inactive Carbon Reporters – The companies within **Media & Publishing** represent a good opportunity for Vendors of Metering and Reporting technologies. They are experienced in voluntary reporting, but their comparatively low average level of interest implies that some of the companies in this sector will have more to do to ensure that they are compliant with the provisions of the legislation. This segment has therefore been allocated and attractiveness rating of **(B)**.

Proactive Carbon Reporters – This segment exhibits a high level of interest in Carbon, but a comparatively low level of public reporting in some industries, such as ICT, Retail, and Pharma & Healthcare. As a result, these latter sectors will be a very good target for technology providers with Metering and Reporting solutions and they are rated as **(A)** for market attractiveness.

Carbon Leaders – Carbon leaders are likely to be the least attractive to providers of this type of Technology and so have been rated as **(C)** for market attractiveness. Given the relatively high level of voluntary Carbon reporting in this segment, there will be little need for additional Metering and Reporting infrastructure, unless the organisation in question has a large global presence. In these cases, the need to provide a global GHG footprint report may afford some opportunity.

Energy Efficiency Technologies

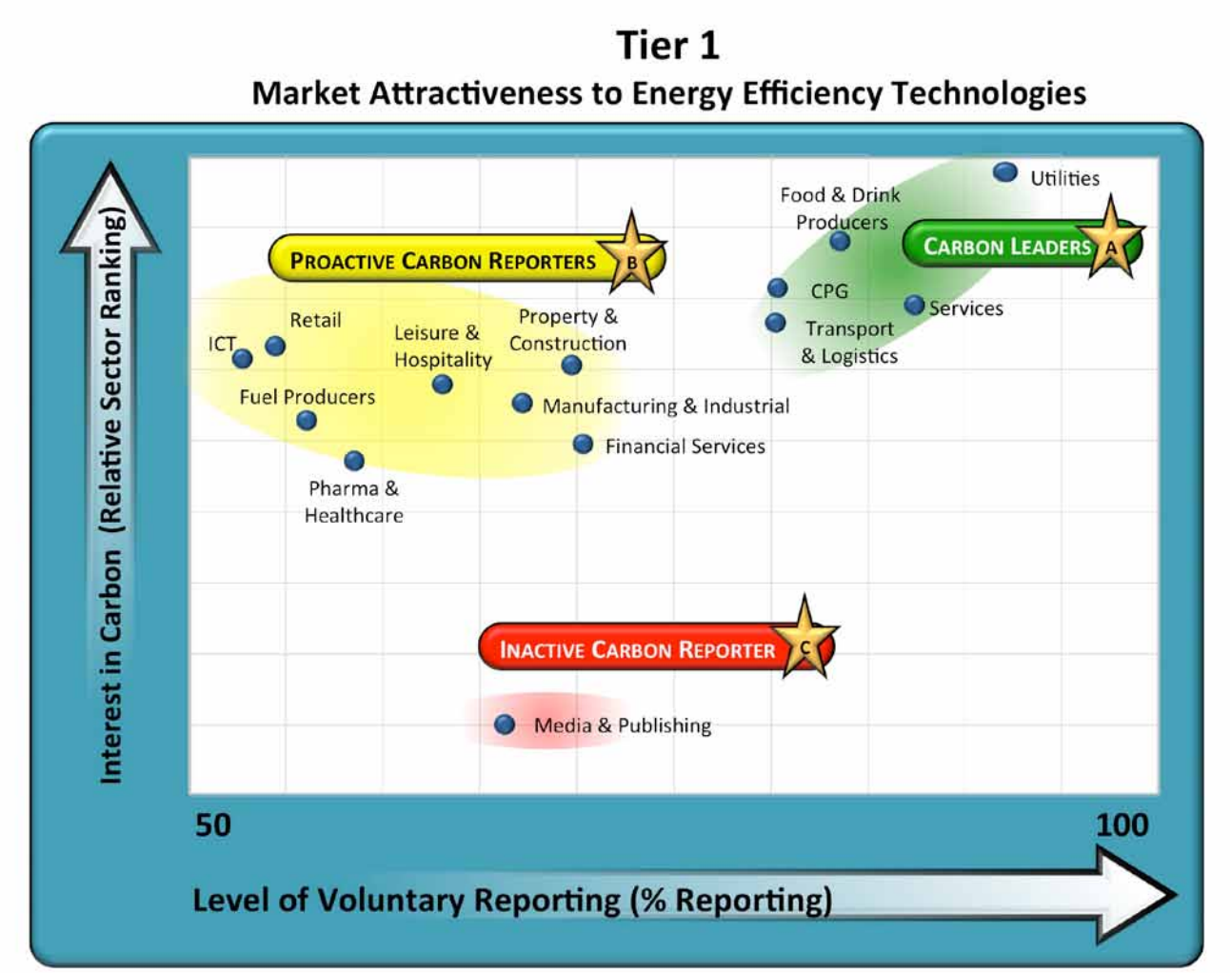
Turning attention to Energy Efficiency innovations, the short-term opportunities in Tier 1 are likely to be bigger than in Tier 2 industries.

The high levels of voluntary reporting and interest in Carbon amongst Tier 1 companies imply that these Participants will have begun to capture data on their emissions and will have developed a clearer picture of the relationship between these emissions data and their use of the assets within their businesses that are responsible for the emissions.

This understanding is an important factor in assessing the investment in technologies that reduce or replace emissions. Using the previously established segmentation for Tier 1, the chart of market attractiveness has been determined for these technologies. The rationale for the assessment made for each segment is presented below.

Proactive Carbon Reporters – Companies within the industries in this segment are likely to have a high level of interest in technologies that reduce GHG emissions. Their high interest in Carbon management combined with a relatively high level of voluntary reporting means that they are likely to be actively interested in these technologies, but may not yet possess the necessary insight needed to understand the kinds of innovation that will be relevant to their needs. They have been allocated an attractiveness rating of **(B)** when compared with other industries in this Tier.

Carbon Leaders – Companies in this segment are likely to be interested in reducing their Carbon footprint for all GHG emissions. They may well have already begun to invest in these types of innovation. However, where innovation opportunities to reduce emissions remain, these Companies are likely to understand the business case for investment and to be motivated to act. They have been assessed as **(A)** rating for market attractiveness for the innovations in this category.



Inactive Carbon Reporters – The low level of interest in Carbon means that Media & Publishing companies in Tier 1 are less likely to have completed their analysis of the sources and sizes of GHG emissions within their businesses activities. They therefore may require further information about opportunities for investment in energy efficiency innovations before investment can begin. This segment has been rated as **(C)** in terms of market attractiveness.

This report does not consider the relative attractiveness of innovations that support Sustainability at this industry sector level. It is expected that this interest will grow as Companies begin to understand the importance of Sustainability to their business models over the longer term.

For readers interested in the development of interest in market research data on Sustainability within the Tier 1 population at a company level, please email the authors at **info@cambiumllp.com**.

Market Attractiveness of Tier 2 Segments for Vendors of Services and Technology

The following sections consider the results of the analysis for Tier 2 Companies presented in Section 4.4. Using this information, the relative attractiveness of these segments is examined for Carbon Services and Technology Providers respectively. The relative attractiveness of the identified market segments within Tier 2 for Services providers is considered first.

Carbon Services Providers

Earlier in the report, it was established that across Tier 2, there is substantial variation in both the level of voluntary Carbon reporting and interest in Carbon management between Participants in different industrial sectors. These variations are indicative of a wide range of different needs amongst the sectors as a whole relating to the demand for Carbon consulting services. Each company will typically be on a journey in terms of their understanding of their GHG footprint and at different phases of this journey, they will have different needs in terms of support from Carbon Service providers.

