

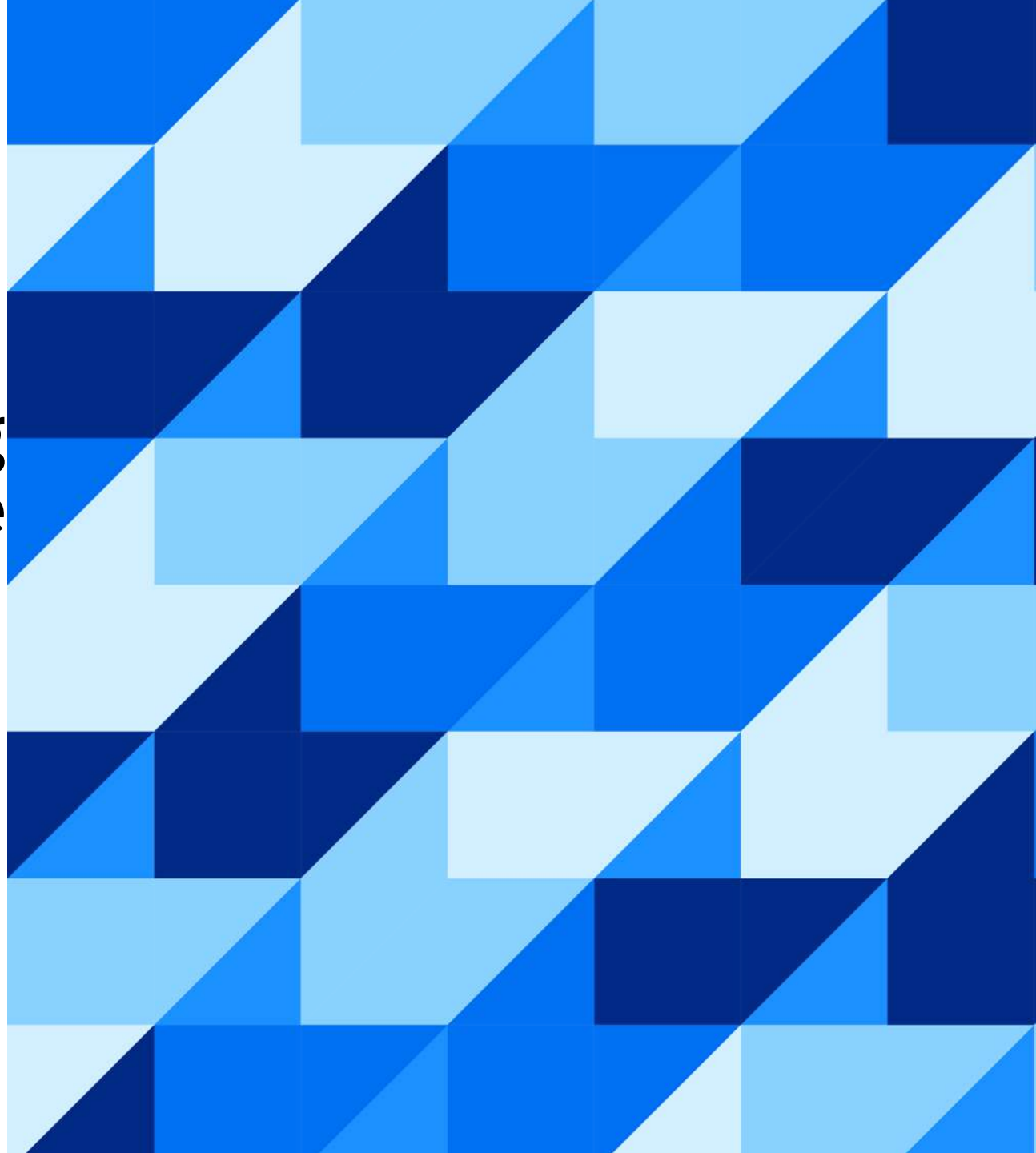


# Sustainability in Action: Driving Value with reliable Sustainable Processes

Hui-Lai Xie, SAP

June 20, 2024

INTERNAL – SAP and Customers Only



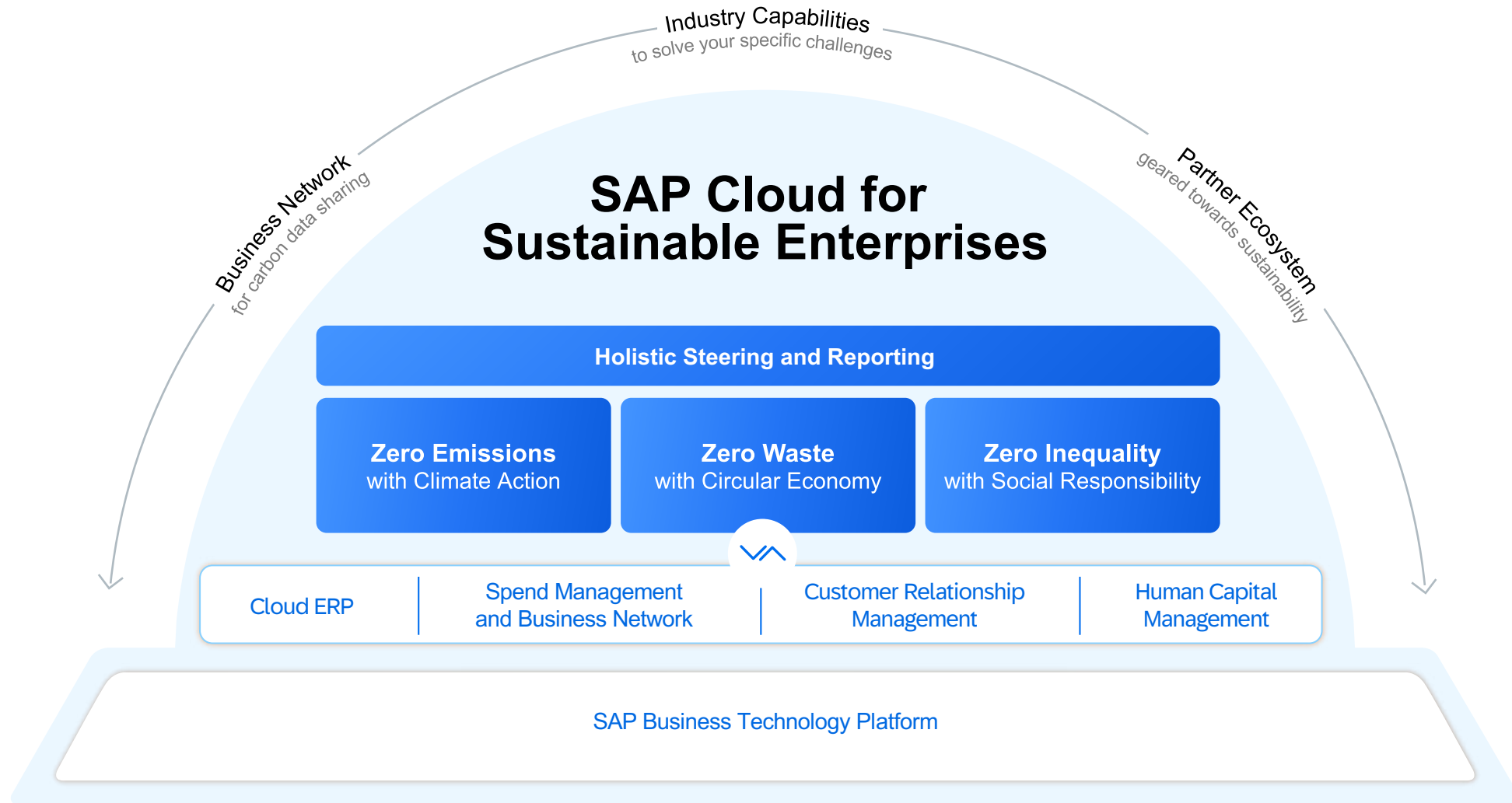
