

How to obtain the transparent data of carbon emission from your suppliers?

Tunde Laleye, BearingPoint Partner and China General Manager

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- Chapter 2 **Challenges of Supplier Carbon Transparency**
- Chapter 3 **Our Solutions & Tools**
- Chapter 4 **Best Practices & Our Experiences**
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Chapter 1: Who We Are

About BearingPoint

BearingPoint is an independent **management and technology consultancy** with European roots and a global reach. The company operates in three business units: The first unit (**Consulting**) covers the advisory business with a clear focus on selected business areas. The second unit (**Software Solutions**) provides IP-driven digital assets and managed services beyond SaaS. The third unit (**Business Services**) is designed to explore innovative business models with clients and partners by driving the financing and development of start-ups and leveraging ecosystems.

BearingPoint's clients include many of the world's leading companies and organizations. The firm has a global consulting network with more than 13,000 people and supports clients in over 70 countries, engaging with them to achieve measurable and sustainable success.

Milestone along our journey

KPMG developed consulting business

1997

The company was spun-off as KPMG Consulting Inc.

2000

- KPMG Consulting Inc. went public on the NASDAQ
- The company entered China

2001

- The company changed its name to **BearingPoint** Inc. and moved to the NYSE
- The Chinese name was changed to **毕博**

2002

Management buy-out and transition into an independent European partnership owned and managed by 120 Partners

2009

- New subsidiaries in the USA, Italy, and the UAE
- Partnership with Yale University

2014

New subsidiaries in Portugal, Singapore and the Czech Republic

2016

- New subsidiary in Hong Kong
- Partnership with Oxford University

2017

- New subsidiary in Luxembourg
- Global Delivery Center (GDC) was established in Shanghai, China

2019

- New subsidiary in India
- Joint venture (Arcwide) with IFS
- Acquired innovation firm **YouMeO**

2021

Acquired sustainability consultancy – **I-Care**

2022

BearingPoint has a broad range of service portfolio

The unique BearingPoint ecosystem. One firm. Three business units – with distinct offerings and models, focused on their own market and together providing technology-enabled consulting. One joint venture.



Consulting

Market Segments

- **Automotive**, Industrial Equipment and Manufacturing
- Banking & Capital Markets
- Chemicals, Life Sciences & Resources
- Communications, Media & Entertainment
- Consumer Goods & Retail
- Government & Public Sector
- Insurance
- Utilities, Postal & Transportation

Service Portfolio

- People & Strategy
- Customer & Growth
- Finance & Risk
- Operations
- Technology

Products

IP Products

- Emissions Calculator
- ETM.next / Lease & Rent
- Data Quality Navigator
- DemandSens / Optix / Insight as a Service
- Swarm / Program Pulse
- People Development Cloud

Services

- Free and Open-Source Software
- Advanced Threat Inspection

Capital

- Supporting strategy execution through investments and ventures
- Managing and scaling standalone software businesses
- M&A advisory for clients: sell-side mandates and transaction services

Arcwide

Joint venture with IFS focused on business transformation



Worldwide presence

Through our partnerships, global alliance network and delivery centers spread across the planet, we are positioned to support our clients to achieve measurable and sustainable success, wherever they may be located.

-  BearingPoint (EMEA)
-  BearingPoint & Abeam (Asia)
-  BearingPoint & Grupo ASSA (Latin America)
-  BearingPoint & West Monroe Partners (North America)



Our Clients

We support the leading companies across industries in the world. Client's success is our success.







*Partial of our top clients

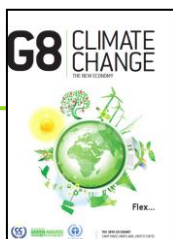
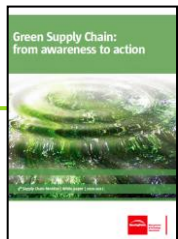
BearingPoint. 毕博

BearingPoint Sustainability History

We provide business expertise combined with a specialized IT-service

Deep Scope of Services







- We have deep **knowledge in leading CO₂-standards / regulations** and are **contributing to them in various working groups**
- Our service comes with **dedicated CO₂ consulting services** for:
 -  Strategy / Roadmap definition
 -  Guidance on upcoming regulations/methodologies
 -  Calculating baselines
 -  Reducing your carbon backpack with proven actions
- We **support research** in this area by **giving guest lectures** and running **studies**



Universität St. Gallen

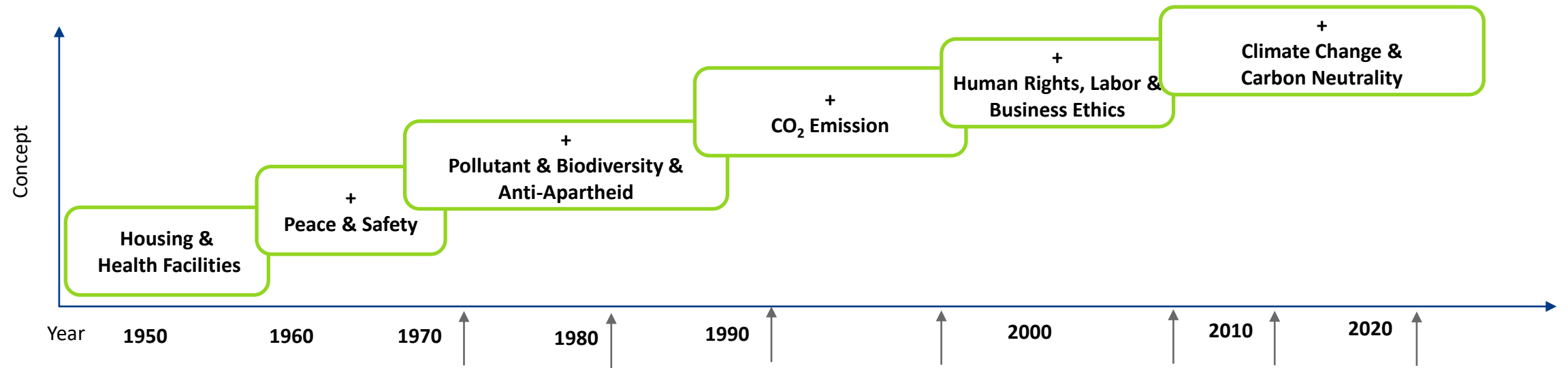


And Large Experience in Carbon Accounting

- More than **12 years of experience in setting up carbon accounting systems**
 -  Applicable standards/ regulations
 -  Scope definition
 -  Data requirements
 -  Data gathering and validation
 -  Fallbacks / default values
 -  Interpretation
- Within our service we take care of **updates of emission factors, electricity mix and changing standards/ regulations**

