SASB IWG Due Process Report

TECHNOLOGY & COMMUNICATIONS

April 11, 2014

Contents

Introduction

SASB develops and disseminates industry-specific accounting standards for material sustainability issues for use by U.S. publicly-listed corporations and their investors, such that sustainability performance can be evaluated alongside financial performance. SASB standards identify, prioritize and describe material non-financial risks and opportunities and provide decision-useful information for the benefit of companies, investors and the public.

SASB was accredited by the American National Standards Institute (ANSI) as a national standard developer in December 2012, and follows ANSI best practices for standards development, summarized below:

- Consensus on a proposed standard by a group or "consensus body" that includes representatives from materially affected and interested parties
- Broad-based public review and comment on draft standards
- Consideration of and response to comments submitted by voting members of the relevant consensus body and by public review commenters
- Incorporation of approved changes into a draft standard
- The right to appeal by any participant that believes that due process principles were not sufficiently respected during the standards development in accordance with the ANSI-accredited procedures of the standards developer[1]

SASB Industry Working Group Overview

SASB Industry Working Groups (IWGs) play a critical role in helping achieve SASB's mission. IWG members are industry experts with at least five years of experience in the industry for which they are reviewing SASB Standards. They are recruited across the following interest groups: corporations (reporting entities); market participants (investors and analysts), and; public interest/intermediaries (NGOs, academics, government officials, NGOs, etc.). IWGs convene to review SASB's evidence-based research of ESG factors that are determined to be material for their industry and accounting metrics for the disclosure of those issues. IWGs provide important feedback on these material issues and metrics, providing additional evidence of financial impact and/or evidence of interest, as well as suggesting others for which they have evidence of interest and/or financial impact.

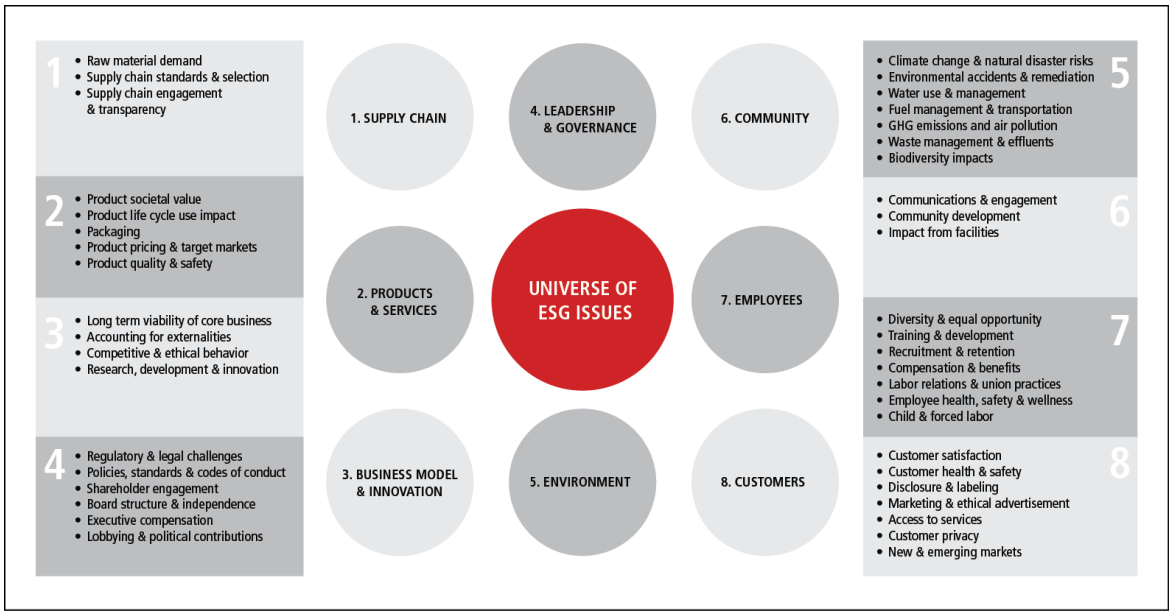
OBJECTIVE & APPROACH

SASB Standards refine the set of Environmental, Social and Governance (ESG) issues (shown in Exhibit A) into a minimum set of ESG issues that are material to each industry. This determination is made through evidence-based research focused on evidence of financial impact and evidence

[1] http://www.ansi.org/standards_activities/domestic_programs/overview.aspx?menuid=3

of interest. Simply stated, SASB IWG objectives are to solicit technical feedback on material ESG issues identified by SASB for the industry in question – as well as suggested accounting metrics for the disclosure of those issues – from interest groups that will be affected by the Standards (issuers), and those who will use the standards (market participants).

Exhibit A – Universe of ESG Issues Researched by SASB for



SASB's industry expert review through its IWGs helps ensure that draft Sustainability Accounting Standards address issues that are truly material to each industry, resulting in accounting metrics that are applicable, auditable, complete, cost-effective, directional, useful and relevant. In other words, SASB Standards are *decision-useful to investors and market participants*.

THEMATIC SECTORS AND INDUSTRY WORKING GROUP RECRUITING

SASB's industry classification system is called Sustainable Industry Classification System™ (SICS™). SICS™ categorizes industries into thematic sectors and industry working groups based on their resource intensity as well as their sustainability innovation potential. It also ties back to standard classification systems, such as Bloomberg's Industry Classification and Global Industry Classification Systems, so users don't have to learn another system.

Open Enrollment

Enrollment in IWGs is open to all qualified participants; industry experts register to join IWGs via SASB's online registration form. Applicants' suitability for IWGs is screened by SASB's Stakeholder Engagement Team (SET) to ensure that they have significant experience and expertise in their fields and are actively involved in US capital markets. SET also monitors enrollment in IWGs to ensure that participation balanced across the following three interest groups:

1. Corporations (reporting entities)
2. Market Participants (investors and analysts)

3. Public Interest/Intermediaries (NGOs, academics, government officials, NGOs, others not included in groups 1 and 2 above)

Active Outreach

SASB also conducts active outreach to recruit IWG participants via a variety of channels to ensure that interest groups are balanced across all industries in the thematic sector covered each quarter.

Targeted Outreach – Phase I
IWG recruiting begins with broad outreach across a variety of channels roughly two months prior to the kick-off of each working group. Ads and articles are placed through SASB media partners (including Bloomberg, Responsible Investor and Greenbiz), as well as through channels relevant to the industries being covered that quarter.

Referrals are by far the best source for recruiting IWG members. During Phase I of targeted outreach, SET leverages SASB's Board of Directors, Advisory Council, past IWG members and subscribers to SASB's newsletter through an email blast requesting referrals to industry experts in upcoming IWGs.

SET also reaches out to professionals in the top ten publicly-traded companies in each of the industries covered in the sector (as well as analysts covering these companies). (See Appendix I for a list of companies targeted in Phase I outreach for the Financials IWGs.)

When referrals are not available, contact information is obtained through publicly-available channels such as LinkedIn and Google searches. SASB also subscribes to Data.com, through which SET acquires contact information for potential IWG participants.

Targeted Outreach – Phase II
As registrants begin to populate SASB IWGs, more narrowly-focused outreach becomes necessary. This targeted approach focuses on areas in which open enrollment and Phase I Outreach results are "thin" and vulnerable to imbalance.

Targeted outreach to attract participants in specific industry AND interest group levels involves: a second approach to Board and Advisory Council members seeking referrals in the specified areas of need, highly targeted media outreach, LinkedIn, industry/trade association outreach and seeking referrals from IWG registrants.

Outreach and Advertising Channels

Edelman, SASB's agency of record, was tasked with developing a sector-specific outreach strategy, including tactics and channels, for the stakeholder engagement team. SASB has a rough calendar of sector-specific conferences and a list of trade publications. Neither has yet yielded the results originally envisioned. This is due largely to the fact that conference agendas are set well in advance and we missed critical scheduling deadlines.

We did recruit for industries in this sector via Sustainable Silicon Valley—including attending their conference and asking Marianna Grossman, Executive Director of SSV, to reach out on our behalf to SSV by email. SSV also publicized SASB's call for experts in this sector through social media and their website in exchange for SASB promoting the SSV conference through similar channels.

SASB also briefed three representatives of the Electronic Industry Citizenship Coalition (EICC). While some EICC members registered for the IWGS, it is unclear whether this was a result of direct outreach of EICC leadership.

SASB's media partners are: Responsible Industries (RI), Sustainable Industries Journal (SIJ), Corporate Eco Forum and Greenbiz. Although not an official media partner, Bloomberg Sustainability continues to be a tremendous media resource for SASB. These media partners helped publicize IWG recruiting for the technology and communications sector through the placement of banner ads on their sites. They also provide coverage of general developments at SASB from time to time. GreenBiz continues to feature a quarterly article on SASB, recapping the sector just covered, and announcing the sector for which we are recruiting. SASB was mentioned in several media outlets during our recruiting for this sector, including: Compliance Week, Ethical Corporation, an HBR blog, a CFA Institute video and CSRWire.

IWG PROCESS, TOOLS AND MATERIALS

IWG participants provide vital feedback on proposed SASB Standards during a one-month period of structured engagement. During this time, IWG participants review SASB Industry Briefs and take an online survey. The survey encourages participants to contribute evidence supporting or refuting the financial impact of and/or interest in material issues, suggest other issues for which they have evidence of materiality, and evaluate (and suggest alternatives to) the metrics drafted by SASB.