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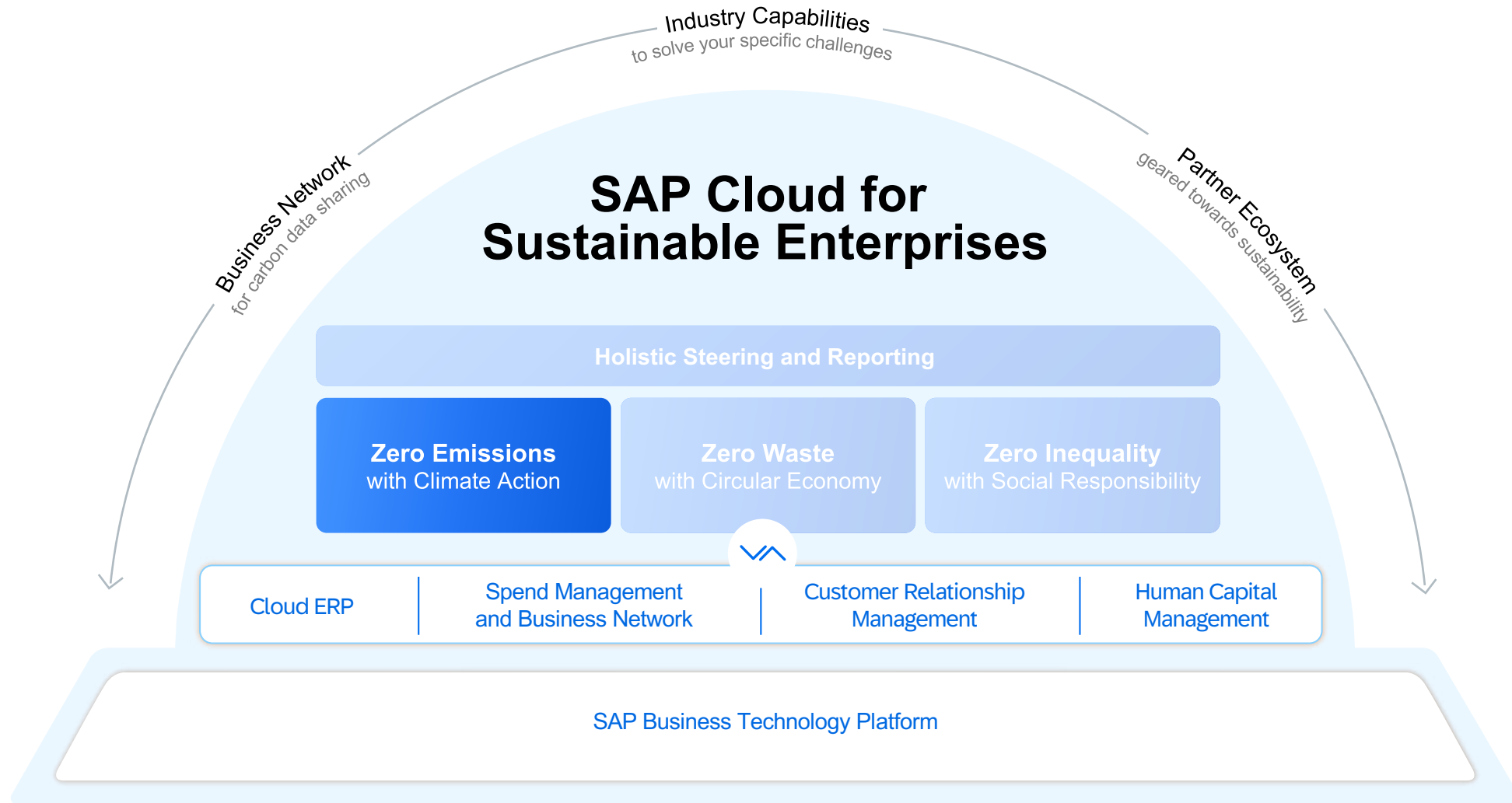
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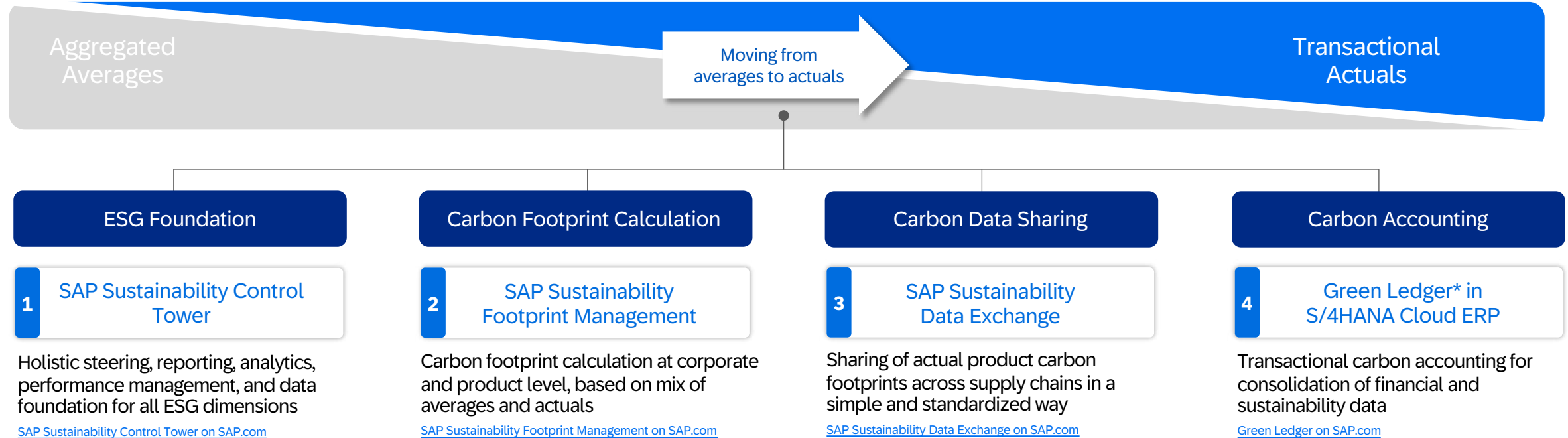
# SAP Cloud for Sustainable Enterprises