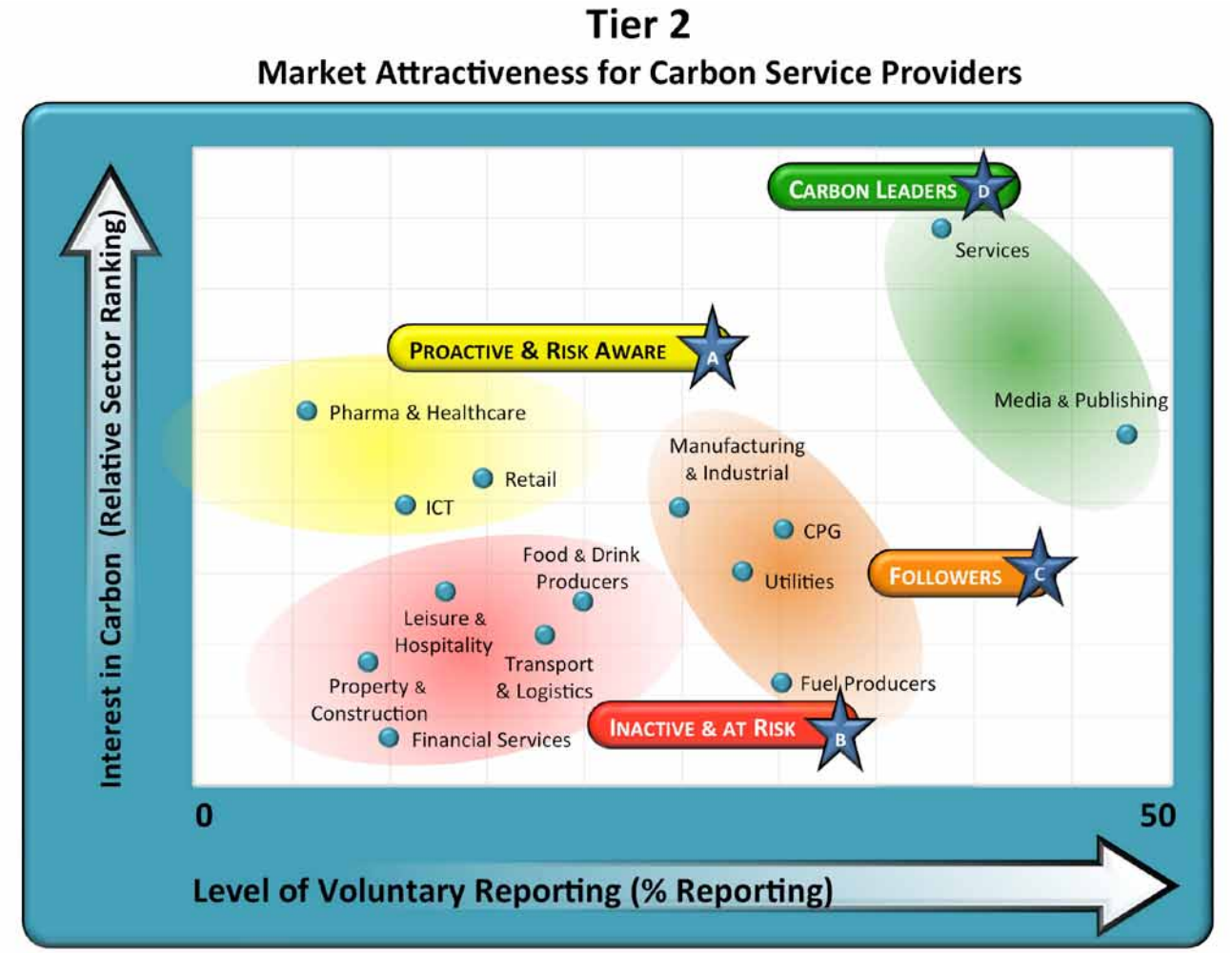
For example, a business that has completed little measurement or analysis of its footprint to date will have an urgent need for Carbon foot printing support, to help them understand the legislation, to provide guidance that will help them measure their emissions, and to generate a GHG report that will enable compliance.

The chart below reprises the segments identified in 4.4. In the blue star next to each segment is the letter A, B, C or D, which ranks the likelihood that companies in each segment will be attracted to Carbon Services providers.

Proactive and Risk Aware – segment comprises businesses that are already becoming aware of the legislation and which are beginning to take action on building and executing a plan to comply with the new regulations. They are likely to be seeking Carbon consulting companies with which they can work with to develop GHG management plans. This represents the best short term opportunity for Carbon consulting firms. As a result they have been allocated an attractiveness rating of **(A)**.

Inactive and At Risk – Due to low interest in Carbon and associated lack of awareness, most companies in this segment will not to have made progress in ensuring their compliance with the new legislation. They are therefore likely to form a good target for Carbon services firms. Given their current low level of activity and awareness of the compliance risks, they are also likely to need education on the legislation, timetable, the risks of inaction and the opportunities and benefits of a more proactive approach. They have been allocated an attractiveness rating of **(B)**.

Followers – This segment has demonstrated a comparatively good level of voluntary reporting for Tier 2, although their scores for Carbon reporting are less than Tier 1. The industry sectors in this segment are not as focussed on compliance with



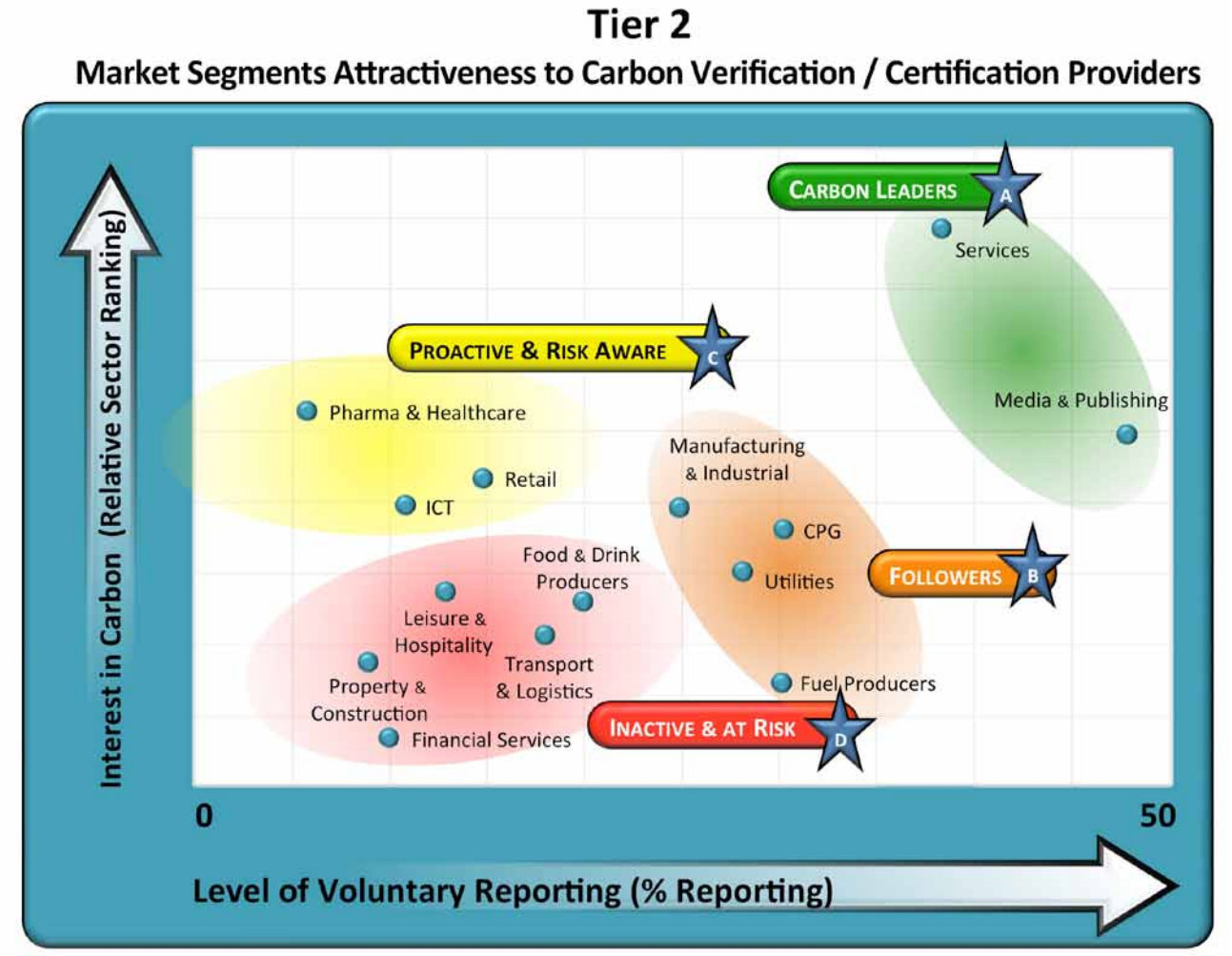
the legislation and consequently Carbon services providers may need to provide education on the demands of the legislation to the firms in this segment. Due to their previous experience of voluntary reporting, service providers will need to carefully qualify their in-house capability to produce these reports. There may be services opportunities for providers, but equally clients may defer to the use of any in-house skills. As a result they are rated as **(C)** for Market Attractiveness.

Carbon Leaders – It can be expected that the companies within the industries in this segment will in general be on top of the compliance challenge. They will not be so interested in services to enable compliance, for this reason, they are allocated a market attractiveness rating for Carbon Service Providers of **(D)**.

Carbon Verification / Certification Providers

Given the level of maturity of existing voluntary reporting within Tier 2, the opportunities for Carbon Verification providers within Tier 1 may be limited until these Participants in the Tier have completed their first compliance reports.

The chart below covers the segments identified in 4.4. In the blue star next to each segment is the letter A, B or C, which ranks the likelihood that companies in each segment will be interested in offers from Carbon Verification / Certification providers.



The attractiveness of each segment has been considered in turn.

Inactive and At Risk – The low level of interest in Carbon and the relatively low level of reporting completed to date exhibited by the industries in this Segment means that the short term focus of the companies within this segment will be on compliance. Only once their initial compliance is complete are they likely to show interest in Verification. They are rated **(D)** in terms of attractiveness for Carbon Certification Providers

Proactive and Risk Aware – Although the Carbon interest level in this segment is high there is a wide range of experience in voluntary reporting. Companies within the industries in this segment will need to ensure that the compliance reports can be produced, before considering certification and audit. Consequently they are not likely to be aware of the desirability or value of auditing their GHG reports at this stage. Their needs for these services will accelerate as awareness of the detailed requirements of the GHG legislation increases and they start to develop their compliance strategy. As a result they are rated as **(C)** for Attractiveness to Carbon verification and certification providers.

Followers - This segment may offer greater short term potential to Carbon audit firms as the companies are more likely to understand the principles of GHG reporting and may wish to validate their historic efforts with a Carbon auditor. They are rated as **(B)** for Attractiveness to Carbon verification and certification providers.