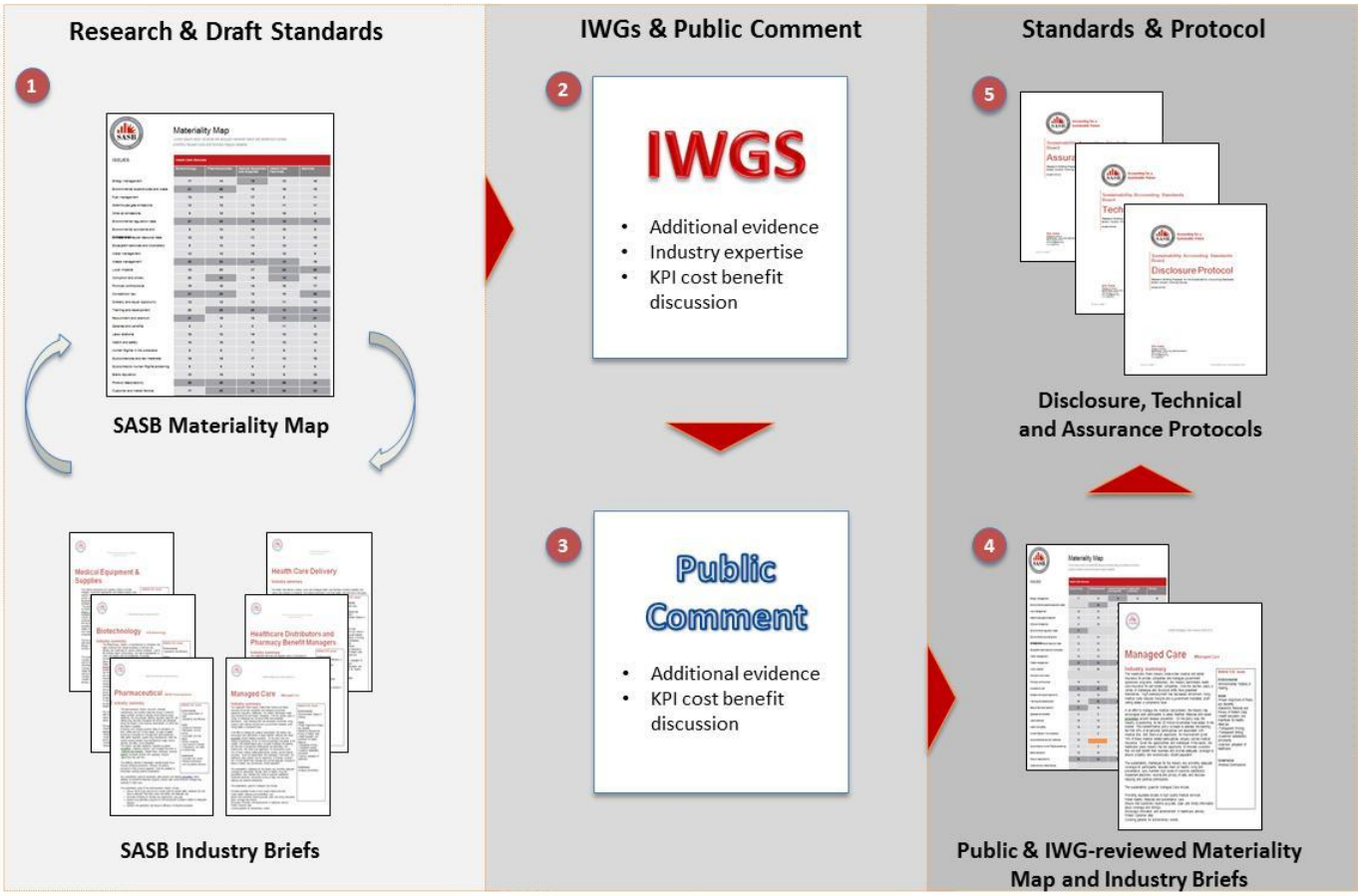
IWGs commence with an introductory webinar through which IWG participants become familiar with SASB and the IWG work flow (shown in Exhibit B). Participants are provided with the following tools and materials through which to conduct their work:

- A SASB Industry Brief for their industry
- Access to a LinkedIn Group for their sector, through which industry experts are able to share evidence related to issues material to their industry and can communicate through an open forum with other group members and SASB
- A self-paced, electronic survey designed to capture detailed feedback on SASB Standards

Minimum levels of participation in SASB's IWGs require that participants 1) read the SASB Industry Brief and suggested KPIs for the industry in which they are enrolled and 2) complete the online survey providing feedback on the Brief and KPIs. Participation in online discussions via IWG fora and attendance of webinars and follow up conferences is optional.

Survey results, as well as comments made via LinkedIn and email, are compiled by SASB'S research team for review. All IWG communication with SASB is retained by SASB to document the Standards development process.

Exhibit B – SASB's Work Flow, One Sector per Quarter



Industry Working Groups for the Technology & Communications Sector

SASB's working groups (IWGs) covering the technology and communications sector were convened for a period of structured engagement from May 6th through June 4th, 2013[2]. The groups were structured as follows:

TECHNOLOGY & COMMUNICATIONS WORKING GROUPS & INDUSTRIES

Industry Working Group Roll-ups	Working Groups
Technology	• Electronic Manufacturing & Original Design Manufacturing • Software & IT Services • Hardware
Semiconductors	• Semiconductors
Telecommunications	• Telecommunications
Internet Media & Services	• Internet Media & Services

TECHNOLOGY & COMMUNICATIONS IWG COMPOSITION

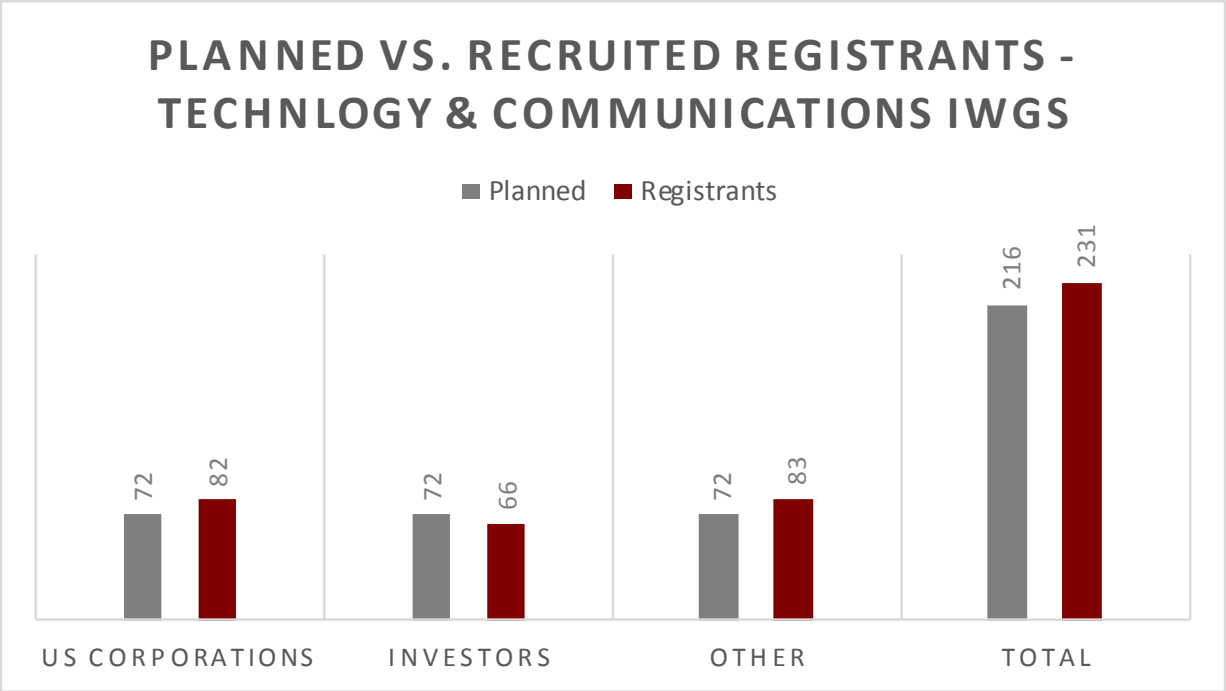
Recruiting – Planned vs. Actual

Minimum target levels for participation in the technology and communications working groups were set at twelve experts per interest group per industry, for a total target of 216 survey responses for the sector. These targets were consistent with those set for financials working groups.

In total, 231 survey commitments were received for SASB technology and communications working groups – 107% of the targeted total. As was the case with SASB working groups to date, many registrants committed to complete more than one survey. Exhibit C shows SASB's planned vs. actual IWG recruiting results by industry and interest group.

[2] Periods of Structured Engagement for SASB Industry Working Groups generally span a 1-month period. Technology and communications IWGs were extended through June 7th, to encourage participation after the initial closing date of June 4th yielded a less than 50% completion rate of surveys.

Exhibit C: Composition of Technology & Communications Working Groups: Planned vs. Recruited Participants



SASB Technology & Communications IWG members included industry expertise from well-respected entities including:

- Accenture
- Accountability
- Akamai Technologies
- Allianz Global Investors
- Antea Group
- Aon Hewitt
- AT&T
- Autodesk
- Bloomberg LP
- BSR
- Calvert Investments
- CenturyLink
- CERES
- CISCO
- Cogent Communications Group
- Comcast
- Computer Sciences Corporation
- CRD Analytics
- CSC
- CSRwire
- Dell
- Diebold
- DNV Kema
- Domini Social Investments
- eBay
- EcoBizCheck
- EMC Corporation
- Ernst & Young
- Framework LLC
- Goldman Sachs

- Google
- Green Den Consulting
- Groupon
- Hara
- Hewlett Packard
- Hill + Knowlton Strategies
- Ingram Micro
- Intel
- InterPraxis Consulting
- Legg Mason Investment
- Lockheed Martin
- Microsoft
- Morningstar
- Moss Adams
- MSCI
- NetApp
- Nielsen Company
- NVIDIA
- OSIsoft
- Pax World Investments
- PricewaterhouseCoopers
- Recycebank
- Siemens
- SustainAbility
- Sustainable Silicon Valley
- Sustainalytics
- Symantec
- Telenet
- Thomson Reuters
- Trillium Asset Management
- Trucost
- UBS Securities
- UNEP
- Verdantix
- VMWare
- WAP Sustainability
- WebFilings
- Wipro
- WSP Group
- Yahoo

TECHNOLOGY & COMMUNICATIONS IWG SURVEYS

Survey Composition & Administration

Technology & Communications IWGs were structured to solicit feedback on the ESG issues identified by SASB as being material for industries in this sector, and the proposed accounting metrics for disclosure of these issues in the Forms 10-K and 20-F. Material issues identified by SASB's research team for the financials sector are shown by industry in Exhibit D.

Surveys were dynamic; responses provided early in the surveys determined questions that follow. All Technology & Communications Industry Surveys followed the same general format:

- Section 1: Material ESG Issues (10 – 15 minutes)
- Section 2: Accounting Metrics (15 – 20 minutes)
- Section 3: Comments on Industry Brief (5 minutes)

Section 1: Material Issues

Material Issue Evaluation and Ranking
Respondents were asked to review the material issues identified by SASB and answer the question, "is this a material issue" by checking a box to indicate, "Yes. It is material", "No. It is not material" or "I don't know."

Importance of Disclosure
The survey also asked participants to force rank the importance the material issues identified for their industries.