Chapter 2: Challenges of Supplier Carbon Transparency

As the world evolves, the concept and impact of Sustainability is changing. Climate action has become the key theme of the day

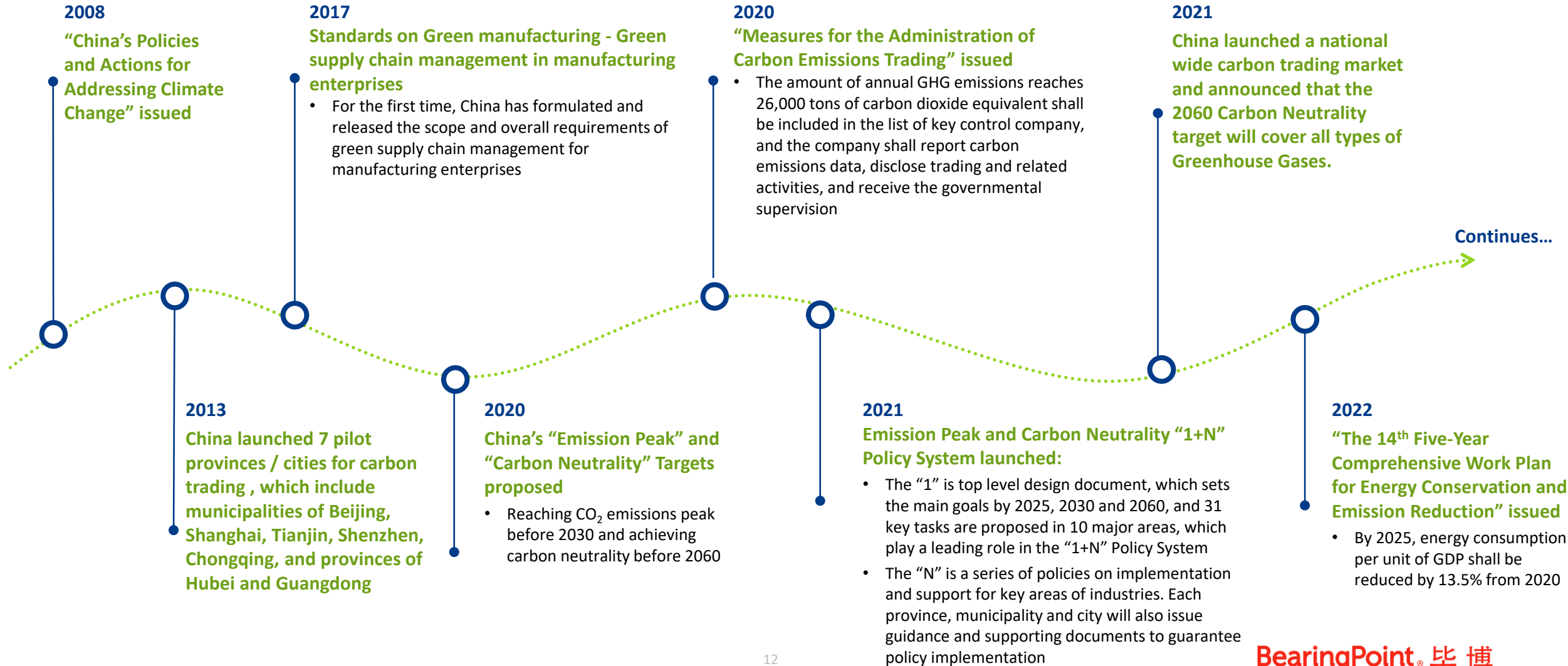


Milestone	1972	1982	1992	1997	2009	2015	2021
	United Nations Conference on the Human Environment in Stockholm	United Nations established the World Commission on Environment and Development	The world's first <United Nations Framework Convention on Climate Change>	< Kyoto Protocol >, Proposed emission reduction targets for 39 developed countries	<Copenhagen Climate Agreement>	<Paris Agreement>, limiting global temperature increase to well below 2°C	COP 26 Glasgow Climate Agreement proposed limiting global temperature increase to well below 1.5°C



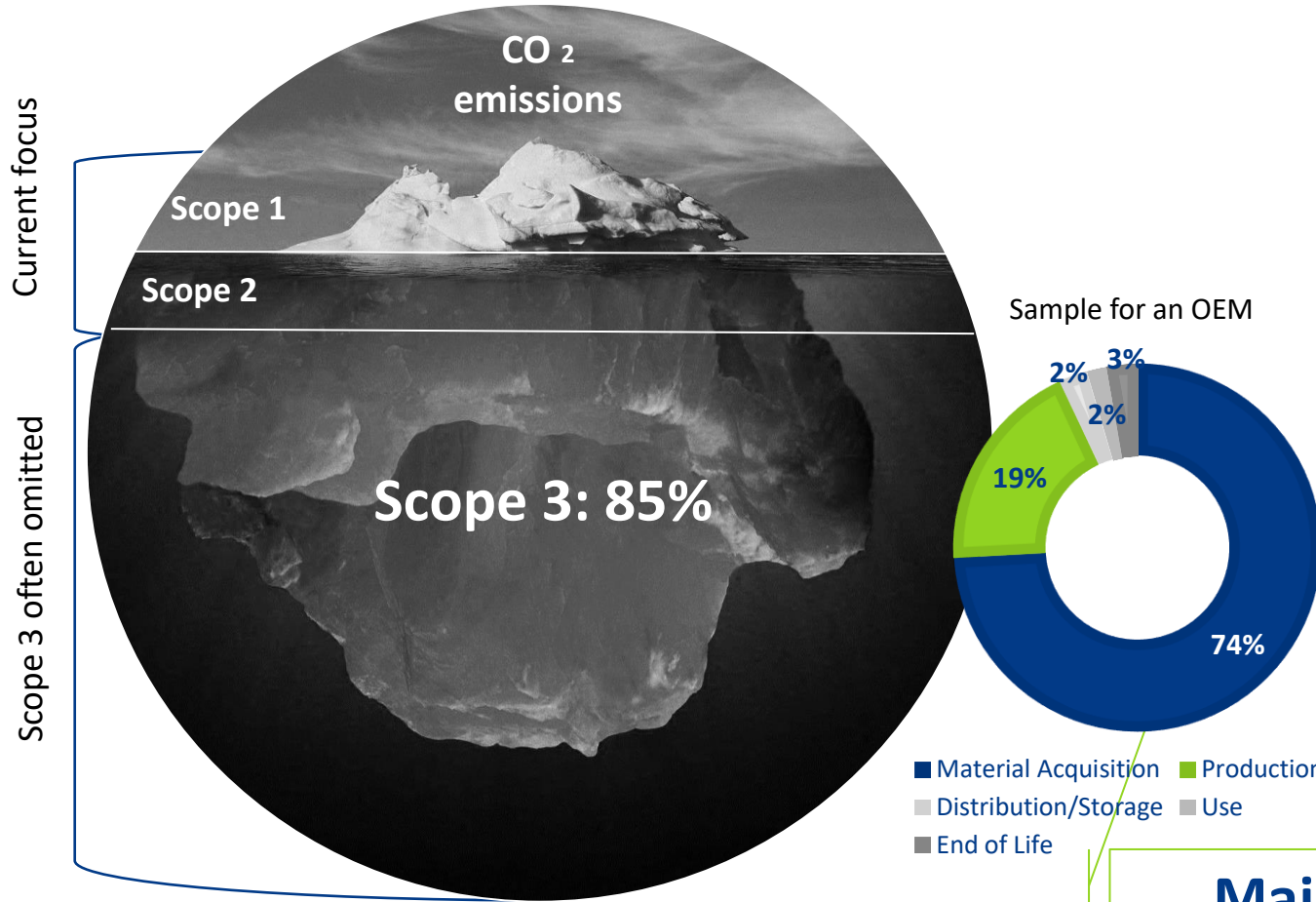
Calling for carbon accounting - Green transition cannot be delayed