Carbon Leaders – Carbon Leaders will be keen to ensure compliance with the legislation, but their proven track record in voluntary reporting means that they will be also interested in the public validation of these reports. These Participants may also have most interest in extending their current level of reporting further to include Scope 3 emissions by extending their leadership by measuring the footprint of their Products and/or Supply Chains. For this reason they are rated as **(A)** in terms of Attractiveness to Carbon Verification and Certification providers.

Technology Providers

The substantial variation in both the level of voluntary Carbon reporting and interest in Carbon management shown by Tier 2 businesses has important implications for technology providers. In the same way that these variations are indicative of a wide range of different needs for Carbon consulting services, there are parallel yet different implication for technology providers.

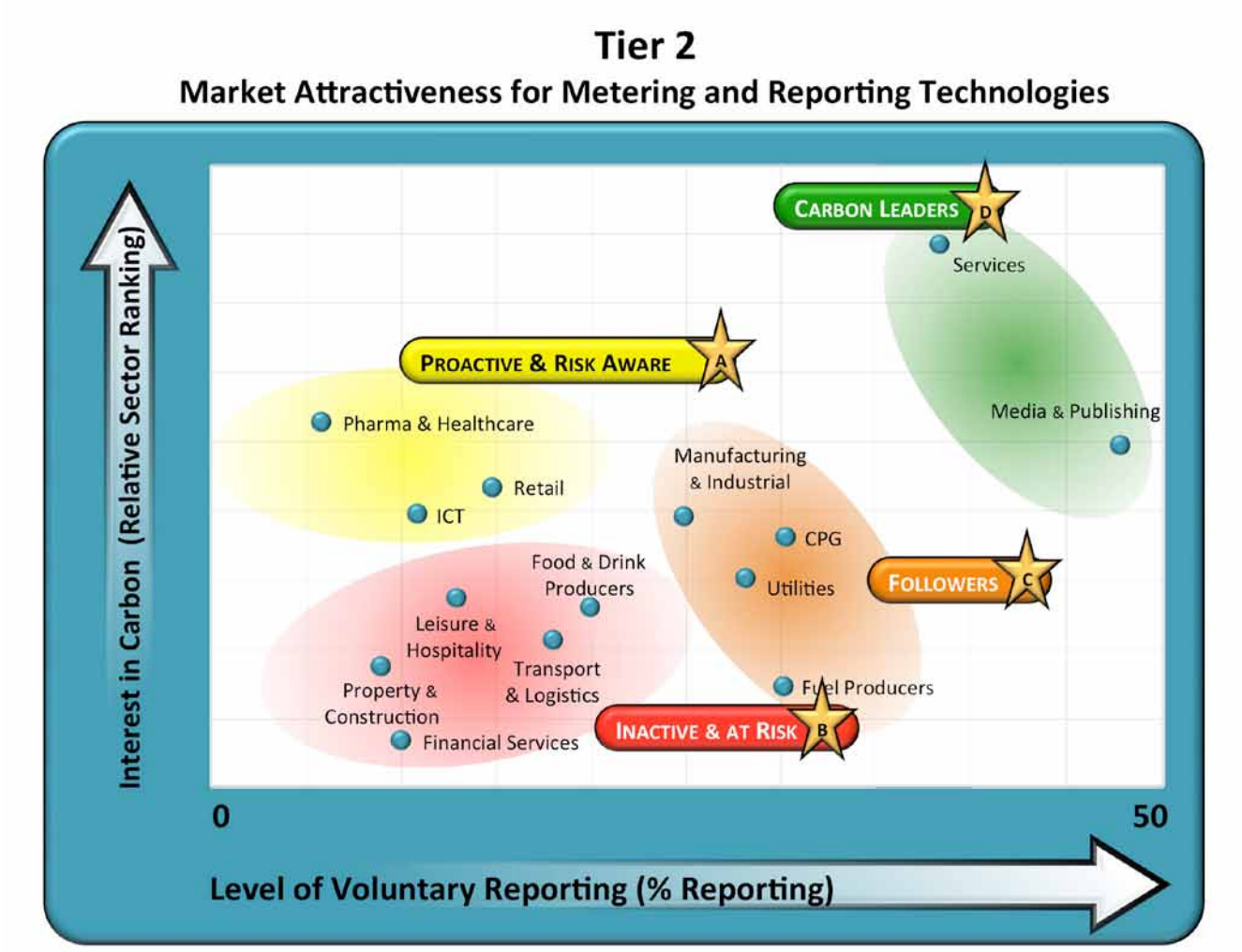
For the purposes of this assessment two categories of Technology are considered, specifically:

- Metering and Reporting Technologies
- Energy Efficiency Technologies.

The segments have important characteristics and implications for technology Vendors in both categories. The relative attractiveness of the segments identified in Tier 2 for each of these types of Technology is considered in turn.

Metering and Reporting Technologies

The chart below covers the segments identified in 4.4. In the yellow star next to each segment is the letter A, B, C or D, which ranks the likelihood that companies in each segment will be attracted to propositions from Metering and Reporting technologies and their providers.



Proactive and Risk Aware – The companies in this segment are likely to be focused on the challenges of meeting the need to comply with the legislation. For this reason, they are likely to be most interested in the adoption of technologies that enable this compliance quickly. Their choice of technologies is likely to be influenced by any Service providers that are working with them to support the development and execution of their compliance plans.

In terms of technologies, it can be expected that Metering and Reporting solutions will be of great interest. In particular, reporting solutions that can be delivered quickly with minimal capital cost are likely to be in demand. This market will therefore be interested in Carbon accounting and reporting solutions delivered in-house or via cloud infrastructure. There will be interest in business intelligence solutions that enable compliance in terms of both greenhouse gases as well as other social responsibility aspects of the new narrative reporting, such as gender diversity and remuneration. Due to the high relative interest in these sectors in Metering and Reporting technology, this sector has been ranked as **(A)** in terms of attractiveness to these Technology Vendors.

Inactive and At Risk – As awareness of this legislation grows, companies in this segment will focus on achieving compliance rather than investing in energy efficiency at this stage. Providers of Metering and information technology solutions that can enable rapid tactical implementation of compliance solutions may benefit as awareness of the compliance challenge increases. Due to this increased interest by these industries in Metering and Reporting technology, this segment has been ranked as **(B)** in terms of attractiveness to these Technology Vendors.

Followers – The sectors in this segment have comparatively good voluntary Carbon reporting for this Tier, but the way in which they report may not yet meet the precise reporting requirements required by the legislation. Due to their existing track record in Carbon reporting, it is likely that Participants in the industries within this segment may have already made some investments in Metering and Reporting solutions.

However, these initial forays may also have only utilised manual methods or spread sheets, so providers of reporting solutions should also qualify their interest in upgrading to more strategic reporting solutions given the statutory annual nature of the new legislation. As a result, this sector has been classified **(C)** in terms of market attractiveness for reporting Technologies.

Carbon Leaders – Companies in this segment have the highest level of voluntary reporting and the highest level of interest in Carbon management within the Tier. Both of these facts suggest that some, but not all of the Participants in this segment will have invested in Metering and Reporting technology. In the light of this evidence this segment is rated as **(D)** in terms of relative market attractiveness to Metering and Reporting providers.