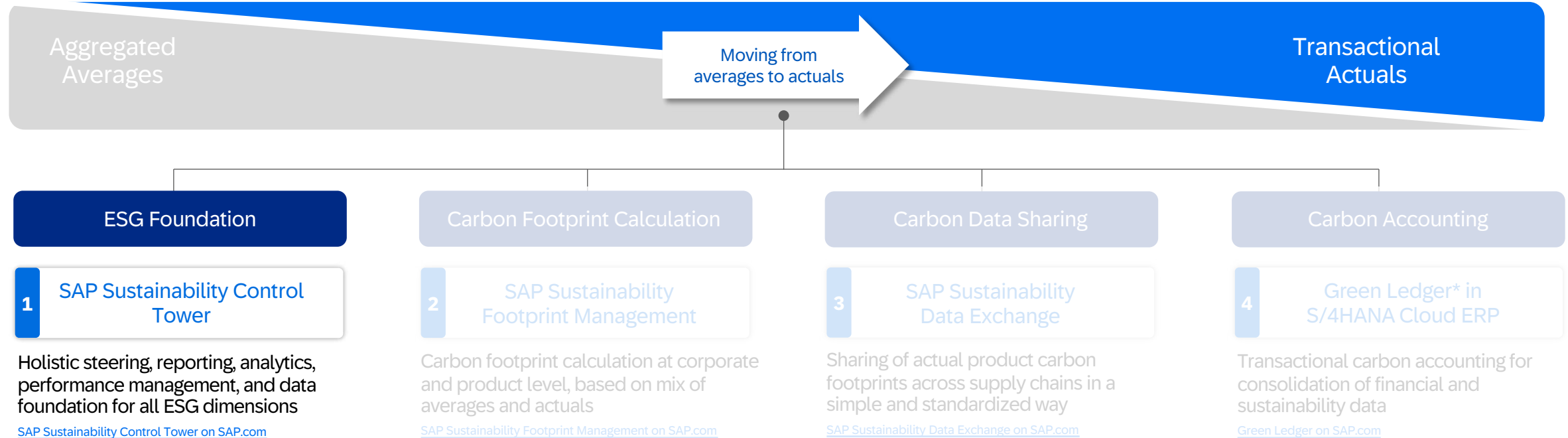
# SAP Cloud for Sustainable Enterprises



# Future proof journey towards Carbon Accounting



# Future proof journey towards Carbon Accounting



**EHS Emission Management**

**Insights**

**Water Consumption**  
Apr/2024

33.6 MI

**Water Withdrawal**  
Apr/2024

2.3K MI

**Steering**

**Our Ambitions**

## GHG Recording

**Manage Emission Inventory**



**Collect Emission Data**



**View Emission Dashboard**



### GHG Recording

**Manage Emission Inventory**

**Collect Emission Data**

**View Emission Dashboard**

**EU Taxonomy**

**Manage EU Taxonomy Activities and Criteria**

**Perform EU Taxonomy Alignment**

# Greenhouse Gas Emissions

Period: Q1, 2023 ▾ Business Location: Berlin Plant [8 More](#) ▾ Accounting Method: Location-based ▾

Gross Emissions (CO2e)

4.0M <sup>▾</sup><sub>t</sub>  
Q1, 2023

Net Emissions (CO2e)

4.0M <sup>▾</sup><sub>t</sub>  
Q1, 2023

Emissions Avoided by  
Renewables (CO2e)

0.0 <sub>t</sub>  
Q1, 2023

Offset (CO2e)

0.0 <sub>t</sub>  
Q1, 2023

Emissions Over Time



Overview Report Analytics

## Scope 1 (Gross Emissions)

Direct Emissions | CO2e

1,136.3 <sub>t</sub>

Share of Total Emissions



Stationary combustion	568.5 t
Mobile combustion	567.8 t

## Scope 2 (Gross Emissions)

Indirect Emissions / Purchased Energy | CO2e

209.8 <sub>t</sub>

Share of Total Emissions



Unclassified	209.8 t
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## Scope 3 (Gross Emissions)

Upstream and Downstream Company Activities | CO2e

4,027,151.5 <sub>t</sub>

Share of Total Emissions

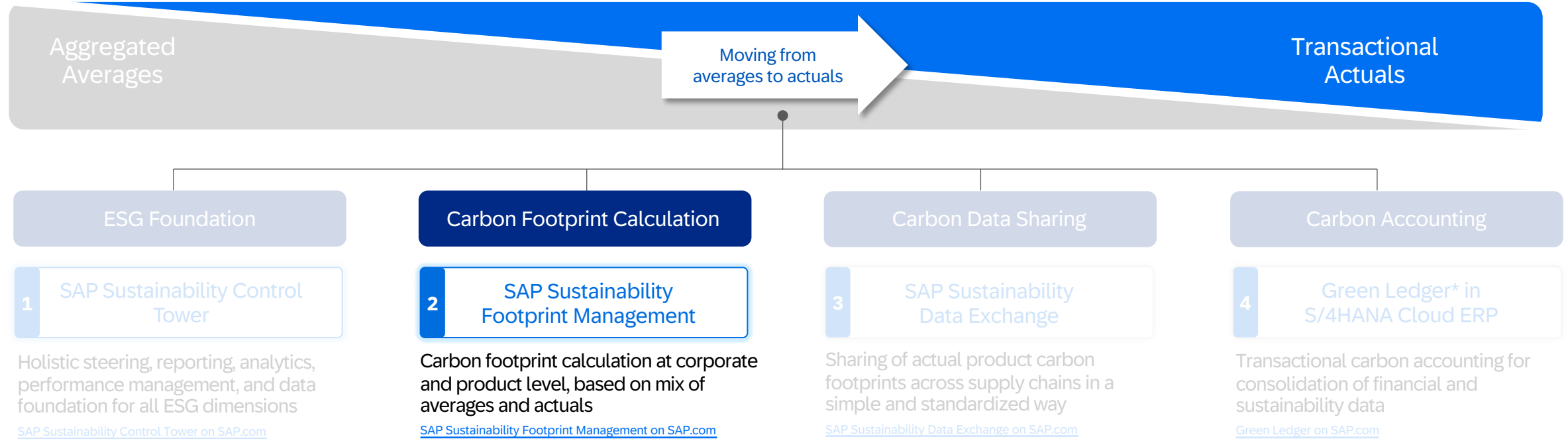


### Upstream Activities

Employee commuting	4.0M t
Business travel	17.7K t
Waste generated in ope...	2.3K t
Fuel and energy-related...	6.9 t