Chinese government is aggressively making the policies and regulations to promote carbon reduction and climate actions across various industries

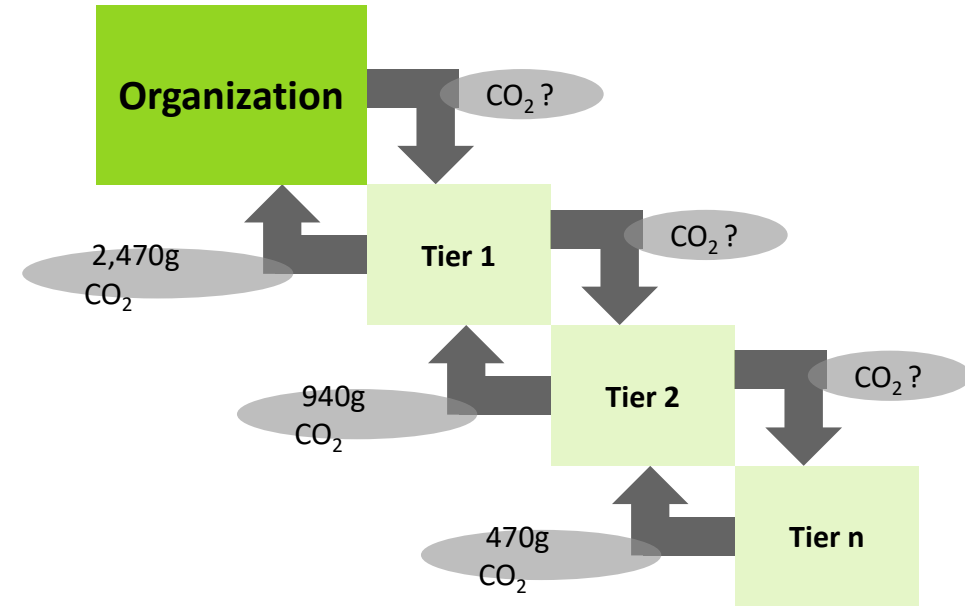


More than 85% of carbon emissions are hidden.

Upstream scope 3 emissions (coming from your purchased goods and suppliers' footprint) are the hardest to grab and calculate



During the traceability of suppliers' carbon emissions, transparency issues occur



Majority of Scope 3 for manufactures are emissions in the area of **purchased goods from suppliers**

Common challenges for supplier carbon data transparency



1. DATA AVAILABILITY

- a) Supplier may **lack the necessary resources** (tools, expertise, or personnel) to collect and calculate carbon emission data
- b) Complexity of supply chains. Supplier may **not have necessary records to all the data** they need to report. Especially if they are **several tiers down** the supply chain



2. DATA ACCURACY

- a) It is difficult to determine the accuracy of the suppliers' self-reported data, if **no third-party verification** certificate provided
- b) Suppliers may not be able to map the proper **emission factors**
- c) Supplier may lack the **consistent and standardized approach** to data reporting



3. CONFIDENTIALITY CONCERNS

- a) Suppliers may have **confidential information** about their materials, technologies and operations, which are unable to share



