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Sustainability & Tech in Energy

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Setting the Scene

The focus of this session will be on…

- What are we talking about and why?
- The role of data, digital and governance
- Taking action

Discuss *the drivers for sustainability transformations* across the industry, and how most (if not all) companies have started their journeys in this space. At the heart of a successful and scalable approach to making a change is data. Data is the resource that provides an understanding of current performance and will enable the planning and execution of future strategic initiatives. We will deep-dive in the *challenges* that energy companies face in order *to obtain data and turn it into actionable insights*. We will discuss how companies will need to *collaborate and leverage the power of platforms to capture data* and how the capabilities that companies are already building in *AI and analytics* combined with *new technologies* can help enhance *sustainability reporting and performance management*.

What are we talking about?

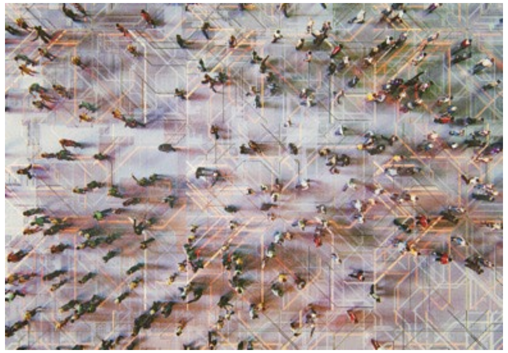
I think you're all familiar with these terms but just to make sure we're on the same page…

Environmental

- Climate & Decarbonization
- Circular Economy
- Sustainable Finance
- Sustainable Supply Chain
- Carbon Reporting

Social

- Diversity, Equity, & Inclusion
- Social Impact/Community Support & Involvement
- Privacy & Security
- Employee Opportunity & Development
- Workforce Transformation
- Labor Standards



Governance

- Ethical Conduct
- Fiduciary Responsibility
- Reporting Transparency
- Corporate Governance & Board Composition
- Leadership & Board Accountability

What does it all mean?

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Why are we talking about it?

The future of energy in 2035 will be highly impacted by 9 major uncertainties across 5 categories

Lead to limited action from governments and organizations	**Society and the customer's voice**	Lead to sustained and impactful action from governments and organizations
Shifts marginally to sustainable consumption with limited impact	**Consumer behavior**	Shifts meaningfully towards sustainable consumption with substantial impact
Are incremental from today	**Improvements in energy storage**	Are substantial from today
Is primarily reactive and focused on adapting to climate change	**Public and policymaker response to climate change**	Is widespread and proactive, focused on mitigating climate change
Favors hydrocarbon fuels	**Price competition between energy carriers**	Favors low-carbon energy carriers
Remains centralized, with traditional business models remaining prevalent	**Energy production**	Becomes decentralized, with new business models becoming the norm
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Is limited, with developing countries building out hydrocarbons before low-carbon sources	**Leapfrogging by developing countries to renewables**	Accelerates, with developing countries building out low-carbon sources instead of hydrocarbons
Are less collaborative, with little cooperation between states and sustained / growing protectionism	**Global relations**	Are more collaborative, with sustained cooperation between states globally and within regions

LEGEND: Social Technological Environmental Economic Political

Why are we talking about it?

Sustainability has a profound impact on a range of areas…

Companies that **truly embed ESG** in their business can experience **5 – 7% higher returns** from the market than non-ESG driven companies

Risk mitigation	Social impact efforts can have important mitigation effects, resulting in avoided costs or lost revenues and higher valuations	**15%** of companies would be **unprofitable** if accounting for environmental damage
Operational efficiency	Decreasing a company's footprint in energy, water use, materials use, and waste production can yield significant cost savings	**64%** of companies with product sustainability achieved **lower logistics and supply chain costs**
Valuation & Capital Access	Corporate social impact efforts are positively related to market valuation and cost of capital	**65%** of institutional investors believe that ESG will become **standard practice** in the next **5 years**
Brand differentiation	Increasing value chain transparency and disclosure requirements will increase end consumer impact on B2B companies	**>50%** of consumers are willing to **pay more** for **sustainable products**
Innovation	Efforts to improve the healthiness and/or environmental and social footprint of products can be an engine of innovation	**53%** of surveyed CXOs reported **new revenue streams** from socially conscious offerings
Talent attraction and retention	Alignment between company and employee values increases employee engagement, leading to improved profitability through higher productivity and cost reductions	**78%** of people would **prefer to work for an ESG-driven company**

Information sourced from Global ESG at Deloitte v10, A&A ESG Nano learning 11.2, Consulting Sustainability Narrative Overview SMA update, and The Purpose Premium Report

Why are we talking about it?