Additional Material Issues
Respondents were also given the opportunity to identify up to three issues they believed were material to their industry but that had not been included in SASB's minimum set. For every material issue suggested for inclusion, participants were prompted to provide a contextual explanation of why the issue should be added to the minimum set. They were also prompted to upload documents as evidence to support the inclusion of the new issue and/or provide URLs linking to evidence to support the inclusion of the issue.

Section 2: Accounting Metrics

The second section of each industry survey sought feedback on the accounting metrics delineated in the SASB Briefs for disclosure of material ESG issues in that industry. Participants were asked to first comment on the individual accounting metrics based on the following criteria:

- Relevance – Does the accounting metric adequately describe performance related to the material issue, or is it a proxy for performance?
- Usefulness – Does it provide decision-useful information to companies? To investors?
- Cost-effectiveness – Is the data already collected by most companies or can it be collected in a timely manner and at a reasonable cost?
- Comparability – Will the data allow for peer-to-peer benchmarking within the industry?
- Auditability – Can the data underlying this accounting metric be verified?

Respondents were provided an opportunity to discuss the metrics, suggest alternatives and provide input on how each accounting metric is presented (units, aggregated and/or normalized). Respondents were also asked if they would like to suggest content for the Disclosure Notes (technical guidance) that will accompany accounting metrics for each material issue.

Section 3: Comments

The surveys also provided participants the opportunity to inform SASB of errors and omissions, as well as to provide general comments on the industry briefs.

Exhibit D – Material ESG Issues for the Technology & Communications Sector by Industry

	Hardware	EMS & ODM	Semiconductors	Software & IT Services	Internet Media & Services	Telecom
Env. Capital	▪ Sustainable energy management	▪ Sustainable energy management ▪ Water and waste management in manufacturing	▪ Sustainable energy management ▪ Water management ▪ Managing waste and air pollution from manufacturing operations ▪ GHG emissions	• Sustainable energy management	• Sustainable energy management	• Sustainable energy management
Social Capital	• Data privacy and security			• Data privacy and freedom of expression • Cyber security	• Data privacy, advertising standards and freedom of expression. • Cyber security	• Data privacy and security • Digital inclusion
Human Capital	• Talent recruitment, development and retention	• Labor relations	• Talent, recruitment, development and retention • Employee health and safety	• Talent, recruitment, development and retention	• Talent, recruitment, development and retention	• Labor relations
B.Model & Innovation	• Product lifecycle management: design, use and disposal	• Product lifecycle management: design, use and disposal	• Product lifecycle management: design, use and disposal • Products and services enabling environmental efficiency and positive social impacts	• Products and services enabling environmental efficiency and positive social impacts	• Products and services enabling environmental efficiency and positive social impacts	• Product lifecycle management: disposal • Products and services enabling environmental efficiency and positive social impacts
Leadership & Governance	• Supply chain management and materials sourcing	• Supply chain management and materials sourcing	• Supply chain management and materials sourcing	• Systemic risk management of technology disruptions • Intellectual property protection and anti-competitive practices	• Management of intellectual property	• Systemic risk management of technology disruptions • Market manipulation and anti-competitive practices

Administration
IWG members received links to unique, user-specific URLs to launch digital surveys hosted via FluidSurveys. URLs were associated with participant email addresses which allowed us to monitor which participants were actively engaged and follow up with those who were not.

Survey Participation
Technology & Communications IWG participation was fair. 58% of registered participants completed their surveys, resulting in 135 completed surveys – 62% of our targeted totals. This is down substantially compared to the financials working groups in which 75% of registered participants completed their surveys. Sector experts indicate that these figures are good for the sector, characterized by very competitive players who are not well-known for their collaboration with one another.

Several factors hampered our efforts to achieve higher survey completion rates. Fiscal year-end reporting coincided with working group deadlines for many in the technology & communications sector groups. CR and CDP reporting deadlines also coincided with IWG deadlines for this group. Coupled with the above-mentioned deadline conflicts, the phenomena of over-commitment "free rider syndrome" also contributed to delays and lack of survey completion.

There was also a significant shift from the balanced interest groups recruited, to more active participation from corporate and investor interest groups. "Other", as shown in the following table had an unusually high dropout rate, with only 13% of participants completing their industry survey:

	Started	Complete
Surveys [Completion rate:58%]	231	135
- Corporations	82	71
- Market Participant	66	46
- Other	83	18
Industry Brief Quality Score 6.0		

Survey Results
Working group participants agreed strongly with the material issues identified by SASB for their industries. Overall, 82% of material issues for the sector cleared the 75% acceptance threshold, with the following breakdown by industry:

- EMS/ODM: 80%
- Hardware: 100%
- Semiconductors: 66%
- Software & IT Services: 85%
- Internet Media & Services: 83%
- Telecommunications: 85%

The table below indicates the number of issues by industry that were either approved, or fall below the 75% threshold.

In terms of materiality, the table below shows the number of issues, by industry, which received over 75% 'approval' from IWG participants, the number of issues that fell below this threshold (and that are now subject to further review by the Research team) and the percentage of participants that suggested the addition of a new issue.

- Overall, 82% of our issues were 'approved' by IWG participants (or cleared the 75% hurdle).

- The majority of “new” issues suggested by participants were covered in other briefs, reflecting the nature of the sector in which many of the major companies are not ‘pure play’ companies and have activities that span across industries.

APPROVAL RATINGS FOR MATERIAL ISSUES BY INDUSTRY

	# of issues above 75% approval	# of issues that fell below 75% approval	% of participants suggesting new issues
EMS / ODM	4	1	42%
Hardware	5	0	33%
Semiconductors	6	3	50%
Software & IT Services	6	1	32%
Internet Media & Services	5	1	38%
Telecommunications	6	1	50%

More detailed survey results will be available for discussion at the Technology & Communications content review during the Standards Council meeting in September.

APPENDIX I – Top Ten Companies in Sector by Revenue

Hardware	Electronic Manufacturing Services & Original Design Manufacturing	Semiconductors	Software & IT Services	Telecommunications	Internet Media and Services
HEWLETT-PACKARD	JABIL CIRCUIT	INTEL CORP	IBM	VERIZON COMMUNIC	GOOGLE
APPLE INC	SANMINA-SCI CORP	QUALCOMM INC	MICROSOFT CORP	AT&T INC	FACEBOOK
DELL INC	ANIXTER INTL INC	TEXAS INSTRUMENT	ORACLE CORP	SPRINT NEXTEL CO	YAHOO
CISCO SYSTEMS	WESCO INTL	APPLIED MATERIAL	COMPUTER SCIENCE	CENTURYLINK INC	EXPEDIA
WESTERN DIGITAL	BRIGHTPOINT INC	BROADCOM CORP-A	THOMSON REUTERS	NII HOLDING INC	AOL
XEROX CORP	BENCHMARK ELECTR	ADV MICRO DEVICE	SAIC INC	FRONTIER COMMUNI	GROUPON
EMC CORP/MA	PLEXUS CORP	SANDISK CORP	SYMANTEC CORP	METROPCS COMMUNI	IACI
MOTOROLA SOLUTIO	CTS CORP	FREESCALE SEMICO	COGNIZANT TECH-A	US CELLULAR CORP	INTERACTIVE
NETAPP INC	SIGMATRON INTL	ON SEMICONDUCTOR	NIELSEN HOLDINGS	TELEPHONE & DATA	ZYNGA
LEXMARK INTL-A	TRANSCAT INC	KLA-TENCOR CORP	CA INC	LEVEL 3 COMM INC	ORBITZ

APPENDIX II – Participant List[3]

Name		Title	Organization Name
Phyllis	Kennedy	Senior Manager-Marketing & Communication	Accenture
Michael	Nicholus	Global Operations Environment Director	Accenture
Pascale	Meier	Manager	AccountAbility
Dimitri	Wohns	Technical Project Manager	AHA Life
Nicola	Peill-Moelter	Director of Environmental Sustainability	Akamai Technologies
Alan	Canzano	Managing Director	Alan Canzano
Verity	Chegar	ESG Analyst	Allianz Global Investors
Andrew	Mitchell	Research Analyst	Andrew Mitchell
Peylina	Chu	Associate	Antea Group
Mark	Ubelhart	Retired Practice Leader	Aon Hewitt
Bruce	Klafter	Head, Corporate Responsibility and Sustainability	Applied Materials (former)
John	Schulz	Director, Sustainability Operations	AT&T
Amath	Gomis	Senior Sustainability Manager	AT&T
Ben	Thompson	Sustainable Business Program Manager	Autodesk
Jan	van der Kaaij	Partner	Between Us
Afzal	Bari	Senior Tech/Telecom Analyst	Bloomberg LP
Brandon	Fang	Managing Partner	Brandon Fang CPA
Sweta	Singh	Senior Analyst	Breckinridge Capital Advisors
Jesse	Nishinaga	Manager	BSR
Aditi	Mohapatra	Associate Director	BSR
John	Smiciklas	Director, Energy and Environment	Building Owners & Managers Association
Thomas	van Haaren	Associate Sustainability Analyst	Calvert Investments
Steven	Soranno	Sr. Analyst	Calvert Investments
Andie	Stephens	Senior Consultant	Carbon Trust
Robin	Baker	VP Business Dev and Partnership	CarbonSystems
Robin	Seguin	Environmental Sustainability	CenturyLink
Natasha	Scotnicki	Director, Corporate Program	CERES
Kevin	Zhang	Project Manager	China Entrepreneur Club
David	MacLean	Sustainability Manager	CHP & Associates Consulting Engineers, Inc.
Chris	Erickson	CEO	Chris Erickson
Teri	Treille	CSR/Sustainability	CISCO
Dnyaneshwar	Kamble	Senior Manager	CMC Limited
Thaddeus "Tad"	Weed	CFO and Treasurer	Cogent Communications Group
Suzanne	Morsfield	Director of Research	Columbia University
Ben	Harris	CA Regional Environmental Manager	Comcast

[3] Due to one or more non-disclosure agreements, not all participants are shown on this list.