# Future proof journey towards Carbon Accounting



# Combine averages and actuals

Combine averages and actuals for value chain, product and corporate emissions covering scope 1, 2 and 3

## SAP Sustainability Footprint Management

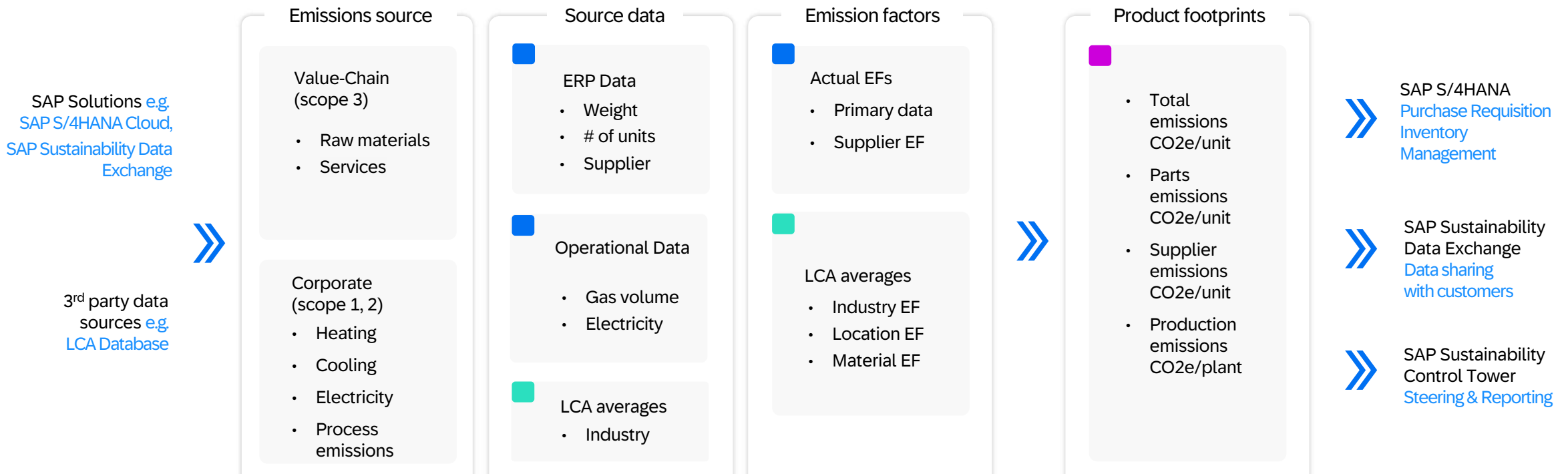
Data acquisition

Emission factors management

Footprint calculations

Footprint analytics

Footprint integration

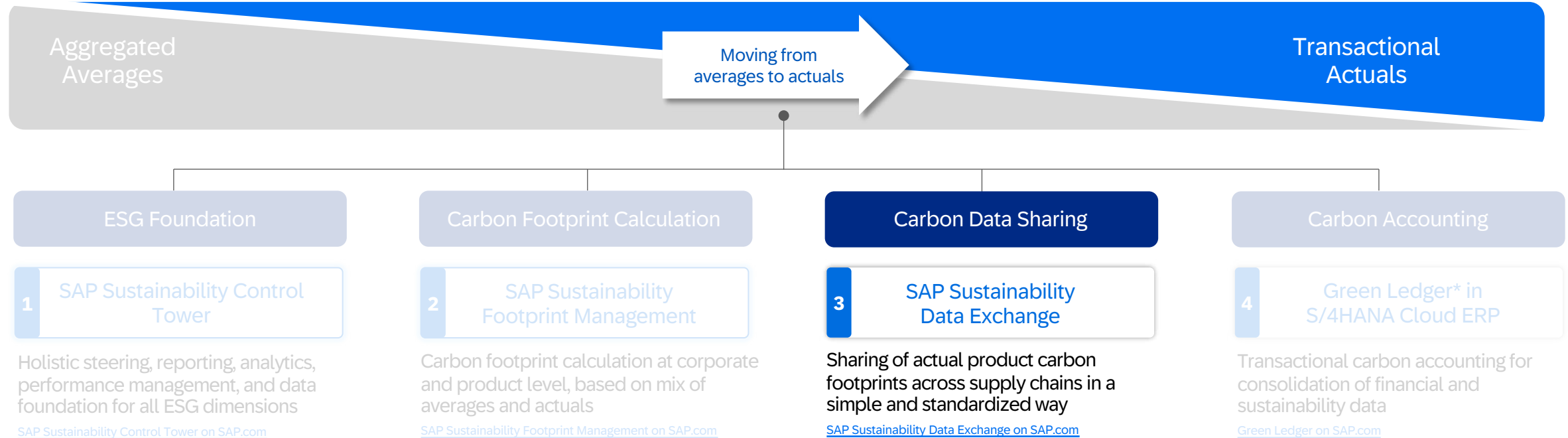


### Treat carbon like financials

Leverage the power of linking finance & emissions data | Know which product area emits most GHG per revenue earned | Know financial impact of choosing different suppliers | Know financial impact of a carbon tax