Sustainability has a profound impact on a range of areas…and therefore it is a cross-organizational endeavor

Strategy

Evaluate impact of climate and ESG trends and uncertainties. Define an organization's strategies and shape public policy to advance towards a more sustainable future.

Focus Areas

- Climate & ESG Assessments & Analytics (Impact & Risk)
- Sustainability Strategy & Roadmap Devt.
- Customer & Green Product Strategy
- M&A Advisory
- Workforce Strategy
- Public Policy Strategy

Operations

Utilizing an organizational ESG strategy, build and implement the capabilities, processes, innovations, and ecosystems required to mitigate and adapt to climate change.

Focus Areas

- Transition to Clean & Renewable Energy
- Organizational Change & HR Management
- Sustainable Operations & Supply Chain Transformation
- Risk & Resiliency Management
- Tax Structuring

Finance

Accelerate operations transformation by leveraging evolving capital market transition to increase sustainable investments and optimize cost and capital structure.

Focus Areas

- Carbon Trading Markets
- Restructuring
- Government Grants & Incentives
- Capital Planning & Management
- Treasury Management

Reporting

Capture, communicate, and ensure complete and transparent preparation, assurance, and disclosure of your ESG data and metrics. Meet disclosure and regulatory requirements.

Focus Areas

- ESG Readiness & Assurance
- Governance
- ESG Integrated Reporting & Regulatory Compliance
- ESG Data Management & Controls
- Investor Relations, Communications

Social *(Including Trust, DEI)*

Governance *(Focused on ensuring stewardship and transparency)*

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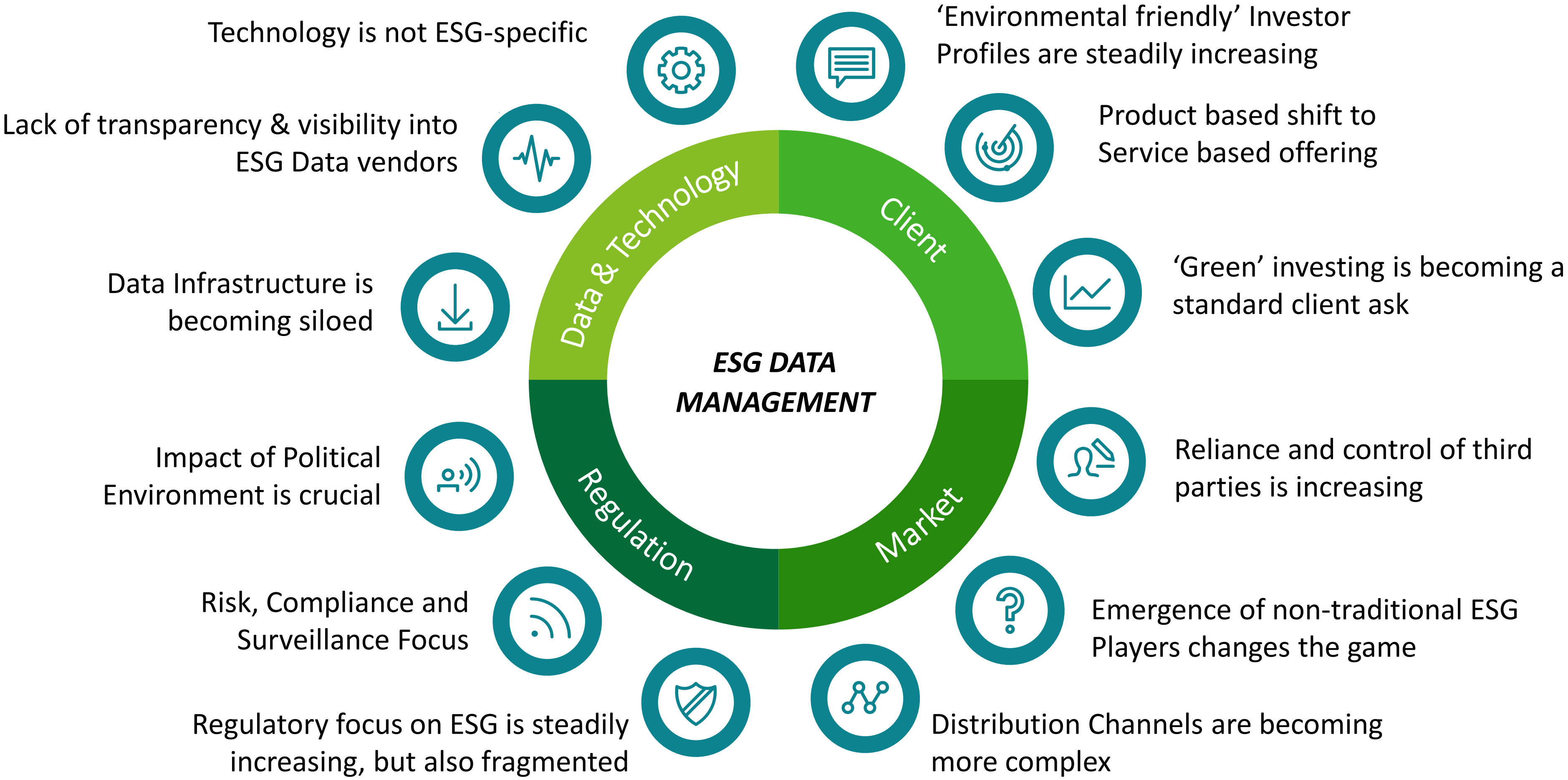
EXAMPLE