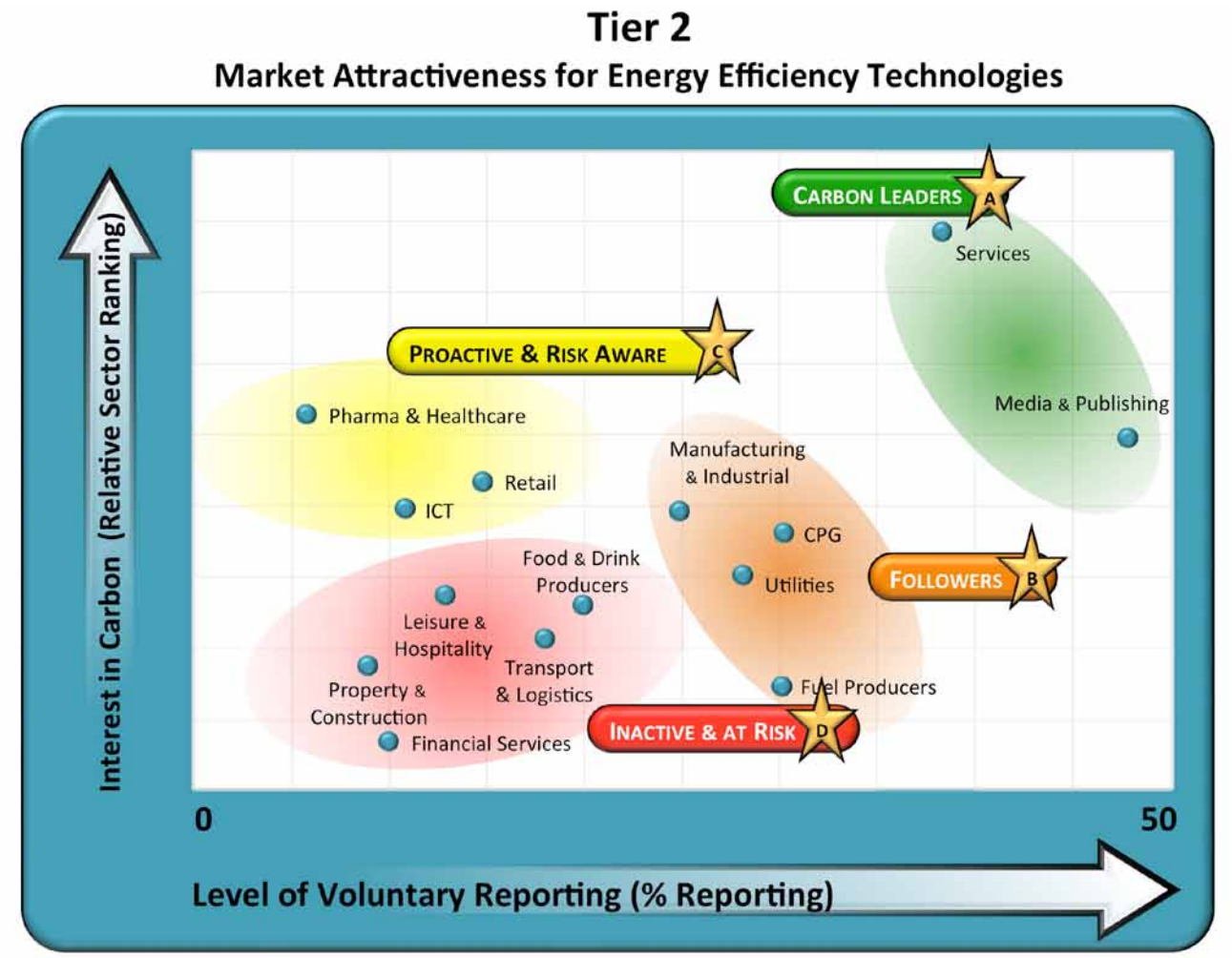
Energy Efficiency Technologies

Turning attention to Energy Efficiency innovations, the short-term opportunities in Tier 2 are likely to be less attractive than in Tier 1 industries. The lower level of voluntary reporting across the Tier implies that fewer Tier 2 Participants will have begun to capture data on their emissions. As a result a smaller number of these companies will possess a clear, measurable understanding of the relationship between their emissions and their use of those assets within their business that are responsible for such emissions.

This understanding is an important prerequisite for the investment in technologies that reduce or replace emissions. Using the previously established segmentation for Tier 1, the chart of market attractiveness has been determined for these technologies. The rationale for the assessment made for each segment is presented below.

Proactive and Risk Aware – Companies in this segment will be learning quickly and will be interested in technologies that reduce energy consumption or emissions. Due to the limited availability of client based emissions data, Vendors will need to demonstrate proven business cases, rapid payback and good industry-specific references.

Sales cycles for these innovations are likely to be extended into 2014, once compliance has been achieved and solid core baselines for emissions established. Given the influence of Carbon services providers on the businesses in these sectors, Vendors could benefit from partnerships with these services companies. Vendors with such partnerships can improve sales productivity by making relevant product propositions once Carbon baselines have been established and compliance has been achieved. For these reasons this segment is allocated a market attractiveness rating of **(C)**



Inactive and At Risk – Education on the implications of the legislation will be required to accelerate the clients' understanding of the need for energy efficiency technologies. These sectors will have limited interest in these innovations until compliance is achieved and they have an understanding of the drivers of their GHG footprint. Again in 2014, after compliance has been achieved, it can be expected there will be an increased demand for proven energy efficiency innovations. As a result this sector is rated as **(D)** in terms of market attractiveness.

Followers – Due to the higher level of voluntary reporting some of the Participants in this segment will possess some awareness of the key drivers of their energy use and so have scope to qualify interest in energy efficiency innovations. Successful propositions in this segment will require good reference stories and clear transferable business cases. As Followers generally conveyed a limited interest in Carbon management, education programmes may also be needed to explain to companies in these sectors how they could benefit from specific energy efficiency innovations. This segment has been rated **(B)** in terms of market attractiveness.

Carbon Leaders – Evidence or experience of crafting strong business cases for larger companies in the same industry sector will also be valued by the companies in this segment. The high level of reporting and interest in Carbon management means that the Participants in this segment are most likely to have built a clear view as to the best opportunities to reduce emissions from energy consumption. For this reason this segment is graded as **(A)** in terms of market attractiveness for energy efficiency innovations.

As Participants realise the financial benefits of energy optimisation that will accompany compliance with this legislation, interest in the wider sustainability of their business model is expected to grow. This report does not consider the relative attractiveness of innovations that support Sustainability at this industry sector level. However, for those readers that are interested in the development of interest in Sustainability within the Tier 2 population at a company level, please email the authors at **info@cambiumllp.com** for more information on the available data.

5. The Mandatory Carbon Reporting Market – Implications for Services and Technology Providers

This section of the report examines the drivers for this new market and why mandatory Carbon reporting is catalysing major new markets in both the short and medium term. It continues by explaining where Cambium's research indicates that the best short-term market opportunities exist. Finally, it identifies some key implications for Services and technology providers seeking success in this market in 2013 and beyond.

5.1 Compliance - The Catalyst for this New Market

The Government decision to introduce mandatory greenhouse gas reporting for all Participants represents the first step on the road towards wider Sustainability reporting, by augmenting current economic metrics (e.g. balance sheet or profit and loss) with measures of the environmental and social impact of an enterprise's operations. The integration of the new GHG regulations with the proposed changes to Narrative Reporting provides further evidence of this growing trend toward greater reporting transparency.

The Government's policy is to encourage these large companies to measure, monitor and optimise their energy consumption and to thereby reduce their GHG emissions. The policy supports four important Government objectives:

1. To enable the UK to meet its legally-binding targets set in the Climate Change Act (2008) to reduce its GHG emissions from a 1990 baseline by 34% and 80% by 2020 and 2050 respectively.
2. To ensure that the planned transition from a fossil fuel to a low-Carbon (nuclear and renewable) economy does not impact on the security of the UK's energy supplies. Consequently the UK has a renewed strategic focus on energy efficiency as evidenced by a recent policy whitepaper **(6)**.
3. To drive economic growth by facilitating the expansion of clean technology industries to meet the higher demands for these Technologies as the economy is de-carbonised.
4. To improve the transparency and corporate governance of UK companies.

The Impact of Compliance on Businesses

Significant C-Suite interest, especially for Chief Executive Officers (CEOs) and Chief Financial Officers (CFOs), will be catalysed by the need to ensure compliance and over time to improve these new metrics of environmental performance. These Directors will need to review their existing greenhouse gas reporting mechanisms to meet the standards stipulated in this new legislation.

The inclusion of this new emissions data within the annual reports of LSE companies post October 2013 will enable similar scrutiny of a company's environmental performance to that currently applied to financial metrics. The new transparency afforded by this new reporting regime will enable the direct comparison of greenhouse gas emissions levels between companies. The requirement to provide intensity ratios will ensure that the companies affected will face pressure to demonstrate improvements in their management of emissions over time.

Given the increasing consumer, employee and investor interest in corporate responsibility, sustainability and environmental impact, the mandatory GHG / Carbon reporting legislation

creates both compliance and reputational risks for all affected Companies.

As a result, affected companies need to review their existing reporting mechanisms and improve the precision with which emissions data is reported, to meet the standard stipulated in the legislation. Companies will use the insights gained from measuring their operational use of energy and production of greenhouse gases to reduce costs and improve environmental performance over time. The implementation of these actions will create demands for new innovations that optimise energy consumption and help abate GHG emissions.

New Opportunities for Services and Technology Vendors

The transparency afforded by this new compliance regime is driving a major new market for energy efficiency and Carbon management, which Vendors of relevant Services and Technologies can capitalise upon. This market is not just a short term tactical opportunity: the Government plans to extend the provision of this legislation to over 20,000 smaller companies by 2016. Vendors that can deliver effective compliance and energy efficiency solutions in 2013 will therefore experience significant growth in their opportunities as this reporting regime is rolled out across the wider UK economy.

A Large Sustainable Market Opportunity

Sales success in the GHG market will be strategically significant. Once a vendor has established its position as a key supplier of measurement, monitoring and analysis products or Services, there are many potential follow-on opportunities. The evolution of this market opportunity is shown in the diagram overleaf, which identifies a number of phases. This model provides a general view of the evolution in the market and its precise development will depend upon individual company and industry sector contexts. It is presented here to identify the longer term opportunities available to Vendors.

The model depicts five key phases in the focus of management within Companies as their interest in Carbon and Sustainability evolves and matures. Each of these 'phases' will be considered in turn.

Compliance Phase

The early compliance phase will typically involve the establishment of a greenhouse gas footprint which will provide information on the primary sources of emissions from the company's operations. These new insights will also enable a business to identify major uses of fossil fuels and their associated energy costs.

Energy Efficiency Phase

The new insights obtained as a result of compliance will underpin the interest in investing in Technologies that can reduce emissions to protect brand and reputation, whilst also reducing operational energy costs and enabling the development of energy security plans.

The opportunities for energy efficiency are diverse with many Vendors offering a wide array of innovative Technologies. Examples of these Technologies are shown in the summary table on page 9.