Name		Title	Organization Name
Mark	Delisi	Director of Corporate Responsibility	Computer Sciences Corporation
Ian	Davidson	Business Development Manager - USA	Converga
Michael	Muyot	President	CRD Analytics
Paula	Sullivan	CR Lead	CSC
Charlotte	Scallon	Global Corporate Responsibility	CSC
Marta	Gorska	Senior Research Analyst	CSR Network
Karen	Alonardo	CEO	CSRware, Inc.
Melissa	Wingard-Phillips	Consultant	Dell
Megan	Weidner	Senior Environmental Engineer	Diebold
Thomas	Andresen Gosselin	Sustainability Director	DNV KEMA
Adam	Kanzer	Managing Director and General Counsel	Domini Social Investments, LLC
Andy	Kaplan	Chief Financial Officer	DonorsChoose
Lori	Duvall	Global Director, Green	EBay
Nicholas	Bernhardt	Managing Director	EcoBizCheck
Jon	Bosco	Partner	eDelta Consulting
Ezra	Benjamin	Princ. Program Manager, Sustainability	EMC Corporation
Kathrin	Winkler	Vice President & Chief Sustainability Officer	EMC Corporation
Bill	Rebozo	VP Sales & Marketing	Energy Points
Benjamin	Kott	CEO and Founder	EnergyDeck
Erin	Craig	CEO	Erin Craig
Benjamin	miller	Senior Manager	Ernst & Young
Kate	Baker	Manager	Ernst & Young
Aram	Hong	Senior	Ernst & Young
Zeina	Zeitouni	Founder	ESG Integrated Solutions Inc
Alberto	Guajardo Meneses	Director	Excelencia & Gestion
DANIEL	HICKS	President	Florida Sustainability Partners
Bill	Winterberg	Founder	FP Pad
Kathee	Rebernak	Founder/CEO	Framework LLC
David	Beers	High Yield Analyst	Goldman Sachs
Derek	Bingham	VP GS Sustain	Goldman Sachs
Audrey	Davenport	Energy & Sustainability Team	Google
KC	Boyce	Consultant	Green Den Consulting
Mary	Vincent	Managing Director	Green Star Solution
Gurpreet	Misra	CEO	GreenAP
Stephane	N'Diaye	CEO	GreenClics
Patty	Morrissey	Head of Social Innovation	Groupon
Karen	Wei	Product Designer	Groupon
Jørgen	Vos	Director of Product Management	Hara
Matthew	Brown	Director of Data Center Operations	Hewlett Packard

Name		Title	Organization Name
Tanya	Starr	Associate Director Sustainability and En	Hewlett Packard
Michail	Kefalakis	Technical Consultant	Hewlett Packard
Ellen	Jackowski	Global Citizenship	Hewlett Packard
Crystal	Stutes	Senior Account Executive	Hill + Knowlton Strategies
Melissa	Baker	DBA Level I	Holy Spirit Hospital & Healthcare
Carol	Turpen	Sr. Manager, Corporate Communications	Ingram Micro
Suzanne	Fallender	Director, CSR Strategy and Communication	Intel
Tracy	Parker	Senior Partner	InterPraxis Consulting
Jen	Anderson	Account Supervisor	Jen Anderson
JoAnn	Garbin	President	KnowE
Chirag	Amin	Product Development	LaborVoices
Nnena	Nkongho	Director	Lache Management Services
Nnena	Nkongho	Director	Lache Management Services
Lauren	Schmaltz	Social Research Analyst	Legg Mason Investment Counsel
Crystal	Crawford	Corporate Responsibility Specialist	Liberty Global Inc.
Jessica	Smith	Corporate Sustainability Manager	Lockheed Martin
Mary Beth	Farrell	Principal	Mary Beth Farrell
Matthew	Carter	President	Matthew Carter
Dr. Yusuf I.	Qassim.,P.Eng	President	Mazsky Group
Steve	Lippman	Director, Environmental Sustainability	Microsoft
Rick	Summer	Sr. Equity Analyst	Morningstar
Grady	Burekett	Director	Morningstar
Michael	Hodel	Associate Director	Morningstar
Gerardo	Godinez	Senior Manager	Moss Adams
Camille	Christiansen Thwing	Senior Manager	Moss Adams
Meggin	Eastman	Vice President	MSCI
Mark	van Clieaf	Managing Director	MVC International
Evan	Harvey	Director, Corporate Sustainability	NASDAQ
Brian	Glazebrook	Senior Global Sustainability Manager	NetApp Inc.
Rebecca	MacKinnon	Senior Research Fellow	New America Foundation
Gregg	Sgambati	President	New Jersey Captive Insurance Association
William	Newman	Managing Principal	Newport Consulting Group
Mary	Campion	Strategic Sourcing Manager	Nielsen Company
Ooriapadikal	Ninan	Consultant	Ninan Associates
Tonie	Hansen	Director, SER	NVIDIA
Joerg	Germann	Chief Technology Officer	Offsetters
Janice	Warren	President	OneReport
MIchael	Rindos	Research Analyst	Optonline
Andrew	Fanara	Chief Sustainability Strategist	OSIsoft
Dan	Chi Wong	Consultant	Paia Consulting
Julie	Gorte	SVP for Sustainable Investing	Pax World Investments

Name		Title	Organization Name
Matthew	Cardoni	Account Director	Performics
Marc	Iarchy	Partner	Phoenix Corporate Finance Partners
Susan Hunt	Stevens	Founder & CEO	Practically Green
Nevio	Benvenuto	Senior Manager Sustainability & Climate	PricewaterhouseCoopers
Nic	Delaye	Director, PwC Sustainable Business Solutions	PricewaterhouseCoopers
Adam	Benjamin	Analyst	Pyramis Global Advisors
Sukrit	Sehgal	Director, Sustainability	Quality Technology Services
Jacob	Melton	Applications Engineer	Range Resources
Jonathan	Hsu	Chief Executive Officer	Recyclebank
Ro	Coroneos	Director	Ro Coroneos
Ari	Kobb	Director, Green Building Solutions	Siemens
Ryan	Whisnant	Senior Manager	SustainAbility
Marianna	Grossman	Executive Director	Sustainable Silicon Valley
Suparna	Vashisht	Director	Sustainable Silicon Valley
Carl	Hekkert	Controller	Sustainable Silicon Valley
Matthew	Barg	Associate Analyst	Sustainalytics
Bobby	Chiu	Analyst	Sustainalytics
Cecily	Joseph	Senior Director, Corporate Responsibility & Compliance	Symantec
Kim	Vu	CSR Associate	TE Connectivity
Jan	de Grave	VP Sustainability	Telenet
Tim	Dueck	Director	The Green Grid
Mark	Schiller	Executive Director	The Green Grid
Jeffrey	Cherry	CEO/Managing Partner	The Porter Group, LLC
Steve	Garvin	Business Analyst	Thermo Fisher
Sean	Penrith	Managing Director	Thetus Corporation
Harkeeret	Singh	Global Head of Energy & Sustainable Tech	Thomson Reuters
Ian	Murray	Senior Data Scientist	Trianz
Natasha	Lamb	Senior	Trillium Asset Management, LLC
James	Salo	SVP	Trucost
Paul	McHugh	Founding Partner	Twillingate Capital
Batya	Levi	Research Analyst	UBS Securities
Elisa	Tonda	Head Business and Industry Unit	UNEP
Michael	Kleeman	Senior Fellow	University of California
Robert	Kugel	Senior Vice President	Ventana Research
David	Metcalfe	CEO	Verdantix
Kristin	Walker	Global Sustainability Manager	VMware
William	Paddock	Managing Director	WAP Sustainability
Jessica	Van Maaren	Industry Marketing Manager	WebFilings
Narayan	P S	Vice President and Head - Sustainability	Wipro Ltd
Emma	Armstrong	Senior Project Director	WSP Environment and Energy USA
Josh	Whitney	Senior Director	WSP Group

Name		Title	Organization Name
Jon	Taylor	Sr. project director	WSP Group
Ebele	Okobi	Global Head, Human Rights	Yahoo

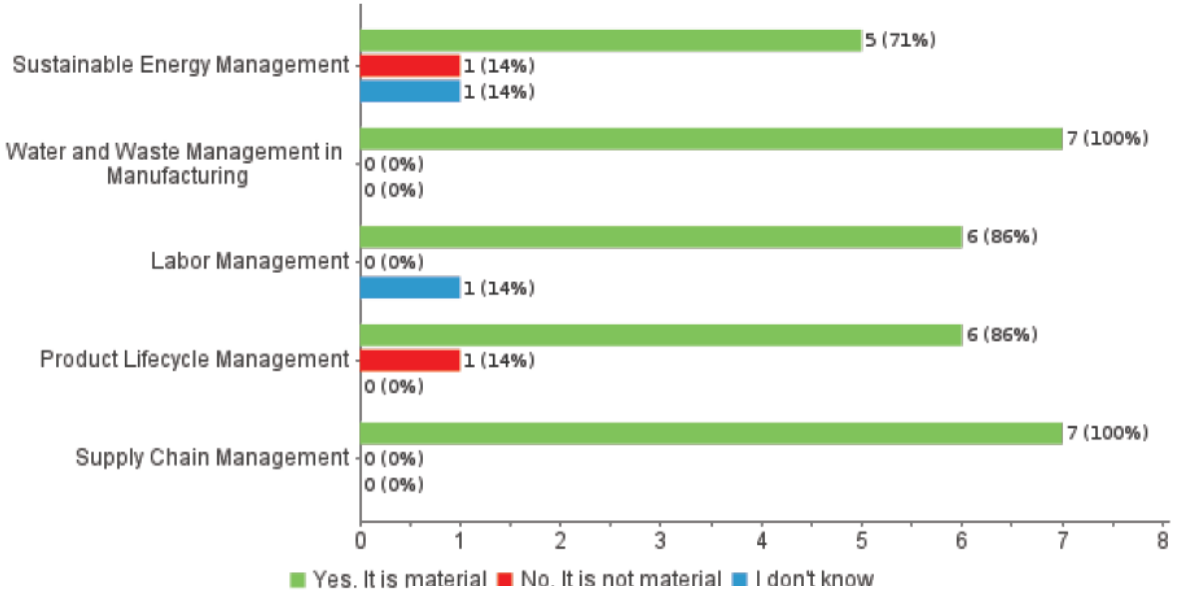
APPENDIX III – SURVEY RESULT SUMMARY TABLES – MATERIAL ISSUES & ACCOUNTING METRIC RANKINGS

EMS/ODM – IWG survey results

[Who] Which of these categories best describes you?

Response	Chart	Percentage	Count
Market Participant -Investor, Research Analyst		43%	3
Public Interest Group -Government, NGO, Intermediaries		14%	1
Corporation or Industry Association		43%	3
	Total Responses		7

Are the following issues material?