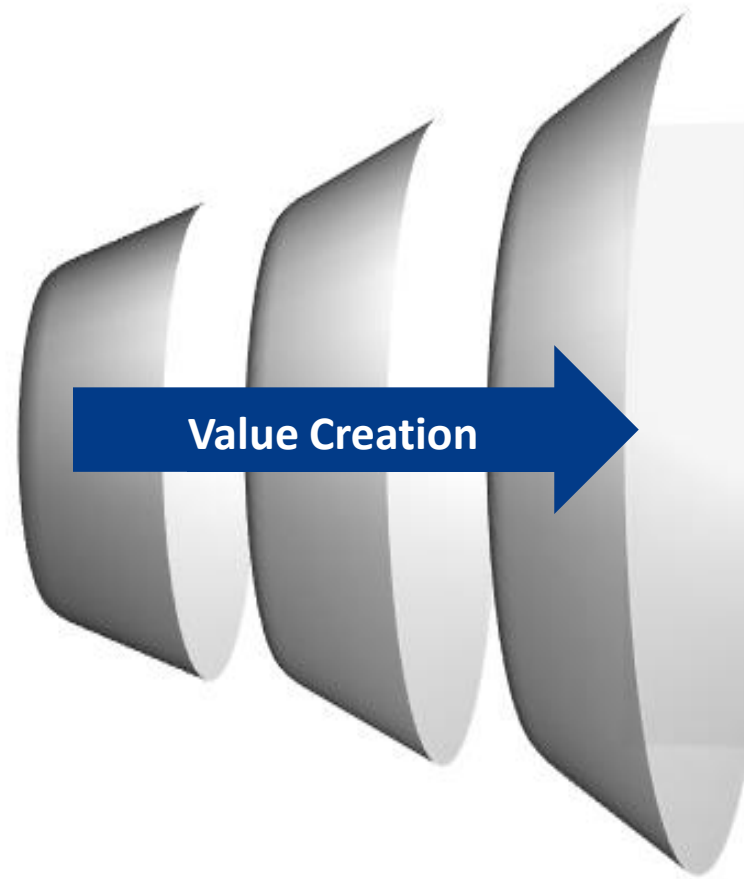
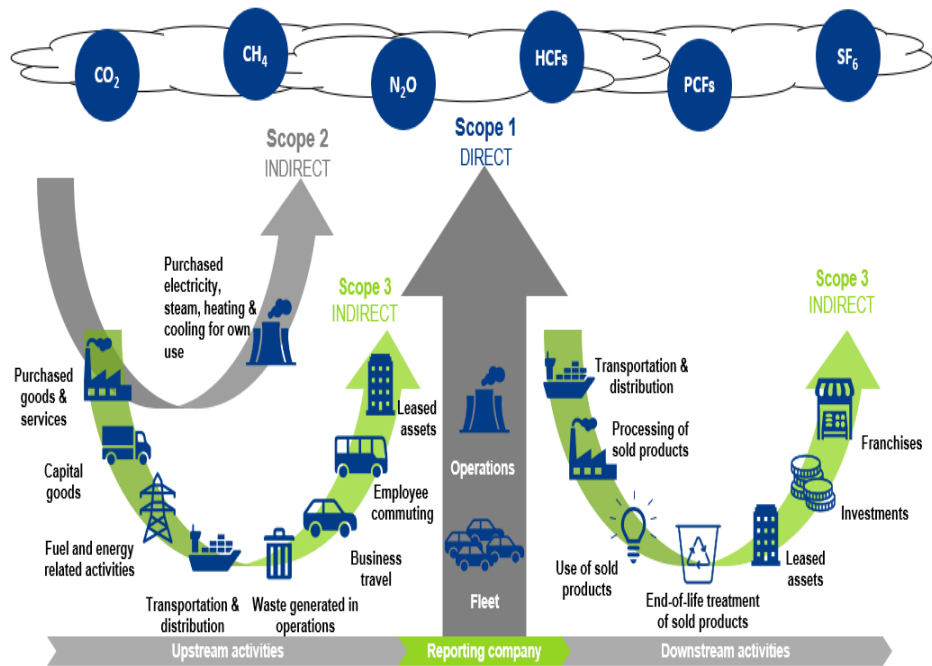
4. UNCOORDINATED SUPPLIERS

- a) Supplier may **lack of awareness** due to carbon accounting is not mandated by regulations and limited client engagement
- b) Achieving carbon data transparency might be **costly for suppliers**, particularly smaller suppliers with limited resources

What are the values for supplier data transparency?

Upstream Scope 3 Identification and Calculation

No Measure, No Management



Added Value

Revenue Growth:
Meet downstream client's carbon data collection requirement and retain position as preferred

Cost Reduction:
Identify opportunities to reduce costs associated with emissions, such as energy or resources wastage

Asset Efficiency:
Be a responsible and sustainable company for the capital market

Compliance :
Comply with tighten regulations on carbon data disclosure, especially for EU market

Business Risk Reduction:
Improve resilience to climate change and other sustainability risks, such as resource scarcity

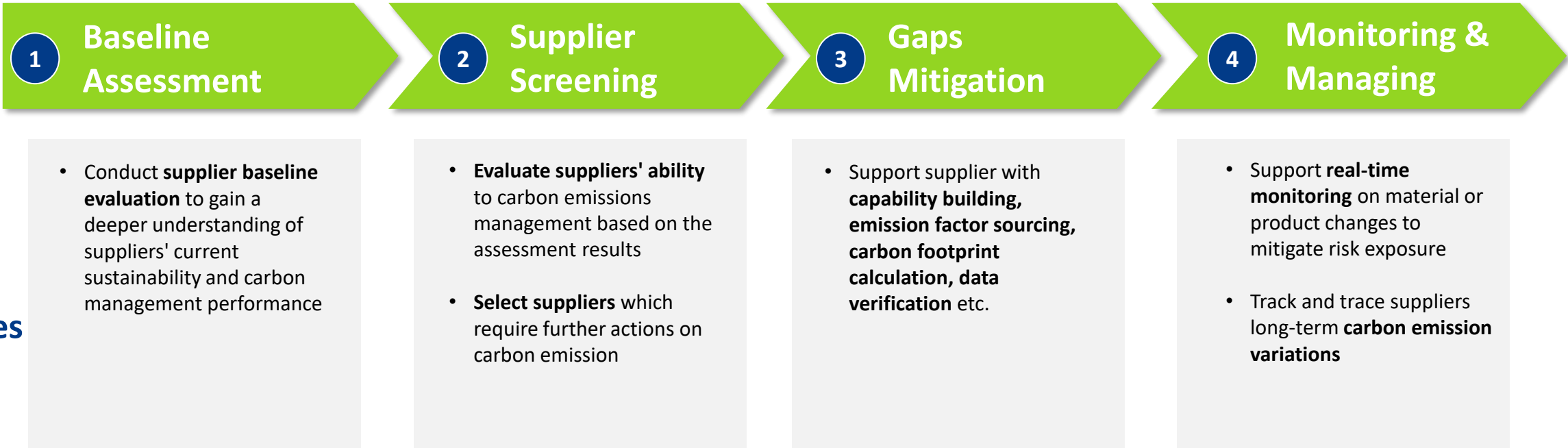
Chapter 3: Our Solutions & Tools

Steps to achieve carbon emission transparency at supply chain

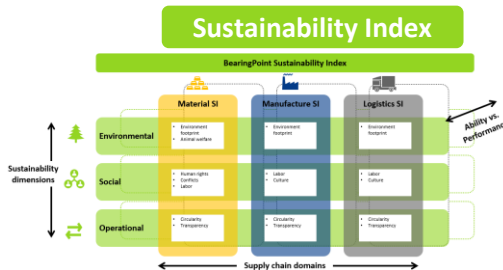
We offer comprehensive and mature solutions, as well as our in house developed tools & assets to accelerate supplier carbon journey