■ Averages ■ Actuals ■ Results

# Future proof journey towards Carbon Accounting



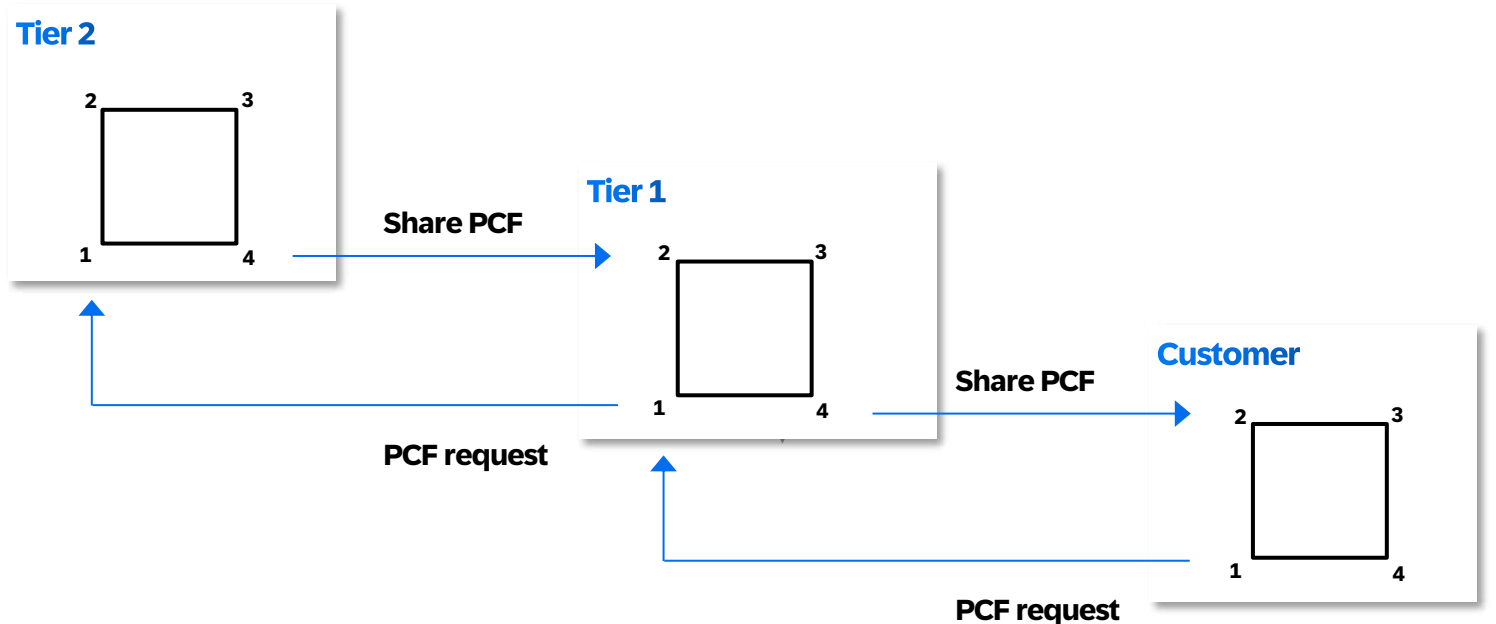
# How SAP Sustainability Data Exchange drives decarbonization

## Recurring process for supplier PCF exchange:

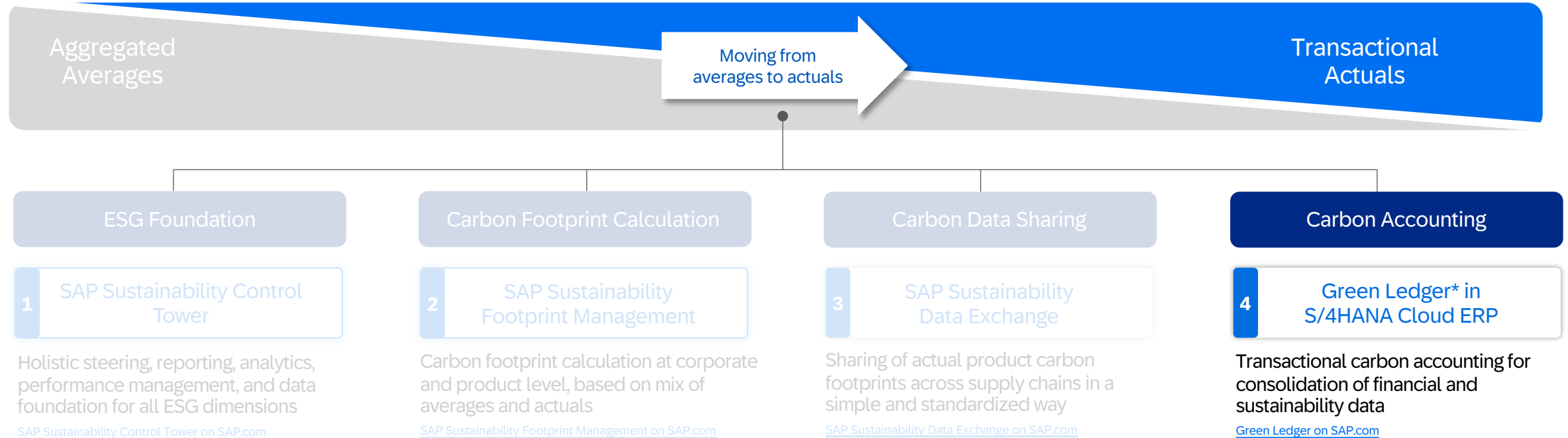
1. **Calculate and request** emissions with available data to identify emission hotspots on product and supplier level with SAP Sustainability Footprint Management
2. **Receive** PCF information from suppliers via **SAP Sustainability Data Exchange**
3. **Improve** calculation based on actuals in SAP Sustainability Footprint Management
4. **Share** PCF information to customers and partners via **SAP Sustainability Data Exchange**

## Additional exchange mechanisms supported:

- ✓ **Update existing values**
- ✓ **Proactively send values**

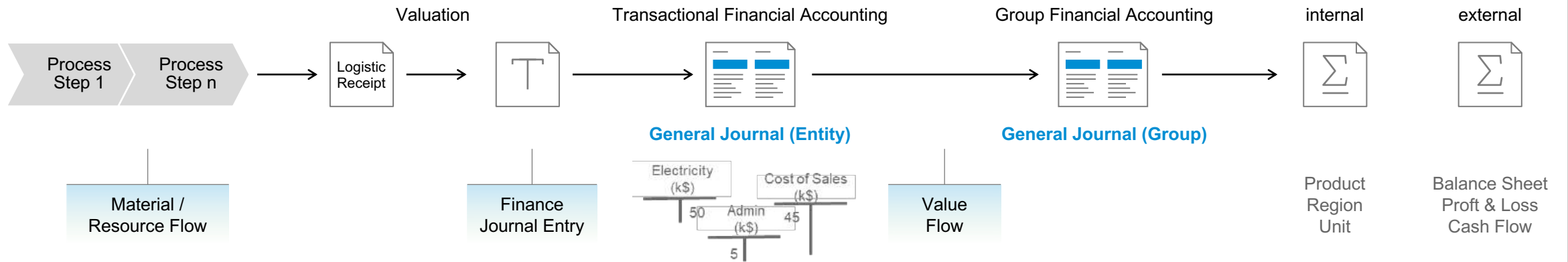


# Future proof journey towards Carbon Accounting

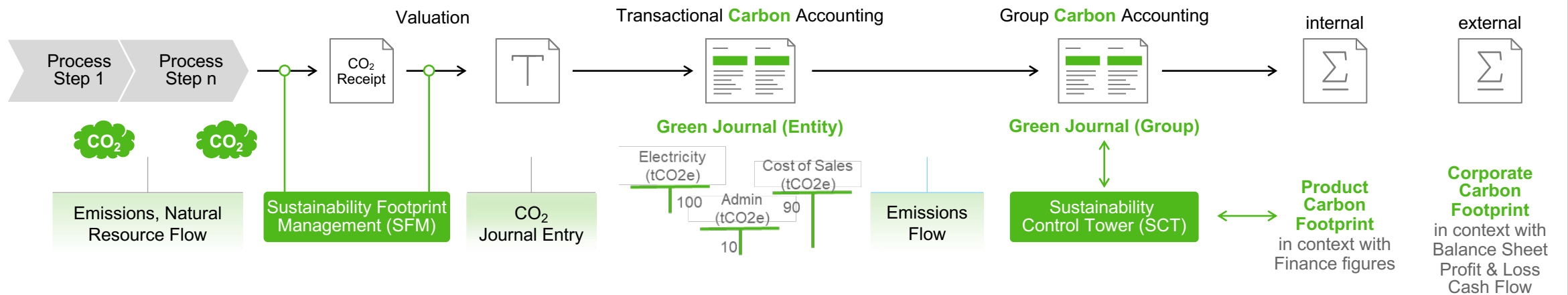


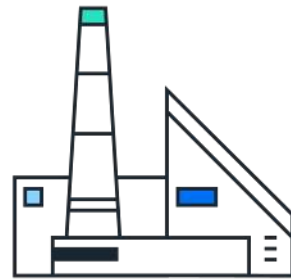
# Finance Accounting as blueprint for Sustainability Accounting