ESG Data Challenges

There are a number of emerging forces and challenges re-shaping the future of ESG data management



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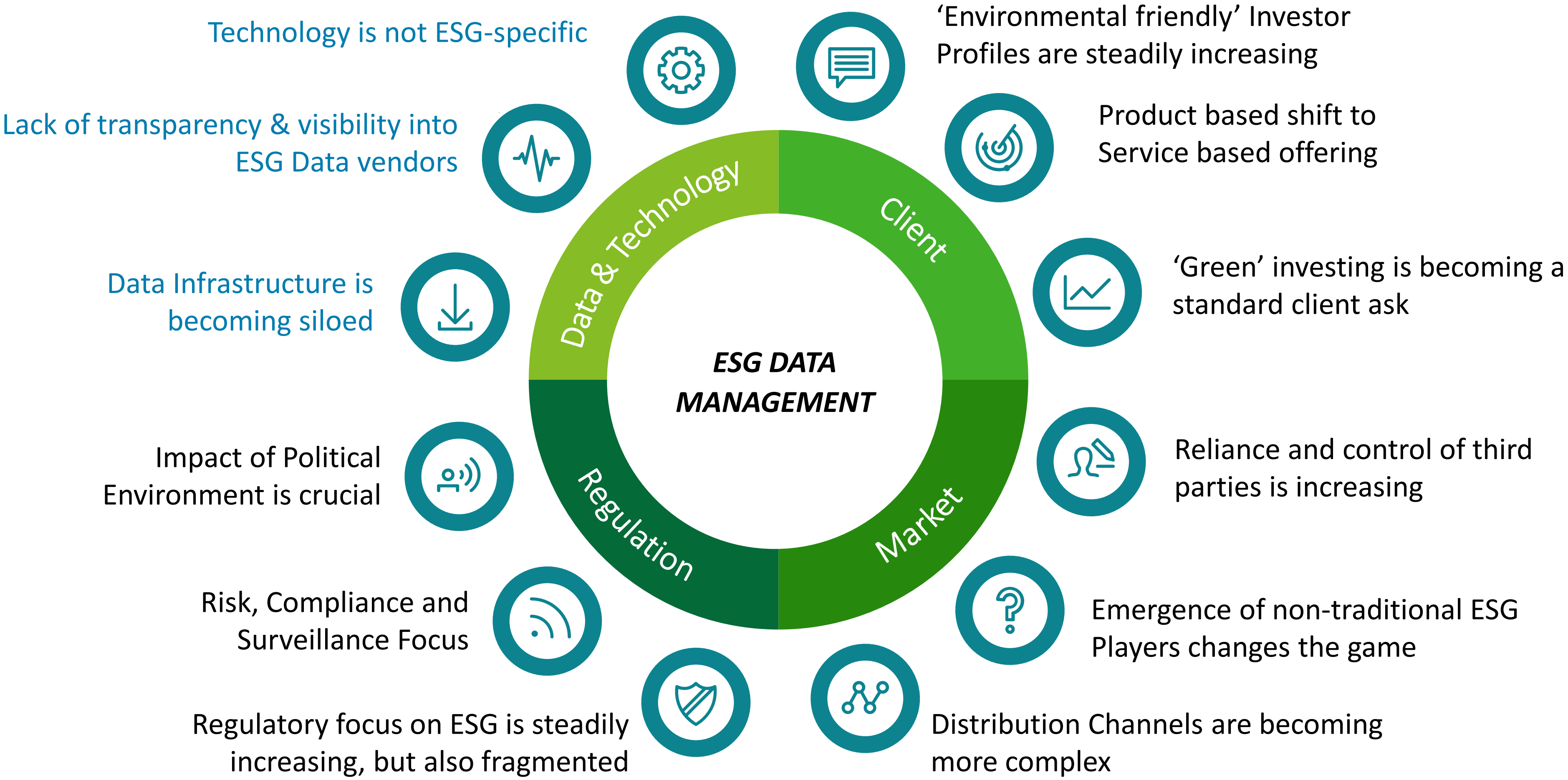