Steps

Main Activities

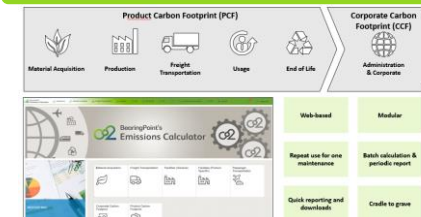


Our Tools



Our Sustainability Index Tools can help evaluate supplier current sustainability and carbon performance and can use for supplier comparison and screening

BearingPoint Emission Calculator

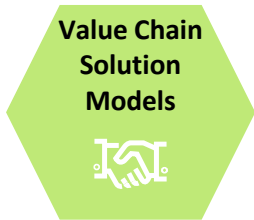


Our BearingPoint Emission Calculator (BEC) provides a highly accurate and efficient digital twin solution for managing and measuring your entire value chain

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Asset 1: BearingPoint Sustainability Index (1/2)

The approach



BearingPoint Sustainability Index

Supplier Performance Evaluation

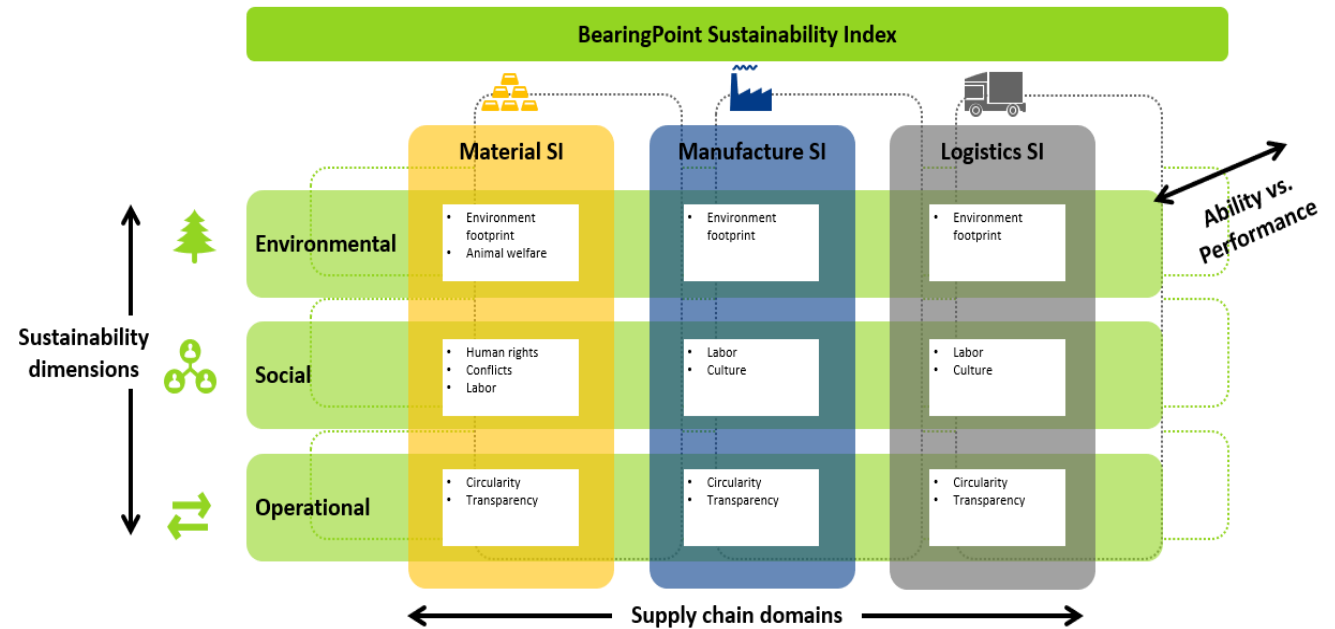
- Sustainability rating system to dynamically evaluate supplier's supply chain (material, manufacture and logistics) sustainability levels
- Rating scores based on BearingPoint sustainability concept in environmental, social and operational aspects
- Total evaluate 46 items

Domain	Sub-domain	Item	Weight	Score	Weighted Score	Overall Score
Material	Material SI	Environment footprint	10%	8	8	85
		Animal welfare	10%	7	7	
		Human rights	10%	9	9	
		Conflicts	10%	8	8	
		Labor	10%	7	7	
		Labor	10%	8	8	
	Manufacturing SI	Environment footprint	10%	8	8	
		Labor	10%	7	7	
		Culture	10%	8	8	
		Circularity	10%	9	9	
		Transparency	10%	8	8	
		Transparency	10%	7	7	
Logistics	Logistics SI	Environment footprint	10%	8	8	
		Labor	10%	7	7	
		Culture	10%	8	8	
		Circularity	10%	9	9	
		Transparency	10%	8	8	
		Transparency	10%	7	7	
	Operational SI	Environment footprint	10%	8	8	
		Labor	10%	7	7	
		Culture	10%	8	8	
		Circularity	10%	9	9	
		Transparency	10%	8	8	
		Transparency	10%	7	7	

Sustainability Index Overall Structure

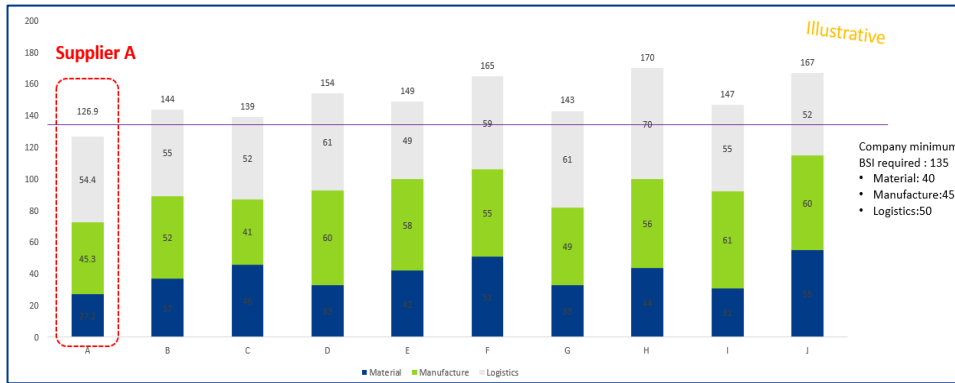
BSI is a 3D evaluation cube that comprises:

- supply chain domains (material acquisition, manufacture, logistics);
- sustainability dimensions (environmental, social and operational);
- Three questionnaires contain 46 items
- Ability vs performance comparison

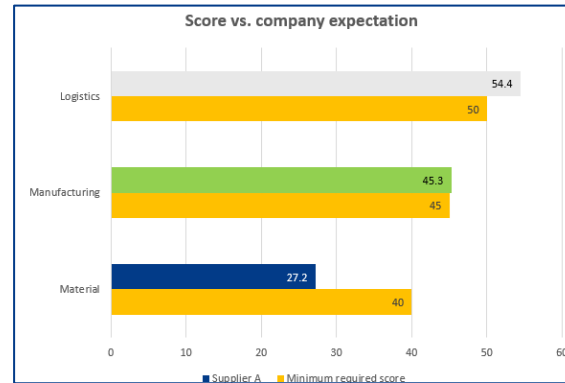


Asset 1: BearingPoint Sustainability Index (2/2)

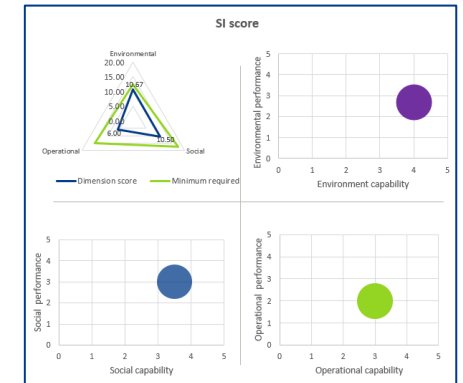
What is the result



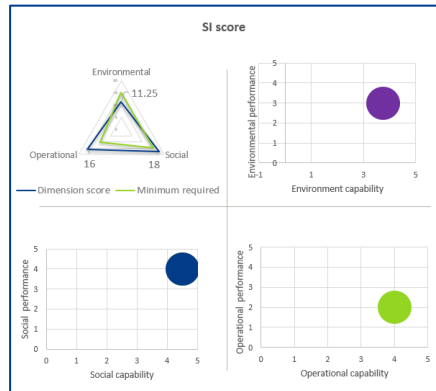
Suppliers sample results



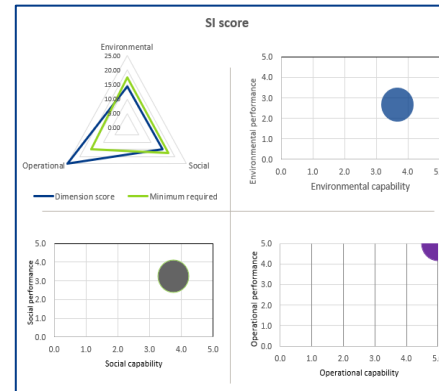
Supplier A's overall analysis



Supplier A's analysis - Material



Supplier A's analysis - Manufacture



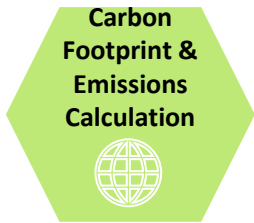
Supplier A's analysis - Logistics

Material	Manufacture	Logistics
<ul style="list-style-type: none"> Company should build capability for GHG calculation to track GHG footprint. Technology should be used to build the supply chain visibility for animal including block chain technology or use NGO platform There should be more content in annual report incl. the GHG footprint for upstream suppliers, More material should be in governance, which is only 40% of total material. 	<ul style="list-style-type: none"> The management policy and process for solid waste is not good enough. Visibility should be improved after the solid waste is discharged Capability should be built to trace back the energy source. For electricity, the resource used for generation should be identified 	<ul style="list-style-type: none"> Governance capability of drivers' working hour should be built to ensure there is no overtime driving The working condition in warehouse should be improved for temperature and dust issue.

Supplier A's Suggested improvement

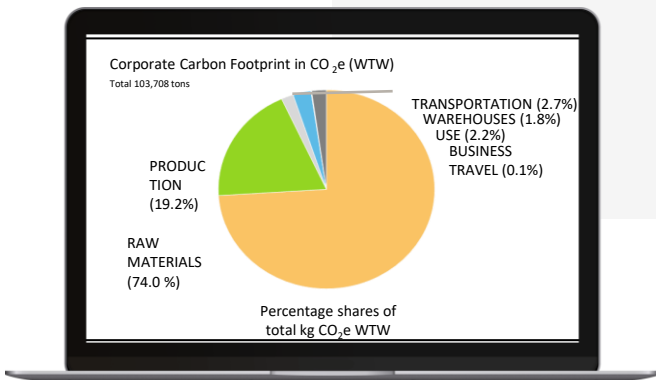
Asset 2: BearingPoint's Emission Calculator (1/3)