## Finance Accounting Practices based on Document Principle and General Journal



## Sustainability Accounting Practices based on Document Principle and Green Journal





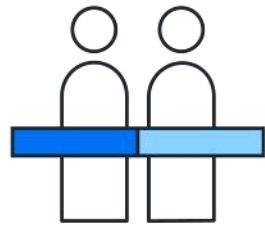
**This is Ammonia Corp.**

Max works in **Sales** at Ammonia Corp.



This is Marta. She works as a **sustainability analyst** at Ammonia Corp.

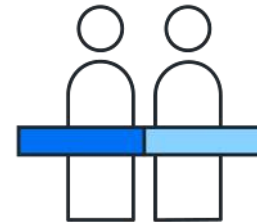




This is their client **Nitrofert**. They are an **emission-aware company** and want their supplier to be more sustainable.

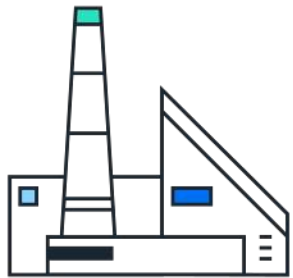


Max asks Marta to obtain the necessary sustainability data.



To do that, Nitrofert requires **detailed carbon footprints** of their supplier products.

**Nitrofert Inc.** also urges Ammonia Corp. to evaluate **more sustainable** suppliers



To lower emissions, AmmoniaQueen considers their different gas supplier options, but can't assess the specific impact.

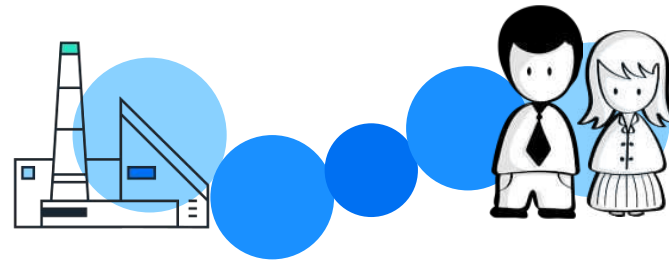


Comparing the supplier options and calculating the product footprint will cost Marta her well-earned weekend off

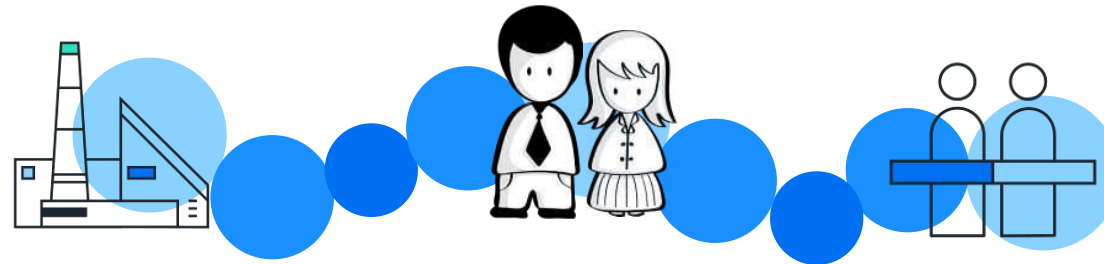
This would mean huge amount of workload for Marta and additional work for her colleagues in accounting.



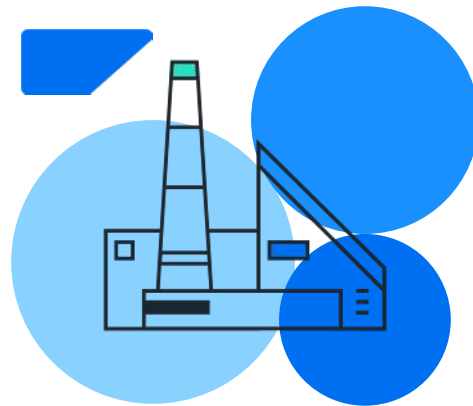
**“How can SAP Sustainability Footprint  
Management &  
Sustainability Data Exchange  
help tackling these challenges?”**



**“How can SAP Sustainability Footprint  
Management &  
Sustainability Data Exchange  
help tackling these challenges?”**