Addressing the Data Challenges

Establish a portfolio of relevant ESG data initiatives

Data Management & Architecture Services

- End-to-end data management and architecture services to embed ESG data in the wider technology and data environment
- Consolidate/Federate ESG data services across multiple sources

Data Strategy & Operating Model

- Assess, design, implement and embed ESG data strategy
- Regulatory risk and GDPR across the lines of defence
- Oversight & due diligence services on market data

Technology Services

- Manage the selection and implementation process for a new vendor or service
- Integration and API services with e.g. downstream and portfolio/order management platforms, IOT platforms, etc.

Data Managed Services & Solutions

- Dedicated ‘ESG app’ for compliance monitoring and surveillance utilising our Surveillance Grid platform
- ESG Regulatory Management
- ESG Management as a Service (ESGMaaS)
- Customisable MI and Regulatory reporting, utilising own or third party sources

Data Analytics & AI

- Quality assurance of ESG data and comparison of different ESG data providers
- Quantitative back testing performance of ESG strategies on select portfolios
- Calculate bespoke ‘ESG Risk Scores’ and Rankings
- Cognitive and machine learning models to profile behaviour and complement data analysis

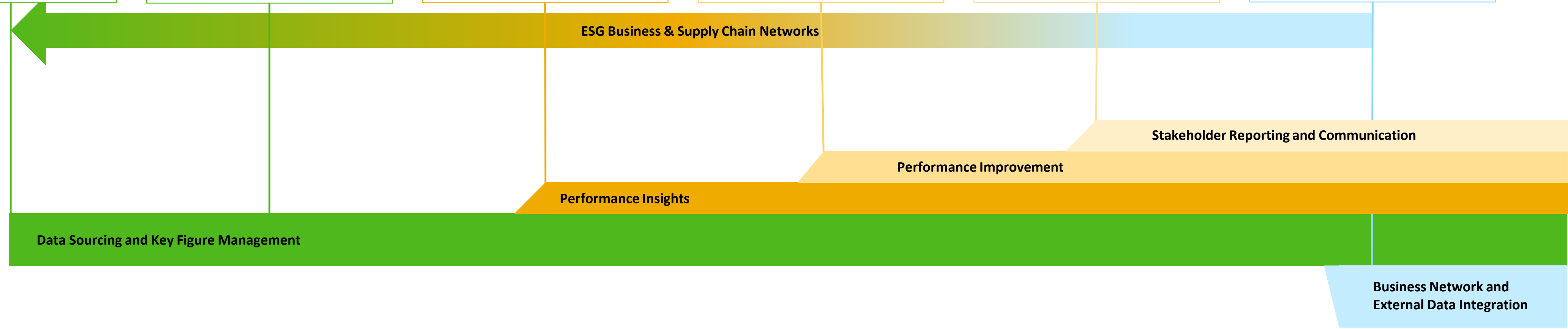
Data Partnerships

- Utilise network of data and technology partners to help facilitate requirements
- Leverage Data Hubs and platforms to provide or build additional metrics required for front office or risk/compliance management

Prioritizing categories for sustainability impact

Example – SAP’s approach to building a strong ESG data foundation

Data Sourcing	Key Figure Management	Performance Insights	Performance Improvement & Steering	Disclosures & Communication	Business Network and External Data Integration
Create a single source of truth for Sustainability Performance Management relevant data.	Harmonize and enrich the data in to create a granular central sustainability key figure ledger.	Create actionable insight to drive Sustainability Performance across the organization.	Initiate abatement projects and drive targeted action embedded into your core business processes.	Communicate progress to both internal and external stakeholders.	Leverage sustainability data across company boundaries to drive sustainable improvements across the value chain.



ESG Data Challenges and Opportunities

Example – Build a robust and future-driven ESG Data Framework and prioritize integration over build

Establish ESG Data Strategy

A clear ESG data strategy has to be stated based on the corporate strategy.

Key Activities:

- Identity current and future data sources (e.g., IMUG, MSCI, etc.)
- Identify data hub for ESG data
- Link to Group Data Strategy (i.e., global and independent data service)

Develop ESG System Architecture

A structured and robust system architecture is key to a future-proof the ESG data framework.

Key Activities:

- Analyze the current architecture
- Identify related systems requiring ESG data and interfaces for the data flow
- Integrate into overall architecture

Link Business Processes

ESG has to be integrated in business processes and core systems.