The approach

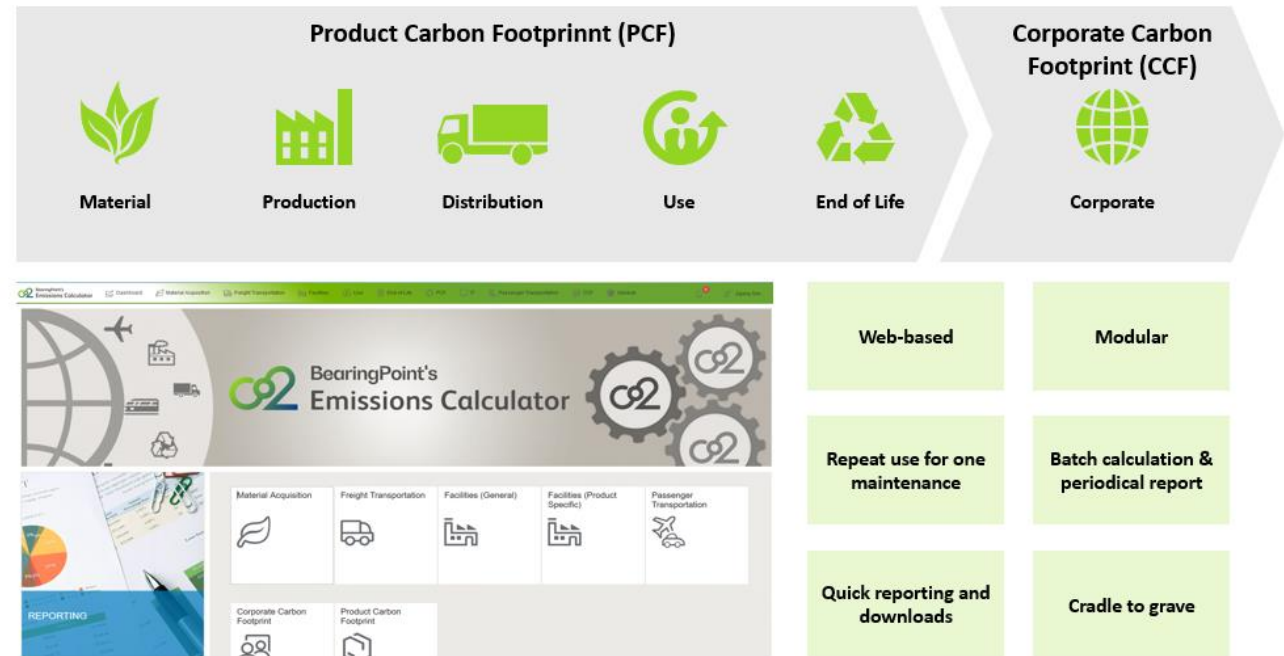


Digital Emission Calculator

- Provides deep insights in greenhouse gas emissions across the full value chain: material acquisition & processing, production, distribution & storage, use, end of life and all support processes
- Provide trustworthiness and easy auditability with compliant calculation methods
- Identify carbon reduction potentials

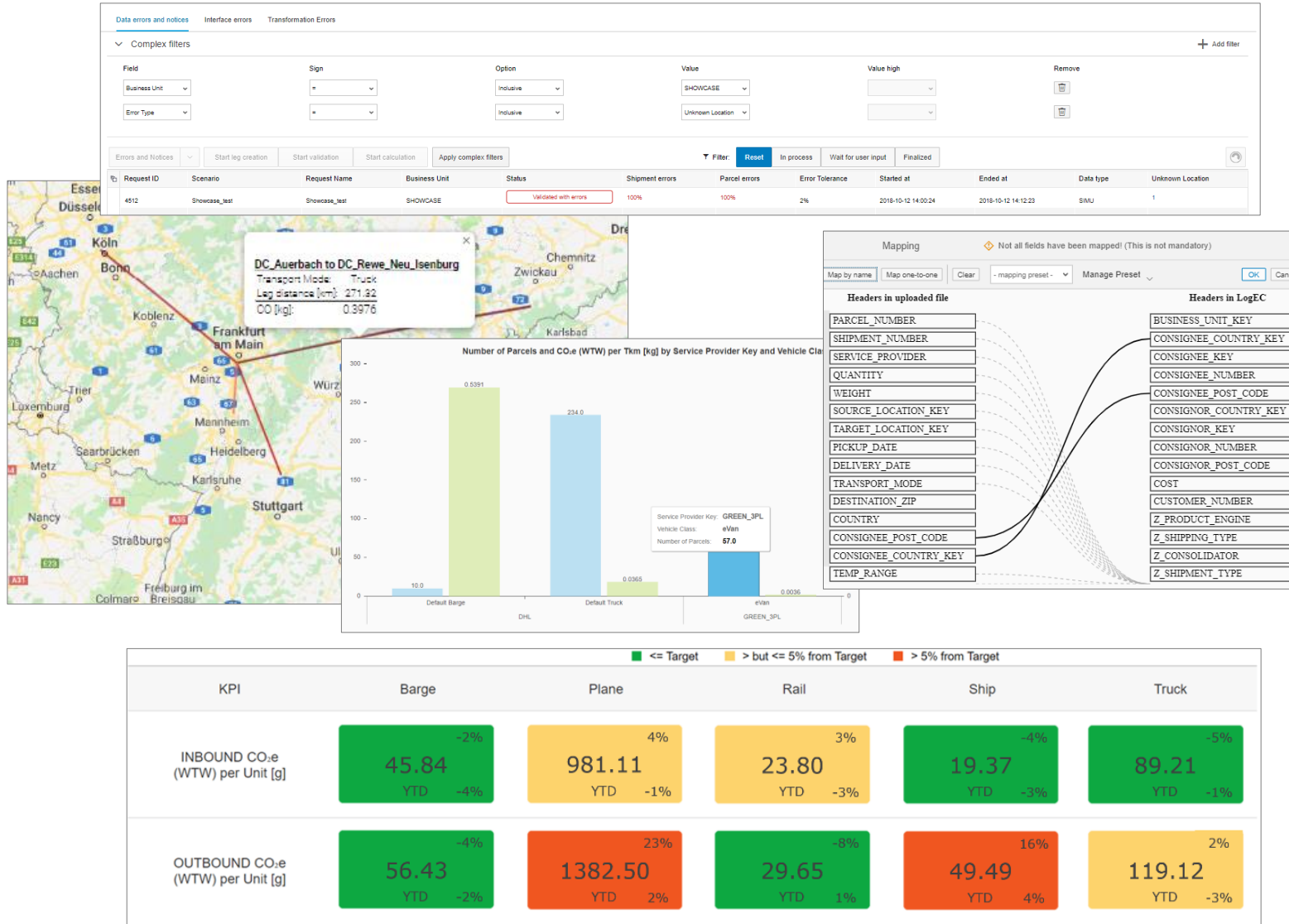


Digital application automatically baseline carbon emissions from cradle to grave to steer supplier / supply chain to manage overall carbon footprint



Asset 2: BearingPoint's Emission Calculator (2/3)

BEC is able to simulate and visually compare calculation results and improvement scenarios



1 Simulate the impact of alternative fuels and technologies before investing

2 Apply "What-If" analysis to complicated business data

3 Link the investment cost and its potential carbon reduction

4 Drill down to root cause analysis

Asset 2: BearingPoint's Emission Calculator (3/3)

BEC could address the typical challenges in the process of carbon footprint calculation

Challenge 1: Incomplete identification of emission sources



- BEC develops standard chart templates for customers to timely provide the required reporting information, while also provides users with more flexible capabilities, allowing them to freely choose the dimensions of their analysis
- Graphs show the components and causes of all carbon emissions in a step-by-step manner, and Drill-down functionality allows users to continuously explore and break down these components according to their needs, helping them to better understand the goals and directions for improvement.