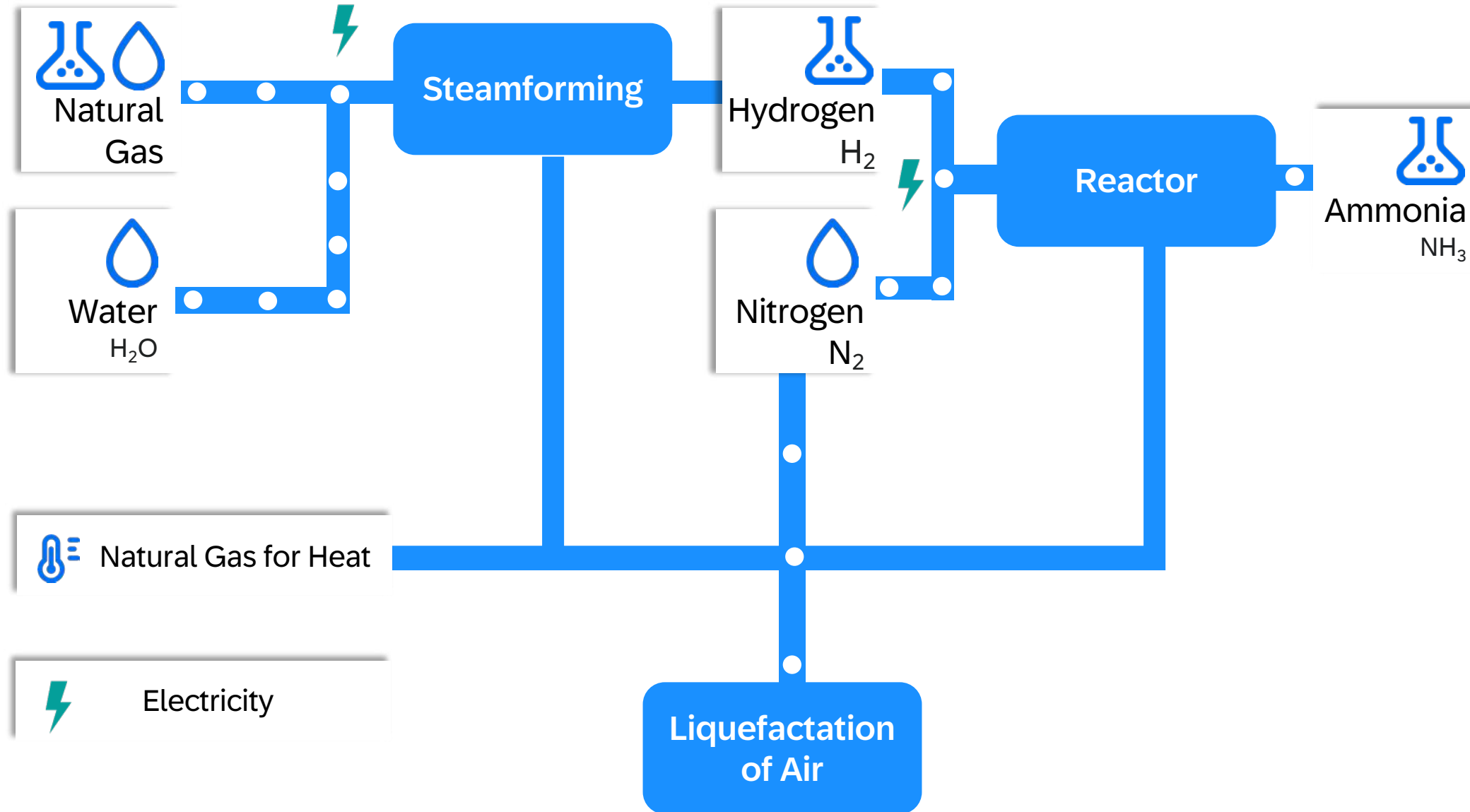


**“How can SAP Sustainability Footprint Management & Sustainability Data Exchange help tackling these challenges?”**



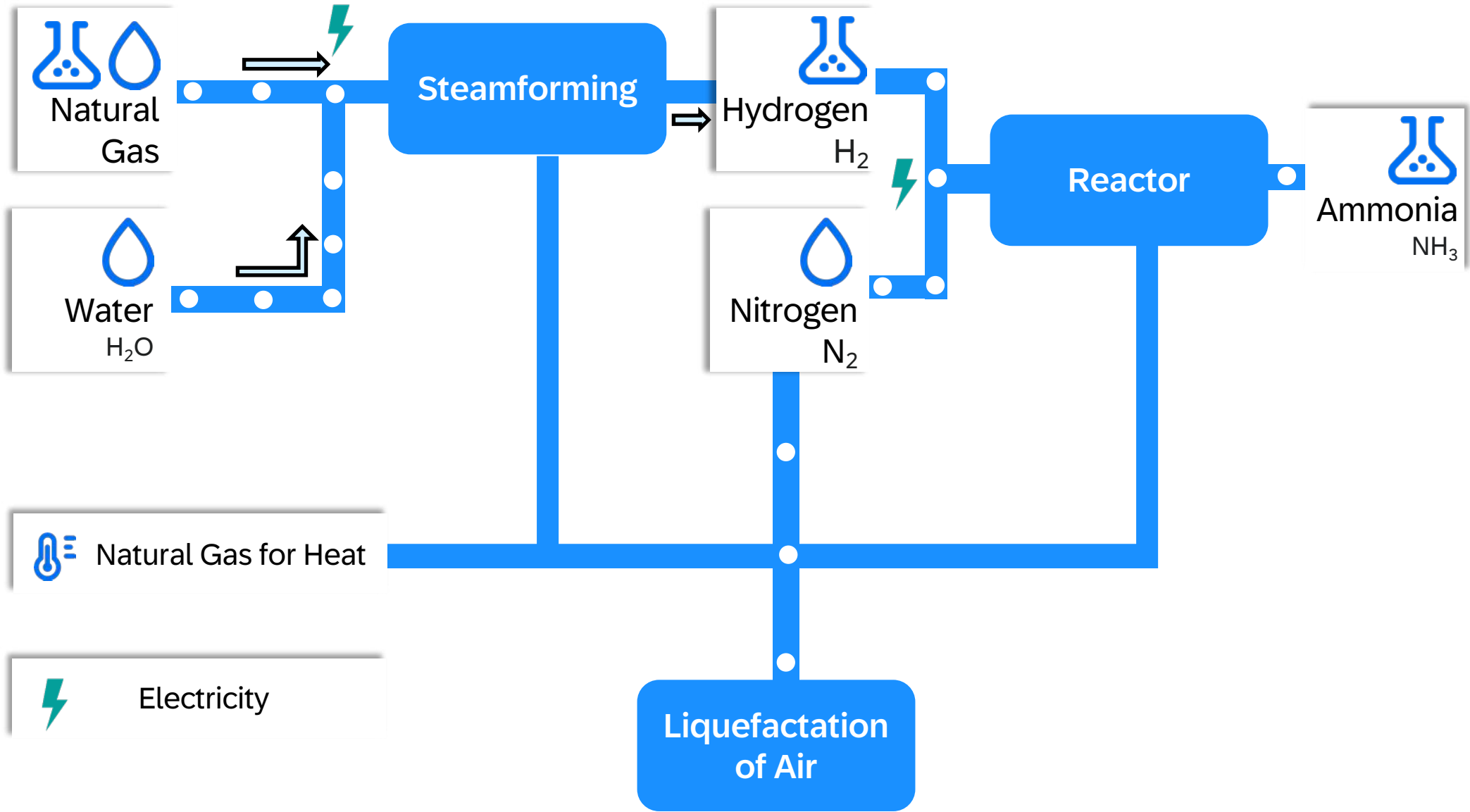
Good thing that Ammonia Corp.  
recently implemented  
**SAP Sustainability Footprint Management  
& Sustainability Data Exchange**