Key Activities:

- Identify new business process steps based on related IT systems
- Develop new business processes
- Align with IT as well as Business stakeholders

Clarify ownership

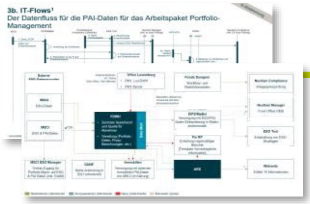
A clear ownership of ESG, processes and IT systems is needed.

Key Activities:

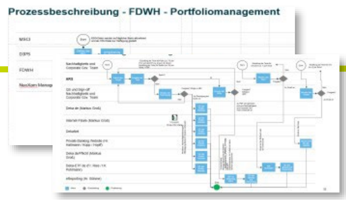
- Identify a future proof ownership structure
- Define clear action items on the business process step (incl. usage of IT systems)
- Define a clear hand-over roadmap

Management Workshops

Architecture and IT-system owner workshops



Data session with specific Business Owners



Workshops with Business and IT Focus Group

Workshops with Process Owners

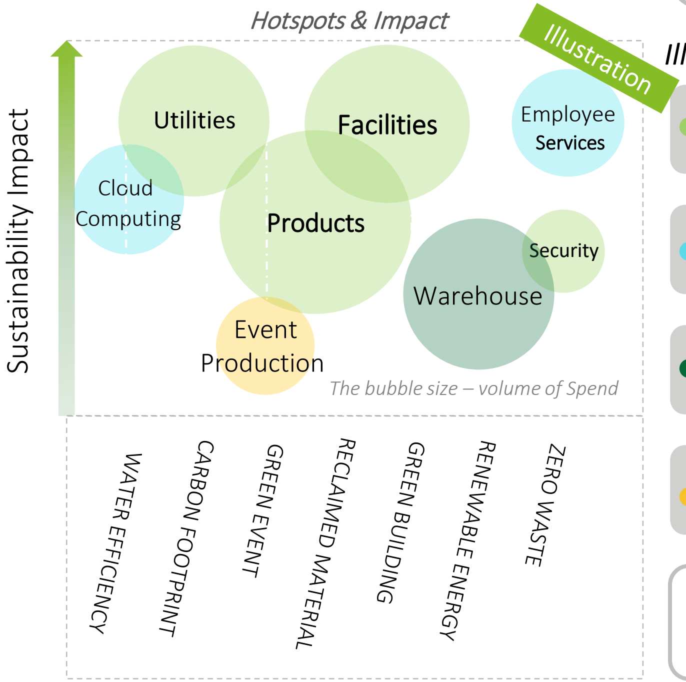
EXAMPLE

And what might this process look like?

Utilizing an enriched data set, companies can recalibrate their prioritization as they transition towards a sustainable future

ASSESS CURRENT STATE OF PLAY

Evaluate sustainability hotspots and challenges across key categories and on-going initiatives.
Key sustainability metrics from the production of goods or services purchased or acquired



PRIORITIZE CATEGORIES TO MAKE AN IMPACT ON SUSTAINABILITY

Category prioritization criteria:

Desirability
Scale of ESG impact that can be achieved by the category

Feasibility
Availability of sustainable alternatives

Viability
Economic implications (cost + revenue) of greener alternative

Illustrative sustainability opportunities by category and identified priorities:

RE & FAC MGMT
- Carbon management
- Water recycle
- Renewable power
- Energy efficiency

Tech & Services
- Green supplier management
- Energy data disclosure

Supply Chain
- Pallets (recycle loop)
- Recycling drums

Marketing & Events
- Sustainable criteria for green event
- Carbon neutral event

CARBON
Lead the industry toward carbon neutrality

WASTE
Drive waste out of our value chain

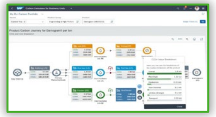
WATER
Consume less water per unit

CHEMISTRY
Scale cleaner chemistry throughout our value chain

Compatibility
The extent to which initiatives are aligned with strategies and investments

OPTIONS TO ACHIEVE GOALS

Understand your impact



SAP Product Footprint Manager

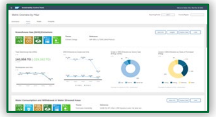
Understand emissions and impact metrics at a product level and build the capability to manage at portfolio level

Build insights and scenarios

Build capabilities to run advanced analytics and forecasting on various scenarios to manage impacts

SAP Responsible Design & Production

Act and communicate



SAP Sustainability Control Tower

Enable reporting and business decision-making that ensures excellence in compliance, branding and performance management

Deloitte.

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Thank You.