Rank issues in order of importance:

Issue Prioritization
Labor Management
Supply Chain Management
Product Lifecycle Management
Sustainable Energy Management
Water and Waste Management in Manufacturing

EMS/ODM - KPIs

Material Issue	Suggested KPI	R	U	CE	C	A
Sustainable Energy Management	Total annual energy consumed (gigajoules) by source: electricity grid, fossil fuel (e.g. coal, natural gas, oil), renewable (e.g. wind, biomass, solar).	86%	86%	86%	71%	100%
	Cost of energy ($ per GJ), by source: electricity grid, fossil fuel (e.g. coal, natural gas, oil), renewable (e.g. wind, biomass, solar).	57%	71%	86%	43%	71%
Water and Waste Management in Manufacturing	Water withdrawals in water-stressed regions - High or Extremely High Baseline Water Stress as defined by the WRI Water Risk Atlas.	86%	86%	57%	71%	71%
	Water intensity (m3 of water per ton of product) in water-stressed regions - High or Extremely High Baseline Water Stress as defined by the WRI Water Risk Atlas.	71%	71%	43%	43%	57%
	Amount of waste (tons); percentage that is recycled, treated, incinerated, and landfilled; weighted average cost ($) per ton for each disposal method, by waste type: (1) Hazardous (broken down by solvent, heavy-metal containing, and other); (2) Non-hazardous (industrial and municipal waste) (3) Electronic waste (e-waste).	86%	100%	43%	71%	86%
	Amount (weight) of electronic waste recycled though entities with Basel e-Stewards certification; amount (weight) of electronic waste disposed of through other entities.	71%	57%	29%	29%	57%
	Description of legal and regulatory fines and settlements associated with federal, state, and local environmental protection laws covering air, water, waste, or cleanup. Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events. Disclosure Notes: EPA laws include: CWA, CAA, RCRA (including those relating to underground storage tanks), and potentially CERCLA liabilities, etc. Scope includes domestic and international laws and regulations.	86%	86%	71%	71%	86%
Labor Management	Percentage of facilities with third party certification of health and safety systems to the OHSAS 18001 Standard or equivalent.	86%	100%	86%	86%	100%
	Description of legal and regulatory fines and settlements associated with health and safety violations. Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events.	71%	57%	71%	57%	86%
	Percent of facilities with third party certification of fair labor conditions (socially acceptable workplace practices), such as SA8000 certification; third party audits/certification for labor, social acceptability in the workplace.	71%	86%	71%	57%	86%
	Number of strikes and lockouts resulting in work stoppages of at least one day, including the number and duration of the stoppage (in days).	57%	71%	43%	57%	29%
	Employee turnover by voluntary and involuntary for all employees, technical staff (including research scientists, electrical engineers, and process engineers).	71%	71%	57%	57%	57%
Product Lifecycle Management	Discuss usage of REACH substances of very high concern (SVHC) and chemicals listed in Joint Industry Guide (JIG) 101 ed. 4.1., Table A. Declarable Substance List.	100%	71%	43%	57%	71%
	Percentage of products, by revenue, that meet RoHS, the Restriction of Hazardous Substances Directive (directive 2002/95/EC), requirements.	100%	86%	57%	71%	100%
	Discuss how Design for Environment (DfE), Environmentally Conscious Design (IEC-62075), Energy-related Products Directive (ErP) 2009/125/EC or other environmentally focused principles are incorporated into product designs, include the percentage of products designed in that manner.	100%	100%	29%	43%	57%
	Revenue from products designed to achieve certification to one of the following programs: EPEAT, Energy Star, Green Mark, TCO Certified, Japan PC Green, EU Flower, and KEMPS/e-Standby.	86%	86%	57%	57%	86%
	Revenues associated with repair, refurbishing, and recycling services, including those associated with WEEE compliance.	57%	29%	57%	57%	57%
Supply Chain Management	Discuss any existing or projected risks or constraints with obtaining raw materials (or components) within the supply chain, including those related to political situations, local labor conditions, natural disasters, climate change, geography, regulations, or restricted/limited availability.	100%	86%	71%	29%	14%
	Discuss any production shortfall caused by material supply constraints (actual production vs. theoretical production of relevant units).	86%	86%	86%	43%	0%
	Discuss the process for managing environmental and social risks within the supply chain including screening, codes of conduct, audits, and certifications. Indicate if audits are first party, second party, or third party. Report the percentage of Tier I suppliers who are EICC members and have implemented the EICC Code of Conduct.	100%	100%	86%	71%	71%

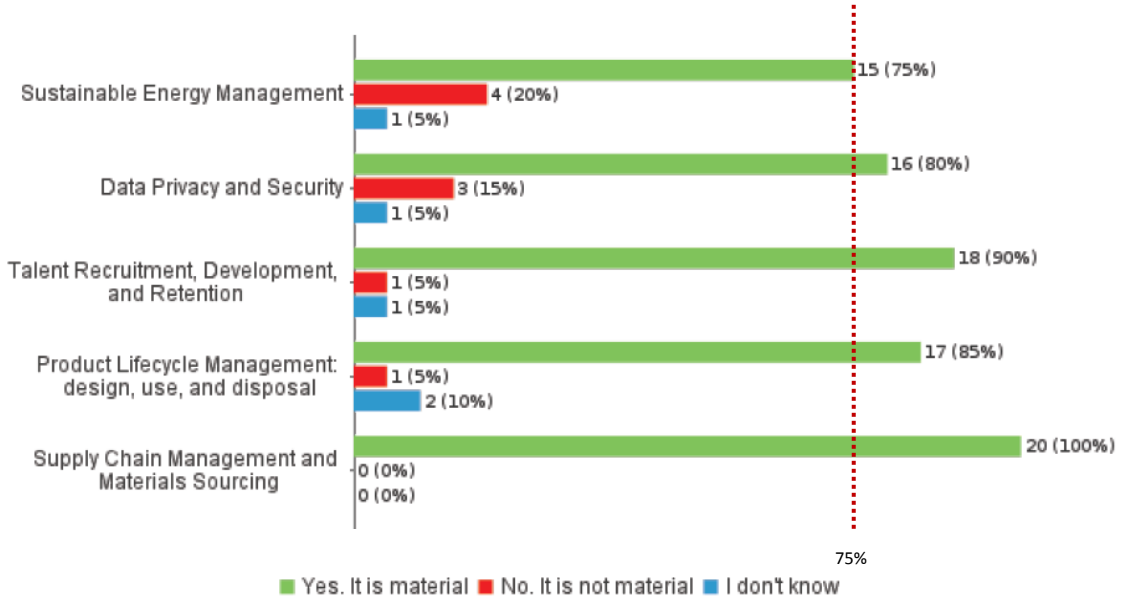
R: Relevant, U: Useful, CE: Cost-effective, C: Comparable, A: Auditable

Hardware – IWG survey results

[Who] Which of these categories best describes you?

Response	Chart	Percentage	Count
Market Participant -Investor, Research Analyst		33%	7
Public Interest Group -Government, NGO, Intermediaries		5%	1
Corporation or Industry Association		62%	13
	Total Responses		21

Are the following issues material?



Rank issues in order of importance:

Issue Prioritization
Supply Chain Management and Materials Sourcing
Talent Recruitment, Development, and Retention
Data Privacy and Security *
Product Lifecycle Management: design, use, and disposal *
Sustainable Energy Management

* Denotes a tie

Hardware - KPIs

Material Issue	Suggested KPI	R	U	CE	C	A
Sustainable Energy Management	Median Power Usage Effectiveness (PUE) for all owned data centers.	80%	70%	90%	75%	90%
	Median server CPU utilization for all data centers.	60%	50%	65%	65%	70%
	Total annual energy consumed (gigajoules) by source: electricity grid, fossil fuel (e.g. coal, natural gas, oil), renewable (e.g. wind, biomass, solar).	85%	85%	95%	80%	100 %
	Cost of energy ($ per GJ), by source: electricity grid, fossil fuel (e.g. coal, natural gas, oil), renewable (e.g. wind, biomass, solar).	45%	65%	85%	65%	85%
Data Privacy and Security	Number of cyber security or breach of privacy incidents.	60%	50%	55%	40%	60%
	Number and description of cyber security or breach of privacy incidents that resulted in actual outcomes of a business process deviating from the expected outcomes for confidentiality, integrity, and availability due to deficiencies or failures of people, process, or technology. Include a discussion of: a. The impact of the incident, such as loss of information, compromise of data, litigation, loss of revenue, lost time, damage to reputation (qualitative measure of severity). b. Corrective actions taken in response to the incident and associated costs, such as remediation costs or increased costs for additional security measures.	75%	70%	45%	35%	55%
	Description of policy to notify users when there is a security breach of personal data, such as required under California's Information Practices Act.	80%	70%	90%	70%	90%
	Where relevant, discuss how the following NIST-defined attack threats are addressed: external/removable media, attrition (e.g., a DDoS or brute force attack), web, email, improper usage, and loss/theft of equipment.	60%	45%	65%	60%	55%
	Discuss the integration of data privacy and security features into product design. Where relevant include revenue from specific security-related products such as hardware-based encryption products or multi-factor authentication devices (such as security tokens or biometric scanners).	85%	75%	80%	50%	60%
Talent Recruitment, Development, and Retention	Employee turnover by voluntary and involuntary for all employees, technical staff (including research scientists, electrical engineers, and process engineers).	75%	85%	100 %	80%	100 %
	Percentage of women, men, Asian (including Pacific Islander), Hispanic, White, Black, and Other for each of the following employee types: Executives/Sr. Managers, Mid-level Managers, Professionals, All others (EEO-1 categories technicians, sales, admin support, service workers).	60%	60%	80%	70%	80%
	Percentage of foreign nationals employed, by region (NOAM, CALA, APAC, and EMEA).	50%	55%	75%	75%	85%
	Median length of job vacancies for technical positions, including researchers, developers, and engineers.	50%	50%	50%	45%	50%
	Discuss talent acquisition and retention strategy for scientists, engineers, and other R&D staff, including reliance on foreign nationals, outsourcing and/or offshoring activities, and development of the domestic talent pool (e.g. through government, academic, or industry research partnerships).	95%	90%	85%	45%	45%
Product Lifecycle Management: design, use, and disposal	Discuss usage of REACH substances of very high concern (SVHC) and chemicals listed in Joint Industry Guide (JIG) 101 ed. 4.1., Table A. Declarable Substance List.	75%	60%	75%	60%	70%
	Percentage of products, by revenue, that meet RoHS, the Restriction of Hazardous Substances Directive (directive 2002/95/EC), requirements.	85%	80%	80%	85%	80%
	Discuss how Design for Environment (DfE), Environmentally Conscious Design (IEC-62075), Energy-related Products Directive (ErP) 2009/125/EC or other environmentally focused principles are incorporated into product designs, include the percentage of products designed in that manner.	90%	90%	75%	60%	50%
	Percentage, by revenue, of eligible products certified to recognized national certification standards such as one of the following: EPEAT, Energy Star, Green Mark, TCO Certified, Japan PC Green, EU Flower, EcoLogo, and KEMPS/e-Standby.	75%	80%	85%	70%	95%
	Percentage of product returns reused, remanufactured, recycled, and landfilled.	90%	85%	75%	75%	80%
	Fees associated with compliance product take-back and extended producer responsibility (EPR) initiatives, including the Waste Electrical and Electronic Equipment Directive (WEEE).	55%	40%	85%	60%	85%
	Amount (weight) of electronic waste recycled though entities with Basel e-Stewards certification; amount (weight) of electronic waste disposed of through other entities. Includes both materials physically handled by registrant and those handled by direct partners.	75%	65%	70%	60%	80%
Supply Chain Management and Materials Sourcing	Discuss any existing or projected risks or constraints with obtaining raw materials (or components) within the supply chain, including those related to political situations, local labor conditions, natural disasters, climate change, geography, regulations, or restricted/limited availability.	100 %	95%	65%	45%	40%
	Discuss any production shortfall caused by material supply constraints (actual production vs. estimated production of relevant units).	90%	85%	80%	65%	60%
	Discuss the process for managing environmental and social risks within the supply chain including screening, codes of conduct, audits, and certifications. Indicate if audits are first party, second party, or third party. Report the percentage of Tier I suppliers who are EICC members and have implemented the EICC Code of Conduct.	100 %	90%	75%	75%	75%
	For each Tier I supplier, report: (1) The percentage in full compliance with the registrant's environmental requirements; (2) The percentage receiving local environmental fines or citations; (3) The percentage in full compliance with the registrant's social/labor requirements; (4) The percentage receiving local labor-related fines or citations.	80%	80%	50%	55%	50%
	Describe degree of vertical integration.	60%	55%	50%	30%	50%