This market opportunity is large. Once mandatory Carbon reporting is rolled out to 20,000 other companies from 2016, it will grow rapidly. In fact, this energy efficiency market opportunity

must occur if the UK Government is to meet its Greenhouse Gas Emissions Reduction targets. As an indication of the size of this market between 2013 and 2020, Cambium has estimated the opportunity for Information Technologies alone. The UK IT market needed to achieve the required emissions reduction will be worth £10 billion per annum in 2020 **(7).** See Appendix 4. This segment of the UK IT market will grow at least three times faster than the rest of the UK IT market.

Enterprise Resource Optimisation

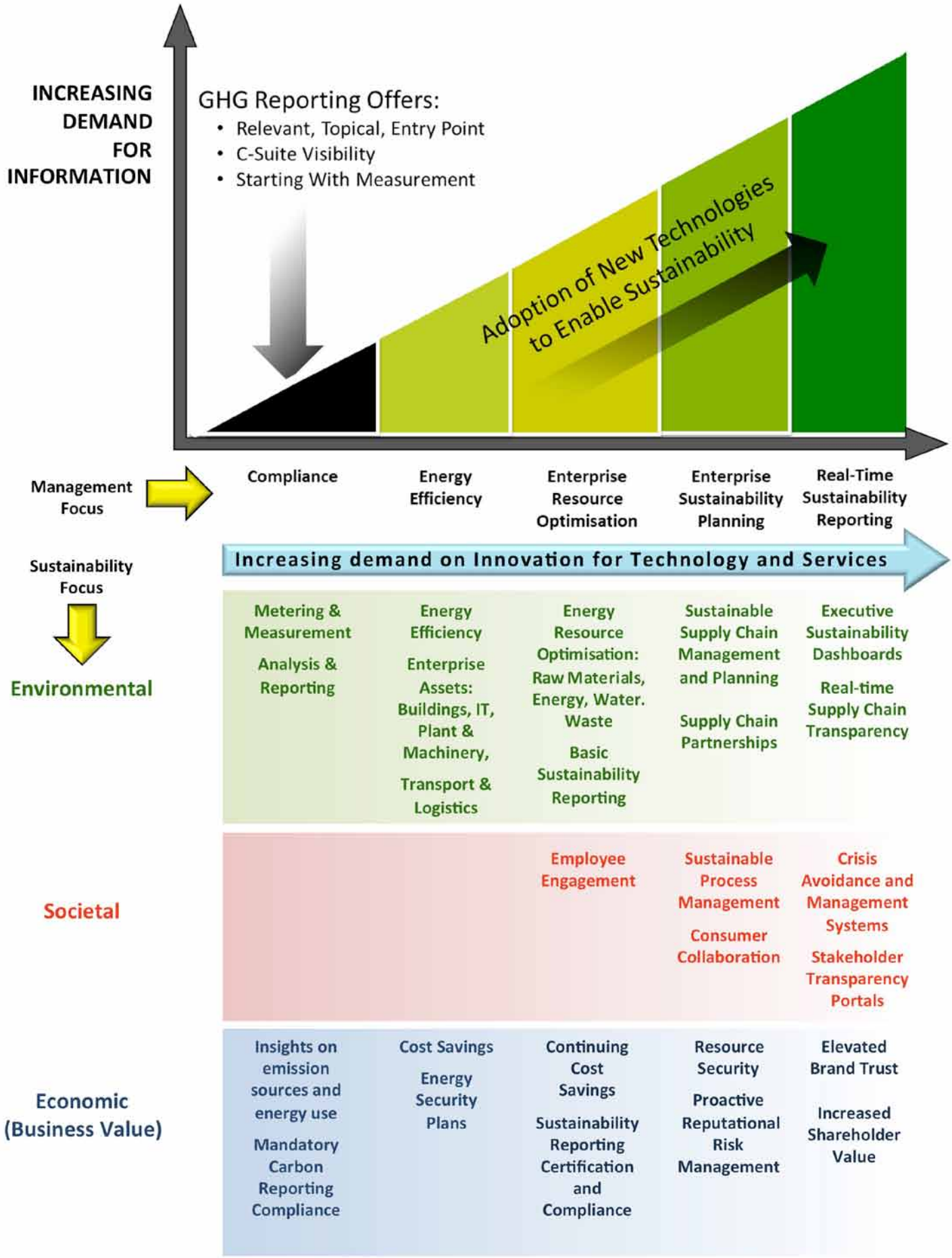
Once the organisation realises the benefits of energy consumption analysis, then it will realise the value of improving security, optimising costs and protecting corporate reputation through good management of other key resources, such as water, raw materials and waste. This will catalyse further interest in enterprise resource optimisation, as the company makes additional efforts to reduce its environmental impacts and operational costs, and to highlight its commitment to corporate social responsibility.

Management can be expected to involve their employees in these resource management initiatives. This has the benefit of sourcing ideas and innovations that reduce costs and of supporting the recruitment and retention of key talent.

Enterprise Sustainability Planning

Based on the insight derived from Enterprise Resource Optimisation, company staff will realise the inherent dependency of their businesses upon key resources and will be able to better quantify and analyse the risks associated with variation in their access to, and the cost of, these vital inputs. Management teams will implement Enterprise Sustainability Planning to ensure that supply networks are re-designed to reduce the environmental impacts of their supply chain. This move to sustainable supply chains will have the dual benefit for these companies of mitigating both sourcing and reputational risks.

This phase will also be characterised by these companies considering the use of their Products and Services by their customers. This focus on Sustainable consumption will underpin these companies' reputations and build brand trust. In the process it is expected that these companies will discover new forms of value for their clients and as a result new market opportunities.



Real-time Sustainability Reporting Vision

Over time, sustainable businesses will embed the importance of Sustainability into all parts of their operations. Advances in information technology are enabling the cost effective instrumentation of all aspects of a company's business. This phase may not be necessarily restricted to the company's own operational boundaries, but can encompass the sourcing of raw materials, through production and distribution processes to the consumption of Products and Services by end clients. The advances in analytical Technologies to interpret the resultant high volumes of data ("big data") offers the potential for companies to move to real-time Sustainability reporting.

Ultimately, the company's processes will be transparently available to suppliers, employees, executives and customers so that relevant Sustainability information can be shared with to all stakeholders. Companies that achieve this vision will be able to drive elevated trust in their products and brands, whilst maximising shareholder value.

The Starting Point for Vendors

The strategic nature of the market growth that will emerge from mandatory Carbon reporting is clear. It will take years for the phases of adoption identified above to become widespread across the market. For many Vendors it will be a long journey with many opportunities for Products and Services sales along the way

This begs the question for Vendors as to where the best opportunities are in this mandatory Carbon reporting market. Vendors will obtain and significant competitive advantage if they understand:

- most interested in Carbon management or
- are least prepared to meet the compliance demands of the legislation

The following Section examines where these best market opportunities can be found.

5.2 The Best Market Opportunities

The market analysis provided in this report considers the opportunities being created by the implementation of mandatory Carbon reporting from the perspective of both Services and Technology providers.

General Characteristics of the Mandatory Carbon Reporting Market

Our findings indicate that Tier 1 and Tier 2 Participants differ markedly in their level of preparedness to comply with the impending legislation.

As a consequence, the market opportunities for Vendors varies greatly, but Tier 2 companies will require more assistance to become compliant. The opportunities in each population have been examined separately.

Tier 1 Companies

Although 96% of Tier 1 companies engage in voluntary reporting, there is wide variation in the precision with which this data is reported.

The Companies within the FTSE 350 are larger than their counterparts in Tier 2 and are in general more advanced in terms of both their interest in Carbon management and of their experience of voluntary Carbon reporting. They are more mature in their objectives to both save money by improving the energy efficiency of their operations and to meet their stakeholder expectations of being responsible and sustainable businesses.

The diagram below provides a summary of the relative market attractiveness to Service and Technology providers followed by a supporting commentary.

Carbon Services Vendors

These dynamics means that the primary opportunity for Carbon consulting firms will centre upon improving the energy efficiency of operations. The most advanced clients may be starting to look beyond their internal operational boundaries to consider the greenhouse gases embedded in their supply chains and in the use of their Products and Services by customers.

In view of these more sophisticated needs, the best opportunities for traditional Carbon consultancy Services are likely to be found in in those industry sectors containing Participants with relatively less advanced reporting infrastructure. This research indicates that the sectors include: Financial Services, Fuel Production, ICT, Leisure, Manufacturing, Pharma, Property and Retail.

Carbon Verification and Service providers are likely to find that Tier 1 companies are a more attractive opportunity than companies in Tier 2. The higher level of voluntary reporting and the elevated awareness of the risk of reputational damage by these companies are likely to create a stronger demand for their Services. Carbon Leaders in the Utilities, CPG, Services, Food Producers and Transport & Logistics industries in Tier 1 are likely to be good targets for Certification service providers.

This will be true for those companies with a proven track record in voluntary reporting amongst the other sectors in Tier 1. In such companies, there may be a strong interest in demonstrating that they have independently audited their voluntary Carbon reporting regimes.