Challenge 2: Inaccurate data statistics

The Error Dashboard shows a table with columns: Request ID, Scenario, Request Name, Business Unit, Status, Errors, Number of Pa..., Number of Sh..., Started at, and Ended at. The table lists various requests, some with error counts and status indicators like 'Completed' or 'Validated with errors'.

Request ID	Scenario	Request Name	Business Unit	Status	Errors	Number of Pa...	Number of Sh...	Started at	Ended at
28126	Demo 31	demo 31	DEMO	Completed	0%	12	8	2022-05-31 20:43:23	2022-05-31 20:43:41
28125	Demo 3105	Demo 3105	DEMO	Completed	0%	13	8	2022-05-31 20:05:55	2022-05-31 20:06:10
28122	LEO_TEST_000		LEO_TEST_CN	Completed	0%	7	0	2022-05-30 15:54:40	2022-05-30 15:54:37
28096	LEO_TEST_001		LEO_TEST_CN	Completed	0%	138	0	2022-05-30 16:59:58	2022-05-30 17:00:19
28060	Demo 2005	Demo 2005	DEMO	Completed	0%	12	8	2022-05-30 16:59:58	2022-05-30 17:00:19
27058	SHOWCASE_SAMPLE_20	1234	SHOWCASE_SAMPLE...	Completed	0%	168	168	2022-05-20 16:11:58	2022-05-20 16:12:07
27059	SHOWCASE_SAMPLE_20	123	SHOWCASE_SAMPLE...	Validated with errors	100%	1	1	2022-04-01 15:51:14	2022-04-01 15:51:54
28120	Demo my alternative	product adjustments	AUTOMOTIVE2	Completed	0%	32	32	2022-02-16 18:51:40	2022-02-16 19:01:07
24022	TAM_check_AF	TAM_check_AF	DEMO_AF	Completed	0%	1	1	2021-11-24 19:29:40	2021-11-24 19:29:50
24020	TAM_check_BF	TAM_check_BF	DEMO_BF	Completed	0%	1	1	2021-11-24 19:29:40	2021-11-24 19:29:50
24019	TAMcheck1	TAMcheck1	DEMO2	Completed	0%	5	5	2021-11-23 18:51:26	2021-11-23 18:51:49
23988	SHOWCASE_SAMPLE_20	20211021722	SHOWCASE_SAMPLE...	Completed	0%	168	168	2022-02-21 17:58:25	2022-02-21 17:58:32
23929	SHOWCASE_SAMPLE_20	Data_updated	SHOWCASE_SAMPLE...	Completed	0%	5	5	2021-11-18 23:49:55	2021-11-18 23:50:33
23427	SHOWCASE_0012021_...	SHOWCASE_031021	SHOWCASE	Completed	0%	14863	14863	2021-11-04 21:48:59	2021-11-04 21:41:56
16180	Mt. Desert Electric	Sanitas	SHOWCASE	Completed	0%	2930	0	2021-04-22 15:39:40	2021-04-22 15:38:31

- BEC allows interfacing with existing ERP systems to obtain real-time data and validate the validity of the imported data
- BEC allows users to upload their own data forms. Although it has own systematic upload templates, it allows matching user-defined data collection form
- Unified maintenance of data, avoiding errors during multiple data entry



Challenge 3: Inconsistent emission factors

The table lists raw material keys and their corresponding emission factors. The columns are: Raw material key, CO2 per Unit, CO2e per Unit, Energy (MJ) per Unit, CO2e (Waste) per ..., CO2e (Waste) per ..., and Energy (MJ) (t).

Raw material key	CO2 per Unit	CO2e per Unit	Energy (MJ) per Unit	CO2e (Waste) per ...	CO2e (Waste) per ...	Energy (MJ) (t)
4I	0	3.697161592	0	0.19425	0	0
4J	0	3.697161592	0	0.17675	0	0
4K	0	3.364083971	0	0.19425	0	0
4L	0	0	0	0.39849	0	0
4M	0	0	0	0.39849	0	0
4N	0	0	0	0.39849	0	0
4O	0	0	0	0.36259	0	0
4P	0	2.68927347	0	0.36259	0	0
4Q	0	2.95553817	0	0.39849	0	0
4R	0	0	0	0.959595	0	0
4S	0	2.235443679	0	0.873145	0	0
4T	0	2.235443679	0	0.959595	0	0
4U	0	3.364083971	0	0.17675	0	0

- BEC uses Ecoinvent's carbon emission factors for raw material and energy, and uses GLEC's emission factors for logistics.
- The user can use the company specific or supplier specific emission factors as a priority and set it as master data in the system, or use the existing emission factors in the system as an alternative.
- The management and maintenance of the emission factor database ensures that the criteria for each calculation are uniform.



Automated, standardized, normalized and unified calculation tools help to achieve supply chain data transparency



One more thing!

We joined forces with SAP to tackle carbon emissions in January 2022

SAP Product Footprint Management Co-Development

BearingPoint®

Long-lasting experience in carbon accounting consulting and solution development



Intelligent & Sustainable
Enterprise Solutions

Last October we **successfully** released **BearingPoint's emission calculator feature** "Freight Transportation" in SAP PFM.

On the long-term roadmap we aim for a full coverage of the GHG protocol categories

The screenshot displays the SAP Product Footprint Management (PFM) dashboard. A red box highlights the 'Freight Transportation' menu item in the top navigation bar. Another red box highlights the 'Freight Transportation' section in the main dashboard, which includes the following tiles:

- Calculate Transport Footprints Upload Data
- Manage Calculation Errors Error Dashboard
- View Transport Data Dynamic Report
- View Transport Route Emissions Map Display

BearingPoint China Contacts



Tunde Laleye

Partner
China General Manager

Phone: +86 166 0218 7845

Email: tunde.laleye@bearingpoint.com



Dale Dai

Director
Sustainability Business Development

Phone: +86 135 1003 3100

Email: dale.dai@bearingpoint.com



Jigang Sun

Manager
Supply Chain Sustainability Product Lead

Phone: +86 187 2123 7732

Email: jigang.sun@bearingpoint.com



Please contact us for more information.

Company Website : www.bearingpoint.com



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