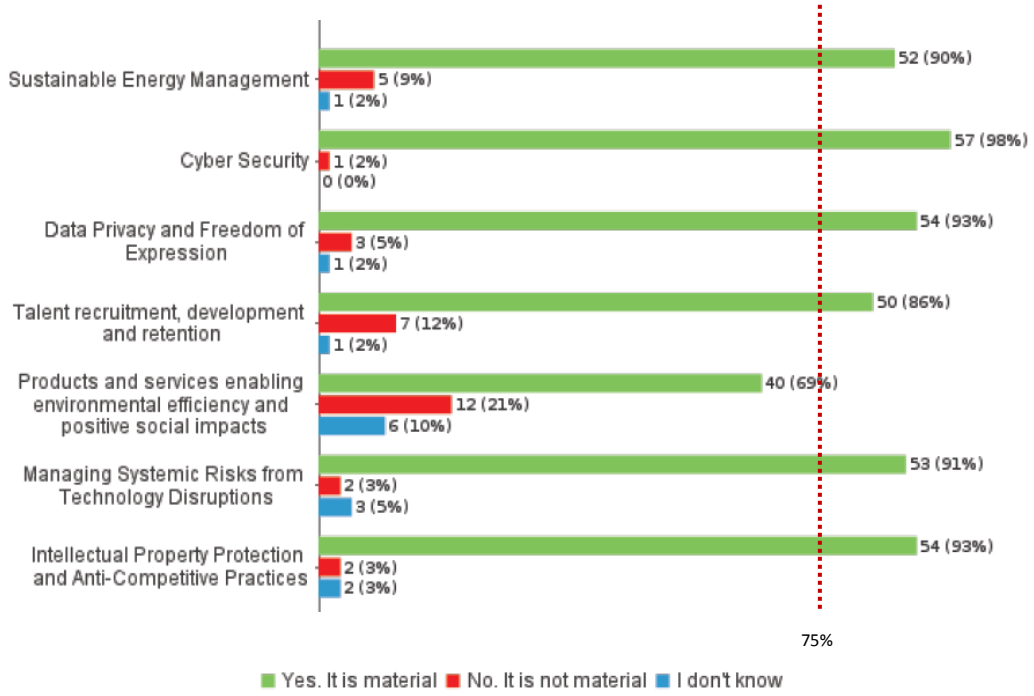
R: Relevant, U: Useful, CE: Cost-effective, C: Comparable, A: Auditable

Software & IT Services – IWG survey results

[Who] Which of these categories best describes you?

Response	Chart	Percentage	Count
Market Participant -Investor, Research Analyst		29%	17
Public Interest Group -Government, NGO, Intermediaries		10%	6
Corporation or Industry Association		61%	36
	Total Responses		59

Are the following issues material?



Rank issues in order of importance:

Issue Prioritization
Cyber Security
Talent Recruitment, Development, and Retention
Managing Systemic Risks from Technology Disruptions
Data Privacy and Freedom of Expression
Intellectual Property Protection and Anti-Competitive Practices
Sustainable Energy Management
Products and Services Enabling Environmental Efficiency and Positive Social Impacts

Software & IT Services - KPIs

Material Issue	Suggested KPI	R	U	CE	C	A
Sustainable Energy Management	Median Power Usage Effectiveness (PUE) for all owned data centers.	86%	79%	88%	75%	95%
	Median server CPU utilization for all data centers.	75%	66%	71%	61%	80%
Cyber Security	Number of cyber security or breach of privacy incidents.	91%	84%	80%	62%	75%
	Number and description of cyber security or breach of privacy incidents that resulted in actual outcomes of a business process deviating from the expected outcomes for confidentiality, integrity, and availability due to deficiencies or failures of people, process, or technology. Include a discussion of: a. The impact of the incident, such as loss of information, compromise of data, litigation, regulatory fines, loss of revenue, lost time, damage to reputation (qualitative measure of severity). b. Corrective actions taken in response to the incident and associated costs, such as remediation costs or increased costs for additional security measures.	95%	89%	60%	49%	73%
	Description of policy to notify users when there is a security breach of personal data, such as required under California's Information Practices Act.	89%	84%	95%	82%	87%
	Where relevant, discuss how the following NIST-defined attack threats are addressed: external/removable media, attrition (e.g., a DDoS or brute force attack), web, email, improper usage, and loss/theft of equipment.	80%	78%	80%	76%	76%
Data Privacy and Freedom of Expression	Description of legal and regulatory fines and settlements associated with customer privacy including, but not limited to, violations of the Children's Online Privacy Protection Act, Directive 2002/58/EC (ePrivacy Directive), and Federal Trade Commission Act. Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events.	89%	85%	85%	69%	91%
	Discuss regions where core products or service offerings are censored, blocked, or subject to content filtering, even if required by local law. Note which products and services were subject to the action and the duration of the effect.	78%	73%	69%	71%	73%
Talent Recruitment, Development, and Retention	Employee turnover by voluntary and involuntary for all employees, technical staff (including software engineers, software developers, and computer scientists)	89%	80%	87%	84%	85%
	Percentage of women, men, Asian (including Pacific Islander), Hispanic, White, Black, and Other for each of the following employee types: Executives/Sr. Managers, Mid-level Managers, Professionals, All others (EEO-1 categories technicians, sales, admin support, service workers).	71%	71%	84%	82%	84%
	Percentage of foreign nationals employed, by region (NOAM, CALA, APAC, EMEA).	60%	55%	82%	80%	84%
	Median length of job vacancies for technical positions, including researchers, developers, and engineers.	58%	58%	58%	53%	71%
	Discuss talent acquisition and retention strategy for scientists, engineers, and other R&D staff, including reliance on foreign nationals, outsourcing and/or offshoring activities, and development of the domestic talent pool (e.g. through government, academic, or industry research partnerships).	84%	80%	73%	58%	60%
Products and Services Enabling Environmental Efficiency and Positive Social Impacts	Description of products and services that generate positive social impacts in one or more categories: healthcare (including global health), education, safety and security (including cyber security). Indicate how the social benefit relates to the product or service - if it is the primary purpose, a co-benefit, an auxiliary feature, etc. Include current revenue from each product and service and projected growth.	82%	73%	62%	47%	56%
	Description of products and services that enable environmental improvement for users in one or more categories: smart grid applications, data center efficiency, environmental efficiency in terms of materials, energy, water, or waste. Indicate how the environmental improvement relates to the product's functionality - if it is the primary purpose, a co-benefit, an auxiliary feature, etc. Include current revenue from each product and service and projected growth.	82%	80%	75%	64%	65%
Managing Systemic Risks from Technology Disruptions	Discuss business continuity risks related to disruptions affecting operations such as those caused by technical failures, weather events, or natural disasters at hosting facilities. Discussion should include a focus on cloud services such as SaaS, IaaS, PaaS and relate to both owned and outsourced operations.	98%	93%	89%	67%	73%
	For all performance issues and/or service disruptions, describe the type (e.g. network outage, technical disruption), extent (number of users/accounts affected), duration (number of days), root cause (e.g. weather-related, human error, etc.), and corrective actions.	85%	84%	75%	65%	82%
Intellectual Property Protection and Anti-Competitive Practices	Description of legal and regulatory fines and settlements associated with anti-competitive practices, market manipulation, or intellectual property violations. Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events.	95%	91%	85%	84%	95%