Technology Vendors

Due to the high level of voluntary reporting and high levels of interest in Carbon management amongst Tier 1 companies, it is likely that

Tier 1 - Market Attractiveness Mapping

A = Most attractive
B = Second most attractive
C = Third most attractive
D = Least attractive

	Offering Type	Offering Focus	CPG	Food & Drink Producers	Financial Services	Fuel Producers	ICT	Leisure & Hospitality	Manufacturing & Industrial	Media & Publishing	Pharma & Healthcare	Property & Construction	Retail	Services	Transport & Logistics	Utilities
Tier 1	Services	Carbon Consulting Services	C	C	B	B	B	B	B	A	B	B	B	C	C	C
		Carbon Verification / Certification	A	A	B	B	B	B	B	C	B	B	B	A	A	A
	Technologies	Metering & Reporting Technologies	C	C	A	A	A	A	A	B	A	A	A	C	C	C
		Energy Efficiency Technologies	A	A	B	B	B	B	B	C	B	B	B	A	A	A

the opportunity for Metering and Reporting Technologies will be constrained. Vendors would find more opportunities if they targeted companies in the Media & Publishing sector and those companies with less reporting experience within the ICT, Fuel Production, Leisure & Hospitality, Property & Construction, Manufacturing, Retail, Pharma & Healthcare and Financial Services sectors.

In contrast, the opportunity for energy efficiency Technologies within Tier 1 is strong. The market sectors that are most likely to be interested in these innovations would be the Proactive Carbon Reporters. This segment already has a strong track record in voluntary Carbon reporting and so the companies in these industries are likely to understand their emissions footprints. They are therefore more likely to understand where they could deploy more energy efficient Technologies to reduce their emissions footprints, and be ready to invest in such Technologies at scale.

There may also be continuing interest in energy efficiency within companies in the Carbon Leaders segment, which includes the sectors of CPG, Food Producers, Services, Transport & Logistics and Utilities.

Tier 2 Companies

The research indicates that 70% of the Tier 2 companies affected by the proposed legislation are currently not engaged in any form of voluntary Carbon reporting. Consequently, the biggest opportunity for compliance solutions can be expected to fall within this group of Participants.

Using the methods outlined in section 3.1, Participants were categorised by their primary industry sector. These sectors were then divided into four segments: **Carbon Leaders, Proactive and Risk Aware, Followers, and Inactive and At Risk**, (depending on the level of voluntary reporting or interest in Carbon management).

The opportunities for Service and Technology providers vary by industry sectors in Tier 2 are summarised in the table below.

Tier 2 - Market Attractiveness Mapping

A = Most attractive
B = Second most attractive
C = Third most attractive
D = Least attractive

	Offering Type	Offering Focus	CPG	Food & Drink Producers	Financial Services	Fuel Producers	ICT	Leisure & Hospitality	Manufacturing & Industrial	Media & Publishing	Pharma & Healthcare	Property & Construction	Retail	Services	Transport & Logistics	Utilities
Tier 2	Services	Carbon Consulting Services	C	B	B	C	A	B	C	D	A	B	A	D	B	C
		Carbon Verification / Certification	B	D	D	B	C	D	B	A	C	D	C	A	D	B
	Technologies	Metering & Reporting Technologies	C	B	B	B	A	B	C	D	A	B	A	D	B	C
		Energy Efficiency Technologies	B	D	D	B	C	D	B	A	C	D	C	A	D	B

Carbon Services Vendors

Within the Proactive and Risk Aware segment and the Inactive and At Risk segment, companies that are becoming more proactive about compliance represent the best short term opportunity for Carbon consulting firms. Primary target sectors for these Vendors should include ICT, Pharma & Healthcare and Retail. A secondary attractive focus for these Vendors should be companies in the Financial Services, Property & Construction, Transport & Logistics, Food & Drink Producers, Leisure & Hospitality sectors.

For Carbon verification providers, the best opportunities are likely to be found in the segments where there is already a higher level of voluntary Carbon reporting. Overall the opportunities for these firms in Tier 2 are likely to be smaller than the opportunities in Tier 1. This is due to the relative low maturity of interest in Carbon reporting to date.

These businesses should target initial marketing activities at the Services, Media & Publishing industries. A secondary focus should be on Manufacturing, CPG, Utilities and Fuel Producers.

Technology Vendors

Metering and Reporting technology providers are likely to have most success with companies that have relatively little experience in Carbon reporting, and little interest in Carbon management. These companies are likely to have a more pressing need for these innovations. These Vendors should focus on the ICT, Pharma & Healthcare and Retail (Proactive and Risk Aware) industries, followed by the Financial Services, Property & Construction, Transport & Logistics, Food & Drink Producers and Leisure & Hospitality sectors (Inactive and At Risk).

In contrast, energy efficiency Vendors focussing on Tier 2 are likely to be more successful with those sectors, that already understand their existing Carbon footprint dynamics and so most success is likely to be obtained by a focus on the Services and Media & Publishing (Leaders) sectors. Dependent on company, there are also likely to be good prospects in the sectors of Manufacturing, CPG, Utilities and Fuel Production (Followers).

5.3 10 Essential Strategies for Strategic Sales Success in this Market

This section identifies ten recommended strategies that Vendors of Services and Technologies should adopt in order to maximise their success in the emerging mandatory Carbon reporting market.

1. Be Aware That Compliance Is Only the Beginning of a Major New Market Opportunity

Compliance with mandatory Carbon reporting forms only the first phase in what will grow to be a significant new market in time. Following this compliance phase, an even bigger opportunity will emerge for Products and Services that can reduce emissions, optimise energy and resource consumption and ultimately enable more sustainable business models.

This initial and follow-on business will suit suppliers or networks of collaborating companies that are able to offer a broad range of integrated or related offerings. Successful Vendors can use the compliance, measurement and reporting phase to position themselves as a strategic Technology and/ or Services partner with Participants for the next decade.

To be successful in growing with this market, Vendors will need to be able to identify and position Products and Services that can enable energy efficiency savings and emissions reductions in operational areas such as:

- Buildings
- Plant and Equipment
- Dematerialisation of Assets
- Remote Work
- Transport and Logistics

2. Capitalise Upon "C-Suite" Interest In Compliance and Risk Management

Although Mandatory Carbon Reporting represents a short term compliance challenge, it is clear that it has strategic significance for those Companies and leaders that are aware of their need to respond to the environmental and social governance (ESG) expectations of their stakeholders. As it will now form part of their public reporting regime, insightful business leaders in listed companies will recognise the need to develop a strategic response to the management of emissions. They may also be aware of the increasing importance of energy and wider resource security to their cost structure and business performance.

For these reasons, they are interested in learning more about new ideas and innovations that can provide solutions to these strategic challenges. Compliance catalysts such as mandatory Carbon reporting offer a rare opportunity to engage these executives and to establish new business contacts and relationships.

As a result, Vendors must consider how they engage these executives on the strategic potential of their offerings and the associated need for agile and flexible reporting infrastructures for emissions today and Sustainability reporting in the future. Cambium has published a free whitepaper explaining how Sustainability is creating new demands for Sustainable innovation, such as IT, within these organisations. This paper can be downloaded here - **http://www.cambiumllp.com/resources/Sustainability-driving-new-it-market-opportunities**

3. Ensure That Sales and Marketing Teams Understand the Size and Importance of the Market Opportunity

Mandatory Carbon Reporting is a compelling new market opportunity with the potential for significant growth. As companies become compliant with the legislation, their understanding of their use of energy and production of associated emissions will grow. In parallel, they will also begin to realise the strategic importance of continuing to improve their environmental credentials to meet the rising expectations of their stakeholders.

As the needs of Participants mature further, they will seek to become more efficient in their use of resources. This will not be limited to Carbon emissions, but will be extended to Water, Waste and other relevant scarce resources. These Participants will become more aware of their need to align the economic performance of operations with their environmental and social impacts. Simply put, these businesses will recognise and understand the business value in becoming more sustainable.

This transition provides significant opportunities to Vendors that can help their clients as their needs mature. Those Vendors wishing to benefit strategically from these opportunities need to ensure that their sales and marketing teams can engage with their clients with credibility on the drivers, vocabulary and implications of this transition to sustainable business.

Vendors aspiring to market leadership should prepare for this new market by investing in appropriate Sustainability training to maximise the productivity of their sales and marketing teams. Cambium has a long and successful track record in providing relevant **education in Sustainability to sales and marketing** personnel.

4. Capitalise On New Incremental Sales Opportunities In Key Accounts

This upcoming legislation affects some of the largest businesses operating both in the UK and indeed globally. Many Vendors will already have productive and profitable relationships with these companies. These organisations may well comprise some of the most important major accounts for Vendors of Services and Technologies.

Vendors with existing relationships within these accounts should implement structured engagement with these clients both on their approach to mandatory Carbon reporting and to review their plans to adopt more sustainable business models. Although many of these businesses are already active in providing voluntary emissions reporting, the legislation should be used by key account teams to position and qualify interest in resource efficiency and sustainability. In doing it is possible to engage new CxO contacts and to achieve early interception of new projects as these organisations seek to become more sustainable. Find out how Cambium can support the **penetration of your key accounts** by capitalising upon the Sustainability agenda.

5. Develop and Position Value Propositions With Care

This report provides details of those sectors within the overall market, where specific Services or Technologies may have the greatest prospect of early success. Every affected company is likely to have their own specific compliance needs governed by their level of maturity in relation to the management of Carbon and sustainable business practices in general. This approach to compliance will be influenced by the market sector of which they are a part and the energy intensity of their operational processes.

It is recommended that Vendors ensure the propositions they offer are clear, differentiated and appropriately positioned, mindful of this variation in need and awareness.