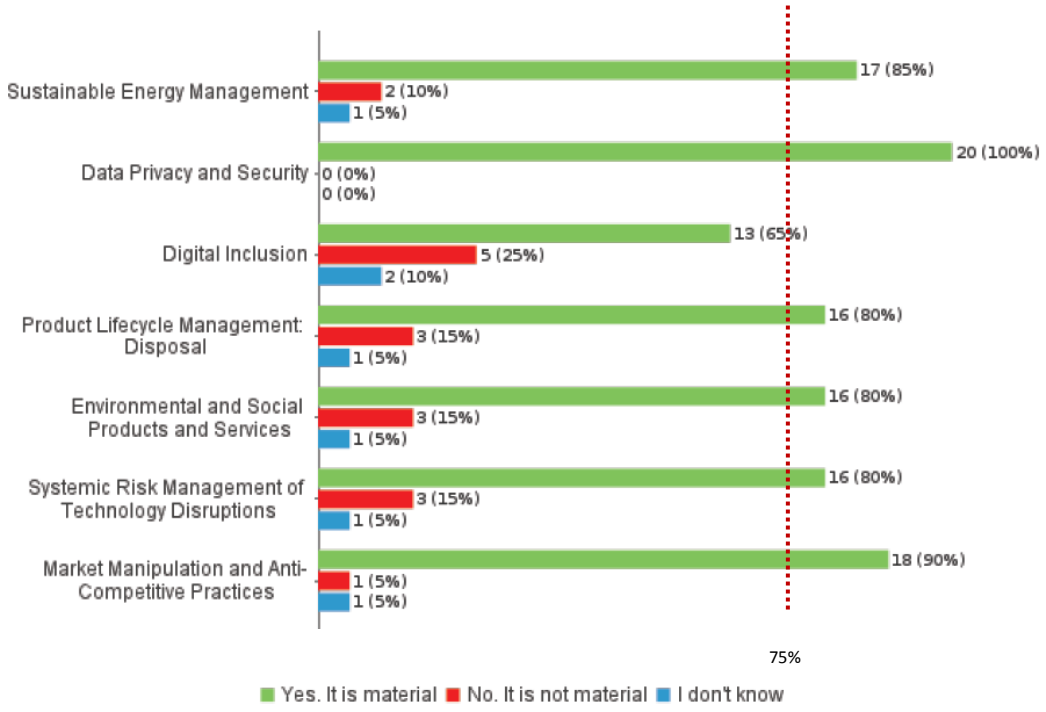
R: Relevant, U: Useful, CE: Cost-effective, C: Comparable, A: Auditable

Telecommunications – IWG survey results

[Who] Which of these categories best describes you?

Response	Chart	Percentage	Count
Market Participant -Investor, Research Analyst		38%	8
Public Interest Group -Government, NGO, Intermediaries		19%	4
Corporation or Industry Association		43%	9
	Total Responses		21

Are the following issues material?



Rank issues in order of importance:

Issue Prioritization
Data Privacy and Security
Sustainable Energy Management
Market Manipulation and Anti-Competitive Practices*
Product Lifecycle Management: Disposal*
Systemic Risk Management of Technology Disruptions
Digital Inclusion
Environmental and Social Products and Services

* Denotes a tie

Telecommunications - KPIs

Material Issue	Suggested KPI	R	U	CE	C	A
Sustainable Energy Management	Median Power Usage Effectiveness (PUE) for all data centers.	79%	79%	89%	95%	89%
	Median server CPU utilization for all data centers.	68%	63%	68%	63%	63%
	Network data intensity (kWh of energy per petabyte of data transmitted), for (1) cellular networks and (2) fixed networks.	89%	89%	68%	84%	68%
Data Privacy and Security	Number of cyber security or breach of privacy incidents.	84%	79%	89%	63%	68%
	Number and description of cyber security or breach of privacy incidents that resulted in actual outcomes of a business process deviating from the expected outcomes for confidentiality, integrity, and availability due to deficiencies or failures of people, process, or technology. Include a discussion of: a. The impact of the incident, such as loss of information, compromise of data, litigation, loss of revenue, lost time, damage to reputation (qualitative measure of severity). b. Corrective actions taken in response to the incident and associated costs, such as remediation costs or increased costs for additional security measures.	95%	95%	84%	68%	68%
Digital Inclusion	Discuss products and services targeted at increasing access for customers and markets underserved by broadband internet or cellular data networks. Where relevant, include a discussion of efforts to promote technological literacy.	74%	74%	79%	42%	68%
Product Lifecycle Management: Disposal	Ratio of handsets recycled though entities with Basel e-Stewards certification to sales of new handsets.	89%	74%	63%	95%	79%
Environmental and Social Products and Services	Description of products and services that enable environmental improvement for users in one or more categories: chemistry, energy, water or waste. Indicate how the environmental improvement relates to the product's functionality - if it is the primary purpose, a co-benefit, an auxiliary feature, etc. Include current revenue from each product and service and projected growth.	89%	84%	53%	21%	37%
	Description of products and services for applications that generate positive social impacts in one or more categories: healthcare, education, safety and security. Indicate how the social benefit relates to the product's functionality - if it is the primary purpose, a co-benefit, an auxiliary feature, etc. Include current revenue from each product and service and projected growth.	84%	84%	53%	32%	42%
Systemic Risk Management of Technology Disruptions	Description of systems to provide unimpeded service during weather events, natural disasters, security breaches, and other service interruptions.	89%	79%	84%	53%	63%
	Average Interruption Duration - sum of all customer interruption durations/ total number of customers served.	95%	89%	89%	84%	74%
	Average Interruption Frequency - total number of customer interruptions/total number of customers served.	84%	79%	89%	68%	79%
Market Manipulation and Anti-Competitive Practices	Description of legal and regulatory fines and settlements associated with anti-competitive practices, market manipulation, or intellectual property violations. Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events.	89%	89%	89%	84%	89%

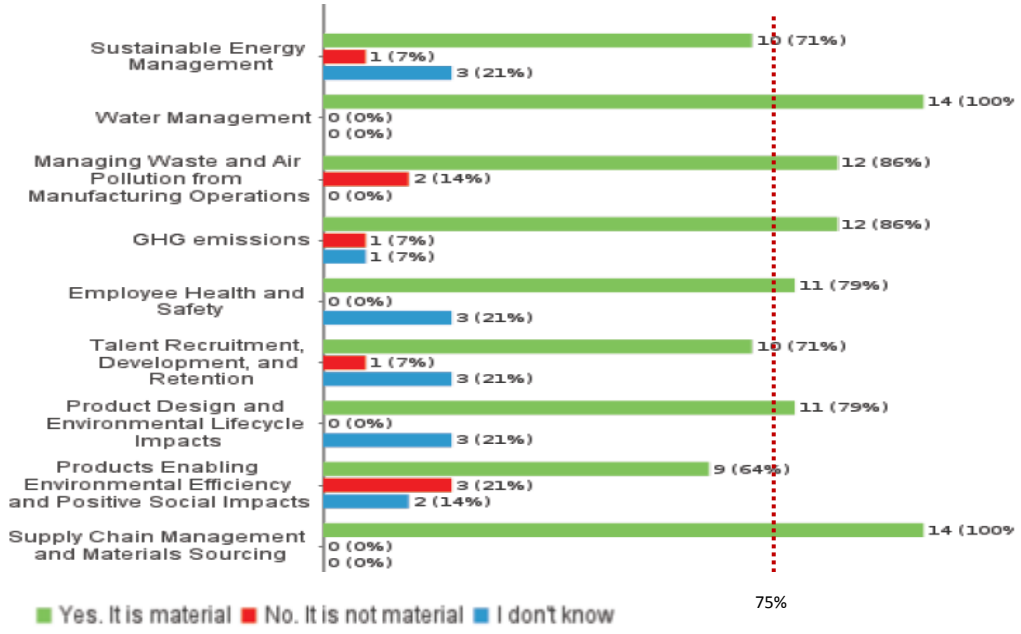
R: Relevant, U: Useful, CE: Cost-effective, C: Comparable, A: Auditable

Semiconductors – IWG survey results

[Who] Which of these categories best describes you?

Response	Chart	Percentage	Count
Market Participant -Investor, Research Analyst		50%	7
Public Interest Group -Government, NGO, Intermediaries		14%	2
Corporation or Industry Association		36%	5
	Total Responses		14

Are the following issues material?



Rank issues in order of importance:

Issue Prioritization
Water Management *
Supply Chain Management and Materials Sourcing *
Managing Waste and Air Pollution from Manufacturing Operations **
Sustainable Energy Management **
Product Design and Environmental Lifecycle Impacts ***
Employee Health and Safety ***
GHG Emissions ***
Products Enabling Environmental Efficiency and Positive Social Impacts
Talent Recruitment, Development, and Retention

* Denotes a tie

Semiconductors - KPIs

Material Issue	Suggested KPI	R	U	CE	C	A
Sustainable Energy Management	Energy (GJ) per chip basis (or per unit basis, if applicable) used in the manufacturing process.	86%	71%	71%	50%	86%
	Total annual energy consumed (gigajoules) by source: electricity grid, fossil fuel (e.g. coal, natural gas, oil), renewable (e.g. wind, biomass, solar).	93%	93%	93%	57%	93%
	Cost of energy ($ per GJ), by source: electricity grid, fossil fuel (e.g. coal, natural gas, oil), renewable (e.g. wind, biomass, solar).	50%	50%	79%	50%	86%
Water Management	Total fresh water consumption; total ultra-pure water (UPW) production.	86%	86%	79%	86%	79%
	Percentage of manufacturing facilities withdrawing water in water-stressed regions (High or Extremely High Baseline Water Stress as defined by the WRI Water Risk Atlas).	100%	86%	86%	79%	79%
	Overall manufacturing water intensity (m3 of water per chip) and manufacturing water intensity in water-stressed regions (High or Extremely High Baseline Water Stress as defined by the WRI Water Risk Atlas).	86%	86%	64%	50%	71%
Managing Waste and Air Pollution from Manufacturing Operations	Amount of waste (tons); percentage that is recycled, treated, incinerated, and landfilled; weighted average cost ($) per ton for each disposal method, by waste type: (1) Hazardous (broken down by solvent, corrosive liquid, contaminated debris, and other); (2) Non-hazardous (industrial and municipal waste) (3) Wastewater.	86%	79%	71%	71%	79%
	Description of legal and regulatory fines and settlements associated with federal, state, and local environmental protection laws covering air, water, waste, or cleanup. Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events.	100%	93%	93%	79%	100%
	Total releases (tons) of EPA 33/50 Program chemicals as reported in the Toxic Release Inventory (TRI). Discuss the management of these and other known toxic wastes, including source reduction efforts, recycling or reclamation efforts, and recovery efforts (such as regeneration or energy recovery).	79%	64%	64%	71%	93%
GHG emissions	Total Scope I greenhouse gases and emissions for countries or regions in which greenhouse gas emissions are regulated. Provide total GHG emissions broken down by PFCs and all other sources.	93%	93%	86%	71%	79%
	Discuss efforts (including costs) associated with meeting current and future regulatory obligations such as emissions reductions (e.g. through process improvements, chemical replacement), use of renewable energy, or purchase of carbon credits.	79%	79%	64%	43%	50%
Employee Health and Safety	Discuss efforts to assess, monitor, and reduce exposure of employees to human health hazards including solvents, corrosives, lead (and its compounds), arsenic (and its compounds), as well as known or suspected carcinogens, teratogens, and mutagens. Include a discussion of management of both short-term (acute) and long-term (chronic) risks.	93%	71%	86%	43%	36%
	Description of legal and regulatory fines and settlements associated with employee health and safety. Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events.	100%	93%	93%	86%	93%
Talent Recruitment, Development, and Retention	Employee turnover by voluntary and involuntary for all employees, technical staff (including research scientists, electrical engineers, and process engineers)	79%	71%	71%	71%	57%
	Discuss talent acquisition and retention strategy for scientists, engineers, and other R&D staff, including reliance on foreign nationals, outsourcing and/or offshoring activities, and development of the domestic talent pool (e.g. through government, academic, or industry research partnerships).	93%	86%	79%	36%	29%
	Median length of job vacancies for technical positions, including researchers, developers, and engineers.	43%	36%	57%	43%	50%
	Percentage of foreign nationals employed, by region (NOAM, CALA, APAC, EMEA).	21%	21%	50%	36%	36%
Product Design and Environmental Lifecycle Impacts	Discuss usage of REACH substances of very high concern (SVHC) and chemicals listed in Joint Industry Guide (JIG) 101 ed. 4.1., Table A. Declarable Substance List.	79%	50%	57%	43%	50%
	Percentage of products, by revenue, that meet RoHS, the Restriction of Hazardous Substances Directive (directive 2002/95/EC), requirements.	64%	64%	57%	71%	64%
	Discuss how Design for Environment (DfE), IEC62075 Environmentally Conscious Design (IEC-62075), or other environmentally focused principles are incorporated into product designs. Discussion should include into which lifecycle stages these principles are incorporated as well as specific design efforts (e.g. use of recycled materials, reduction of packaging, focus on green chemistry, etc.)	100%	79%	50%	57%	36%
Products Enabling Environmental Efficiency and Positive Social Impacts	Median SPEC CPU200 per watt for all chipsets; SPEC CPU200 per watt for top 10 bestselling chipsets. Median MIPS per watt for all chipsets; MIPS per watt for top 10 bestselling chipsets.	57%	50%	43%	57%	57%
	Description of products and services that enable environmental improvement for users in one or more categories: smart grid applications, renewable energy systems, energy storage, or environmental efficiency in terms of materials, energy, water, or waste. Indicate how the environmental improvement relates to the product's functionality - if it is the primary purpose, a co-benefit, an auxiliary feature, etc. Include current revenue from each product and service and projected growth.	93%	71%	57%	43%	36%
Supply Chain Management and Materials Sourcing	Description of products and services for applications that generate positive social impacts in one or more categories: healthcare, education, safety and security. Indicate how the social benefit relates to the product's functionality - if it is the primary purpose, a co-benefit, an auxiliary feature, etc. Include current revenue from each product and service and projected growth.	79%	57%	57%	21%	14%
	Discuss any existing or projected risks or constraints with obtaining raw materials within the supply chain, including those related to political situations, local labor conditions, natural disasters, climate change, geography, regulations, or restricted/limited availability.	100%	100%	71%	57%	43%
	Discuss any production shortfall caused by material supply constraints (actual production vs. expected production of relevant units).	79%	79%	79%	57%	36%
	Discuss the process for managing environmental and social risks within the supply chain including screening, codes of conduct, audits, and certifications. Indicate if audits are first party, second party, or third party. Report the percentage of suppliers who are EICC code of conducts members.	100%	93%	93%	71%	64%
	Describe degree of vertical integration.	64%	64%	79%	43%	43%

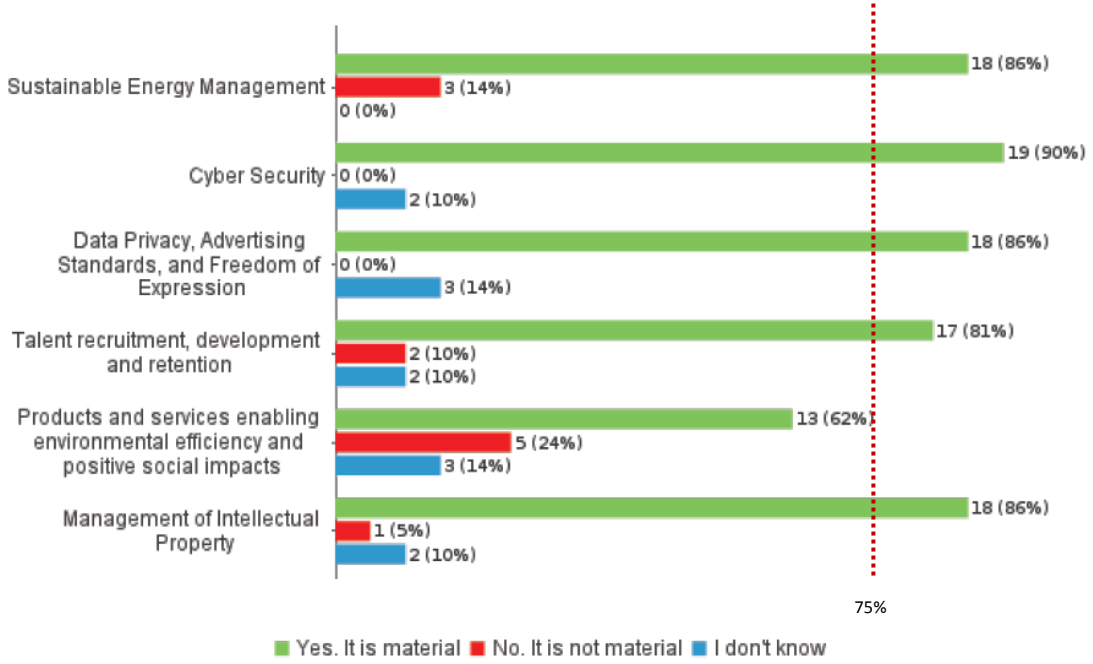
R: Relevant, U: Useful, CE: Cost-effective, C: Comparable, A: Auditable

Internet Media & Services – IWG survey results

[Who] Which of these categories best describes you?

Response	Chart	Percentage	Count
Market Participant -Investor, Research Analyst		29%	6
Public Interest Group -Government, NGO, Intermediaries		24%	5
Corporation or Industry Association		48%	10
	Total Responses		21

Are the following issues material?



Rank issues in order of importance:

Issue Prioritization
Data Privacy, Advertising Standards, and Freedom of Expression
Cyber Security
Management of Intellectual Property
Sustainable Energy Management
Talent recruitment, development and retention
Products and services enabling environmental efficiency and positive social impacts

Internet Media & Services - KPIs

Material Issue	Suggested KPI	R	U	CE	C	A
Sustainable Energy Management	Median Power Usage Effectiveness (PUE) for all data centers.	86%	81%	100%	81%	86%
	Median server CPU utilization for all data centers.	80%	75%	75%	65%	60%
Cyber Security	Number of cyber security or breach of privacy incidents.	80%	75%	90%	45%	70%
	Number and description of cyber security or breach of privacy incidents that resulted in actual outcomes of a business process deviating from the expected outcomes for confidentiality, integrity, and availability due to deficiencies or failures of people, process, or technology. Include a discussion of: a. The impact of the incident, such as loss of information, compromise of data, litigation, loss of revenue, lost time, damage to reputation (qualitative measure of severity). b. Corrective actions taken in response to the incident and associated costs, such as remediation costs or increased costs for additional security measures.	95%	85%	75%	60%	60%
	Description of policy to notify users when there is a security breach of personal data, such as required under California's Information Practices Act.	80%	80%	90%	85%	90%
Data Privacy, Advertising Standards, and Freedom of Expression	Discuss how the registrant addresses the following principles as they relate to customer information for behavioral advertising or other uses: education, transparency, consumer control, data security, material changes to policies and practices, sensitive data, and accountability.	80%	85%	75%	70%	65%
	Description of legal and regulatory fines and settlements associated with customer privacy including, but not limited to, violations of the Children's Online Privacy Protection Act, Directive 2002/58/EC (ePrivacy Directive), and Federal Trade Commission Act. Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events.	85%	85%	95%	75%	85%
	Discuss regions where core products or service offerings are censored, blocked, or subject to content filtering, even if required by local law. Note which products and services were subject to the action and the duration of the effect.	75%	70%	70%	60%	70%
	Describe policy and procedures for responding to government and law enforcement requests for customer information, including: a. whether or not registrant requires the agency to have obtained a warrant before providing information; b. whether or not registrant provides information in non-emergency situations; c. whether or not registrant notifies customers about government requests for their data or information.	85%	85%	85%	75%	90%
Talent recruitment, development and retention	Employee turnover by voluntary and involuntary for all employees, technical staff (including software engineers, software developers, and computer scientists)	80%	75%	85%	85%	90%
	Percentage of women, men, Asian (including Pacific Islander), Hispanic, White, Black, and Other for each of the following employee types: Executives/Sr. Managers, Mid-level Managers, Professionals, All others (EEO-1 categories technicians, sales, admin support, service workers).	70%	70%	80%	85%	85%
	Percentage of foreign nationals employed, by region (NOAM, CALA, APAC, and EMEA).	50%	50%	70%	75%	75%
	Median length of job vacancies for technical positions, including researchers, developers, and engineers.	65%	65%	70%	60%	70%
Products and services enabling environmental efficiency and positive social impacts	Description of products and services that enable environmental improvement for users in one or more categories: smart grid applications, data center efficiency, environmental efficiency in terms of materials, energy, water, or waste. Indicate how the environmental improvement relates to the product's functionality - if it is the primary purpose, a co-benefit, an auxiliary feature, etc. Include current revenue from each product and service and project growth.	80%	70%	65%	55%	65%
	Description of products and services that generate positive social impacts in one or more categories: healthcare (including global health), education, safety and security (including cyber security). Indicate how the social benefit relates to the product or service - if it is the primary purpose, a co-benefit, an auxiliary feature, etc. Include current revenue from each product and service and projected growth.	85%	70%	65%	55%	65%
Management of Intellectual Property	Description of legal and regulatory fines and settlements associated with anti-competitive practices, market manipulation, or intellectual property violations. Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events.	90%	90%	95%	70%	95%
	Description of legal and regulatory fines and settlements associated with information published, to which links are provided, or that is posted online (either self-generated or by third parties, including users). Include dollar amount of fines and settlements and a description of corrective actions implemented in response to events.	85%	85%	85%	75%	85%

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