Cambium has detailed information for each of the Participant companies that are affected by this legislation and selections of this data can be provided to Vendors interested in utilising this resource.

Cambium also has a successful track record in supporting the accelerated development of relevant value propositions. For more information on both of these Services email **info@cambiumllp.com**.

6. Ensure the Availability of Robust Documented References

Due to the early stage of the development of this market, it is clear that prospective clients will place a high value on the track record of any Service provider or Technology Vendor. Consequently those Vendors that are able to present references on the delivered value of their service or solution will be well received.

Where possible, Vendors should seek to create relevant industry specific references ideally supported by strong business cases or ROI data. Case studies that indicate a track record in a Tier 1 participant will be particularly valuable to prospects in the same industry sector within Tier 2.

7. Make Sure That Solutions Can Be Delivered As A Service Using Cloud Models

Many of the Participants will be seeking compliance solutions that can be installed quickly due to the short term deadline of commencing reporting from 1st October 2013. In parallel, they may need more time to develop a strategic response to this new on-going compliance framework. As a result, they may feel a pressure to implement tactical hardware and software solutions that have a fixed and inflexible underlying long-term data architecture driven by reduced initial implementation costs. Alternatively an adaptable compliance service, with an open data architecture and wider view of Sustainability, which can be deployed quickly without the need for substantial capital outlays, will be very attractive to these businesses both in the short and long term.

Consequently there will be particularly strong interest in compliance solutions that can be delivered as an on-going service at a variable cost. This will drive demand for 'cloud-based' compliance solutions and has important implications for Vendors.

Vendors should ensure that their Technologies and Services can be deployed and/or supported via a Cloud infrastructure. This may require the development of new channels and partnerships to support these new business and delivery models. Technology or Service Vendors should build capability either directly, or in partnership with relevant Independent Software Vendors (ISVs) and / or Managed Service Providers (MSPs) to meet this need.

In separate market research, Cambium has recently completed a review of the enterprise ISVs with relevant solutions to the mandatory Carbon reporting requirement that are operating in the UK market. This research can assist with the acceleration of partner / channel ecosystems that could embed Technology Products and Services. If you would like more information on this research, please contact us at **info@cambiumllp.com**

8. Accelerate the Development a Strong Partners network

In addition to the formation of cloud based ecosystems, there is significant potential for collaboration between Service and Technology providers. This market will be ideally suited to agile Vendors that are focused on delivering comprehensive, yet flexible compliance solutions.

From the wide range of preparedness for compliance reported in the research, it is clear that some companies will be very short of time and resources to achieve compliance. Consequently there are significant opportunities for Technology and Services providers to collaborate to enable the delivery of comprehensive, complete solutions to the Compliance challenge.

Partnerships of this kind will be of particular importance to best of breed Vendors with a narrow solution scope within their Product or Service. These companies often possess world class capabilities, but are restricted by the scale of their sales and marketing resources. Vendors faced with this challenge should focus their scarce sales and marketing resources onto the development of channel relationships to maximise the market coverage for their solutions. Cambium has deep experience in the accelerated development of effective sales channels – to explore how we can help, email us at **info@cambiumllp.com**.

9. This Market is Driven by a Compelling Timetable so Vendors Need to Act With Speed

The research findings provided in this report provide clear guidance as to the best target market segments for Vendors to focus on.

The compliance legislation has been well publicised and consulted upon widely. Due to this awareness many Vendors are active in this market. The mandatory nature of the reporting regime means that many Participants will have to invest in new infrastructures and require external support to achieve compliance. The predictability of this market, unlike the uncertainties prevalent in the wider UK economy, means that these Vendors will be aggressively pursuing their share of this market.

Successful Vendors will need to ensure that their sales people are aware of this opportunity and are able to credibly articulate the value of the relevant solutions. This may also require short term education and telemarketing programmes to support sales engagement with the Participants. Successful Vendors will also use the insights presented in this report to focus their efforts onto those sectors, where the compliance challenges are the greatest.

10. Vendors Must Consider Their Own Sustainability Credentials

All Vendors irrespective of size need to be aware of how they ensure the effective management of their own business to both reduce emissions and to become more sustainable. Many of the leading companies interested in Carbon management will only want to partner with suppliers that take this agenda seriously. Over time all of these companies will see their supply chains as fundamental to the overall Sustainability of their operations. Consequently Vendors wishing to participate in this market need to ensure that they are adopting best practices in being a sustainable supplier.

5.4 How to Accelerate Your Company's Sales Opportunity

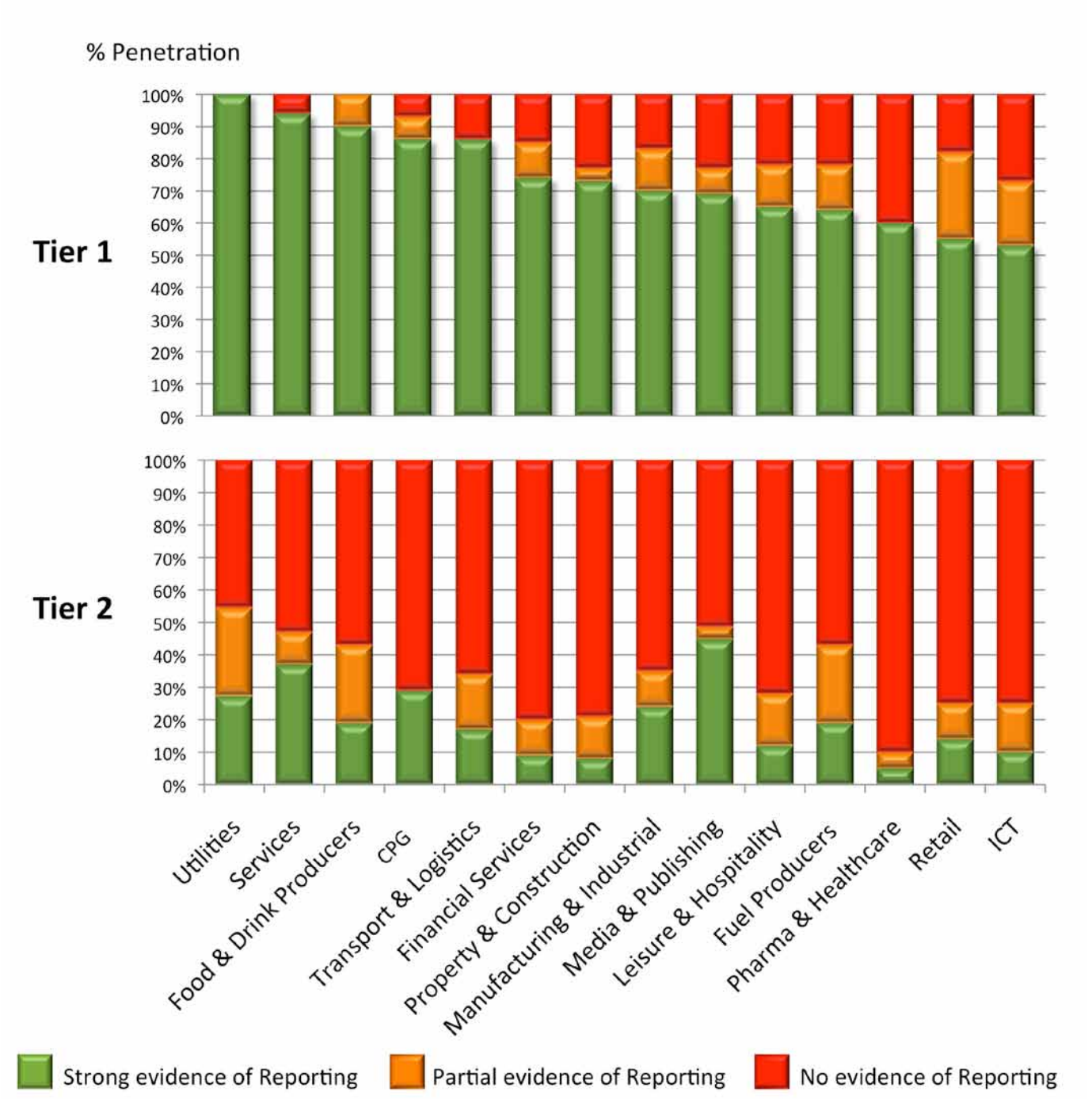
Vendors seeking to be successful in the market created by Mandatory GHG / Carbon Reporting may need assistance to adopt these strategies quickly and cost effectively. If this describes the situation facing your business, then get in touch with Cambium.

Cambium understands the dynamics of the mandatory Carbon reporting market and we can help you accelerate your success in this market. To find out more visit **www.cambiumllp.com** or email us at **info@cambiumllp.com**

6. Appendices

Appendix 1 – Reporting by Super Sector

Stacked histogram showing how the level of voluntary reporting varies by Super Sector in both Tier 1 and Tier 2 companies, where **green** indicates complete voluntary reporting, **orange** indicates partial reporting and **red** shows no reporting.



Appendix 2 – Industry Sector Classification

CPG
Household Goods
Personal Goods
Tobacco

Food and Drink Production
Beverage Production and Brewing
Food Producers

Leisure and Hospitality
Travel and Leisure
Hotels and Hospitality

Media and Publishing

Utilities
Renewable Energy Generation
Electricity
Gas, Water and Multi-utilities

Transport and Logistics
Industrial Transportation
Oil Equipment, Service and Distribution

Services
Support Services

Retail
Food and Drug Retailers
General Retailers

Property and Construction
Construction and Materials
Real Estate Investment and Services
Real Estate Investment Trusts

Pharma and Healthcare
Health Care Equipment and Services
Pharmaceuticals and Biotechnology

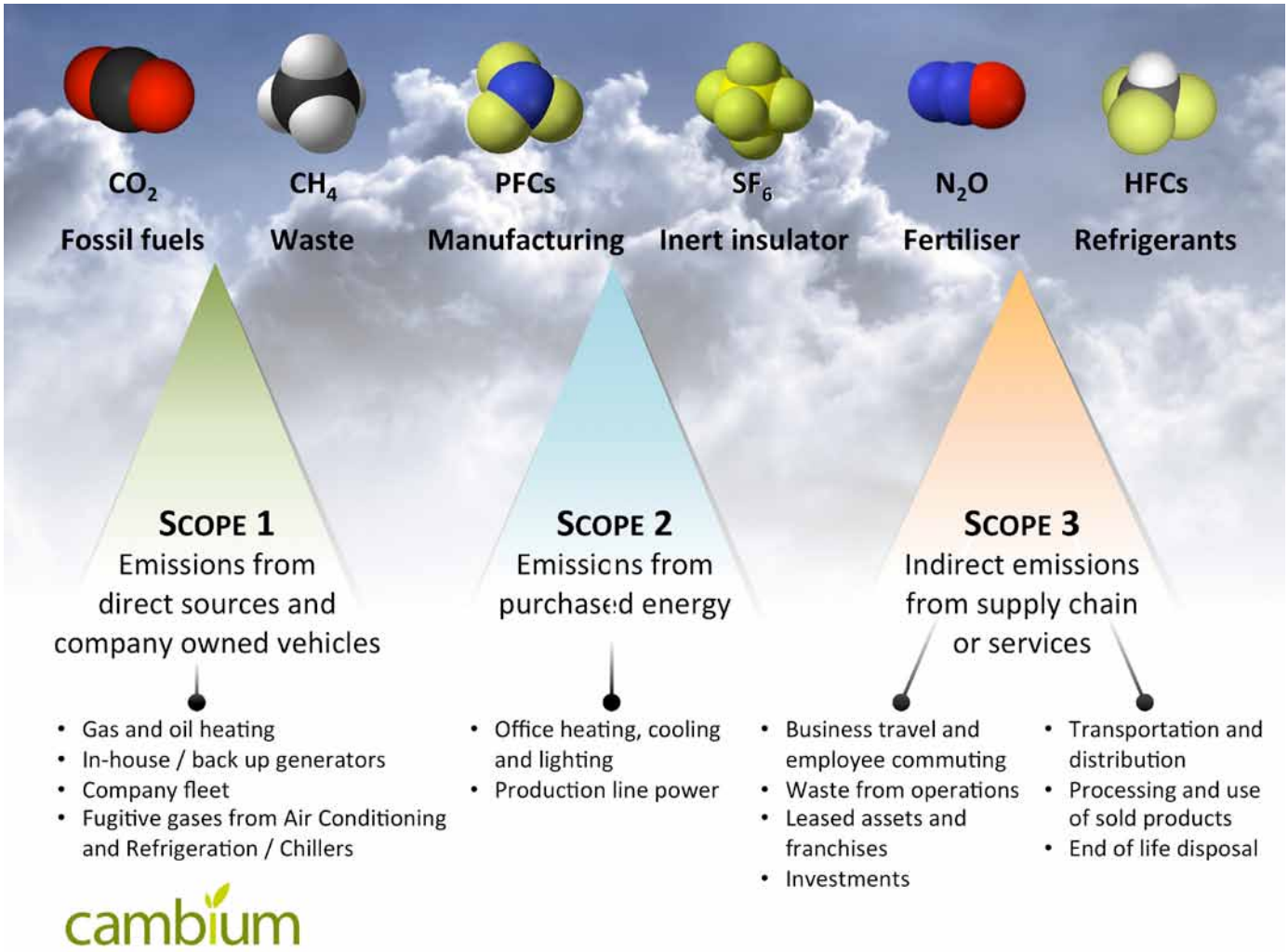
Fuel Producers
Oil and Gas Producers

Manufacturing / Industrial
Aerospace and Defence
Automobiles and Parts
General Industrials
Industrial Engineering
Chemicals
Industrial Metals
Forestry and Paper
Mining
Leisure Goods

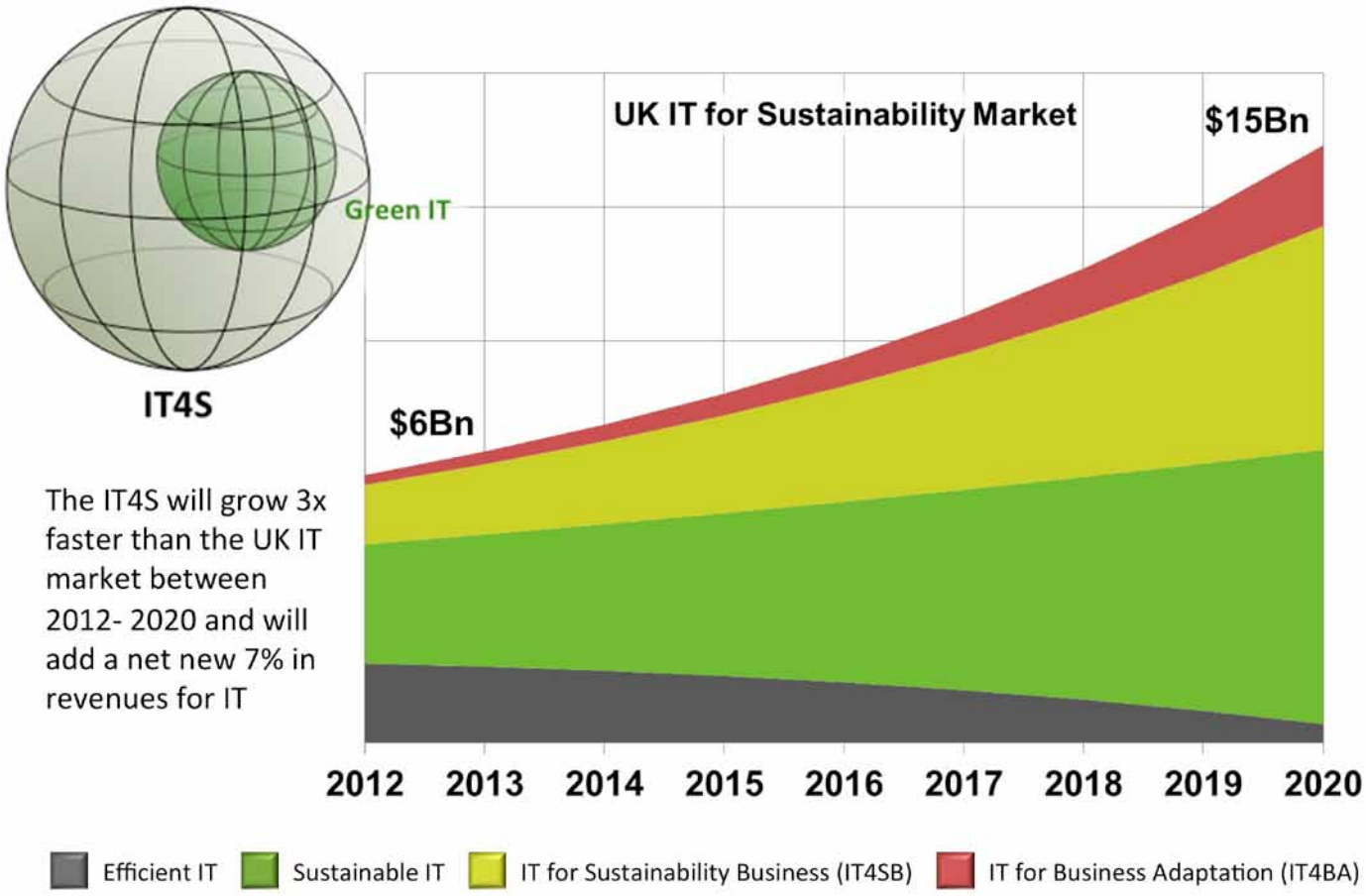
ICT
Fixed Line Communications
Mobile Telecommunications
Software and Computer Services
Electronic and Electrical Equipment
Technology Hardware and Equipment

Financial Services
Banks
General Financial
Life Insurance
Non-life Insurance

Appendix 3 – Emissions Scope Definition



Appendix 4 – UK Market Forecast



- **Cambium reference (7)**
  http://www.cambiumllp.com/resources/Sustainability-driving-new-it-market-opportunities

Appendix 5 – References

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2. Defra – GHG Reporting draft regulations 2013 – published July 25, 2012. – **http://www.defra.gov.uk/consult/files/consult-ghg-regulations-20131.pdf**

3. Defra – Guidance on how to measure and report your greenhouse gas emissions – September, 2009. **http://www.defra.gov.uk/publications/files/pb13309-ghg-guidance-0909011.pdf**

4. Climate Change Act – Climate Change Act 2008 c. 27, Part 6, Interpretation – Section 92. **http://www.legislation.gov.uk/ukpga/2008/27/section/92**

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