# Haber-Bosch-Process

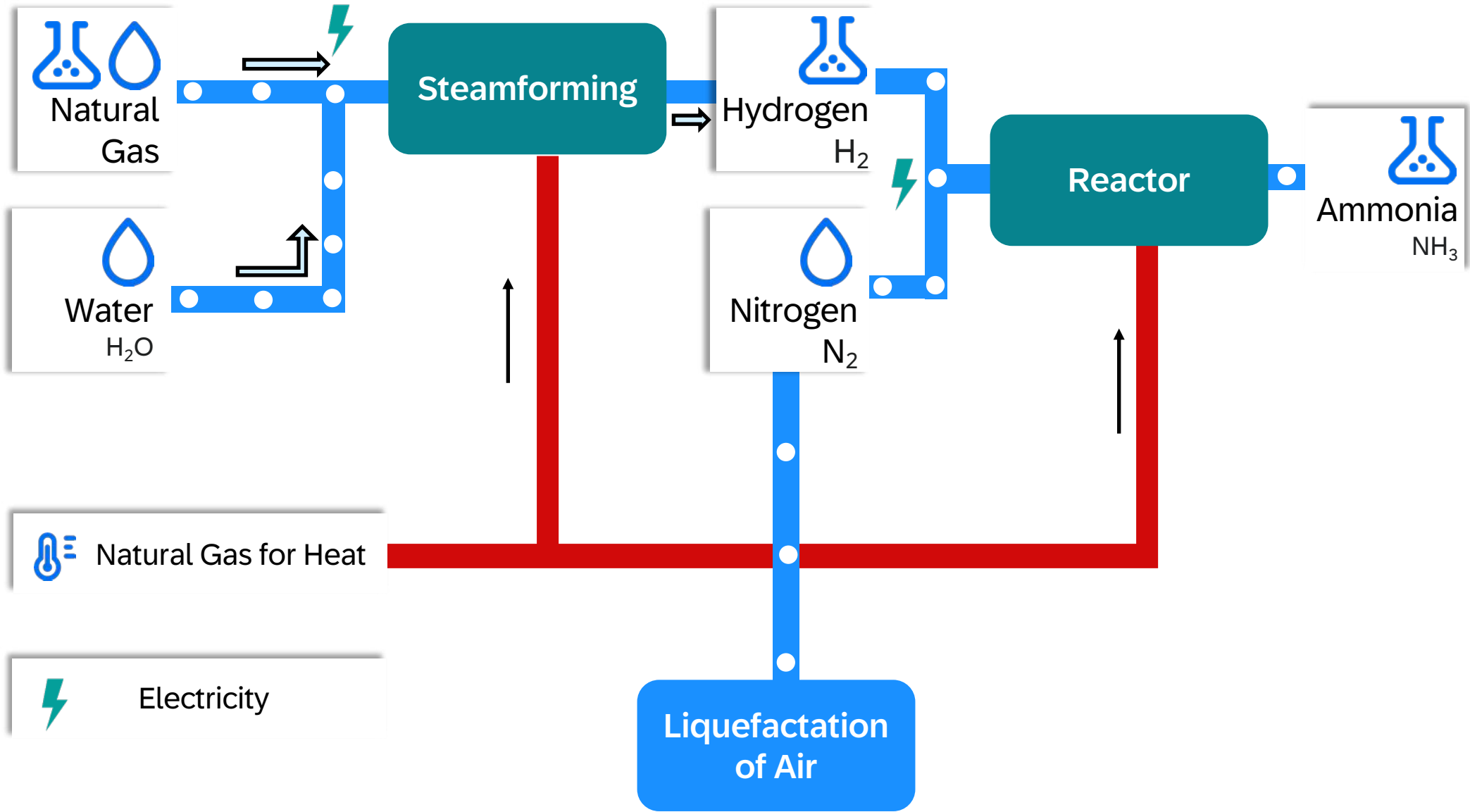




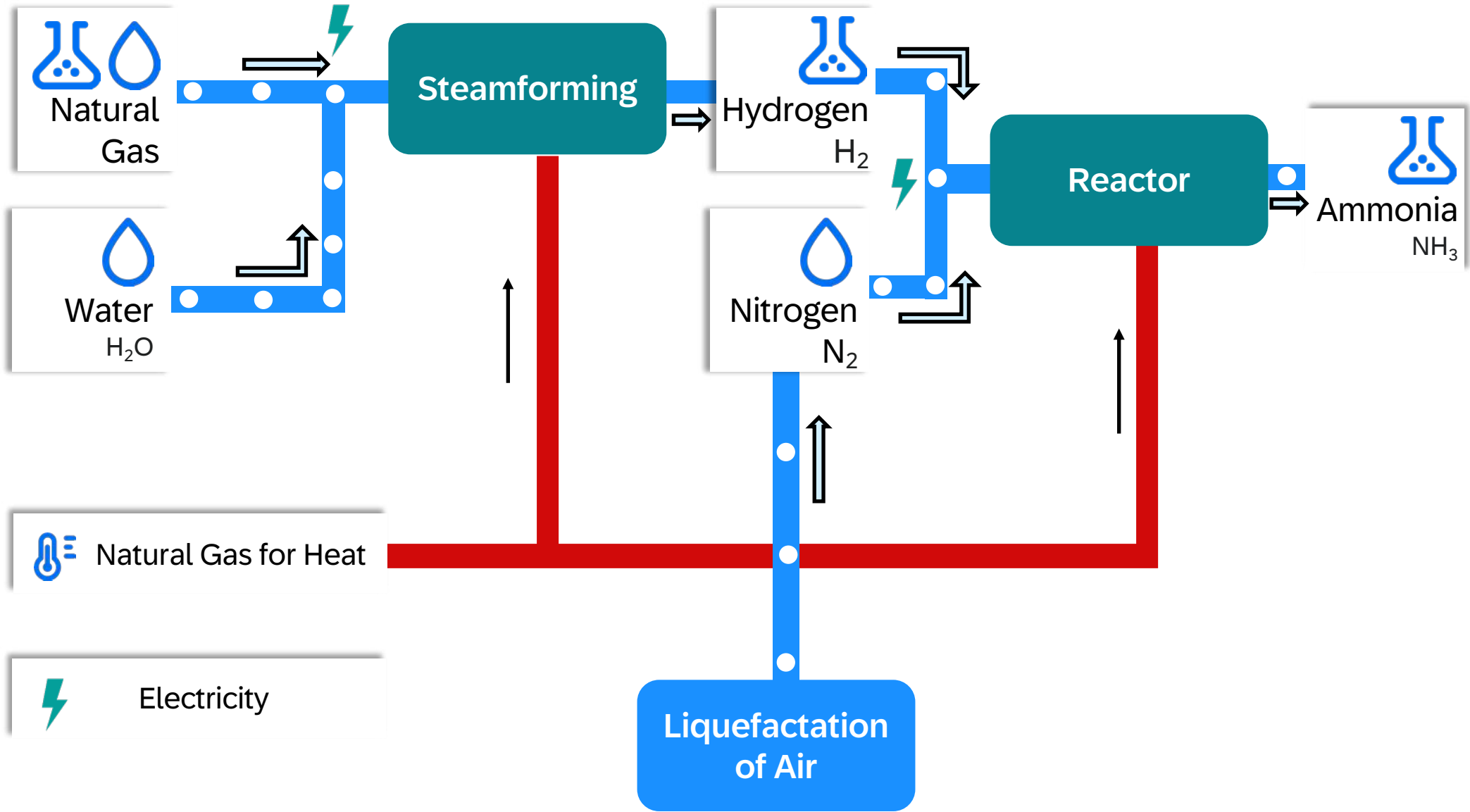
# Haber-Bosch-Process



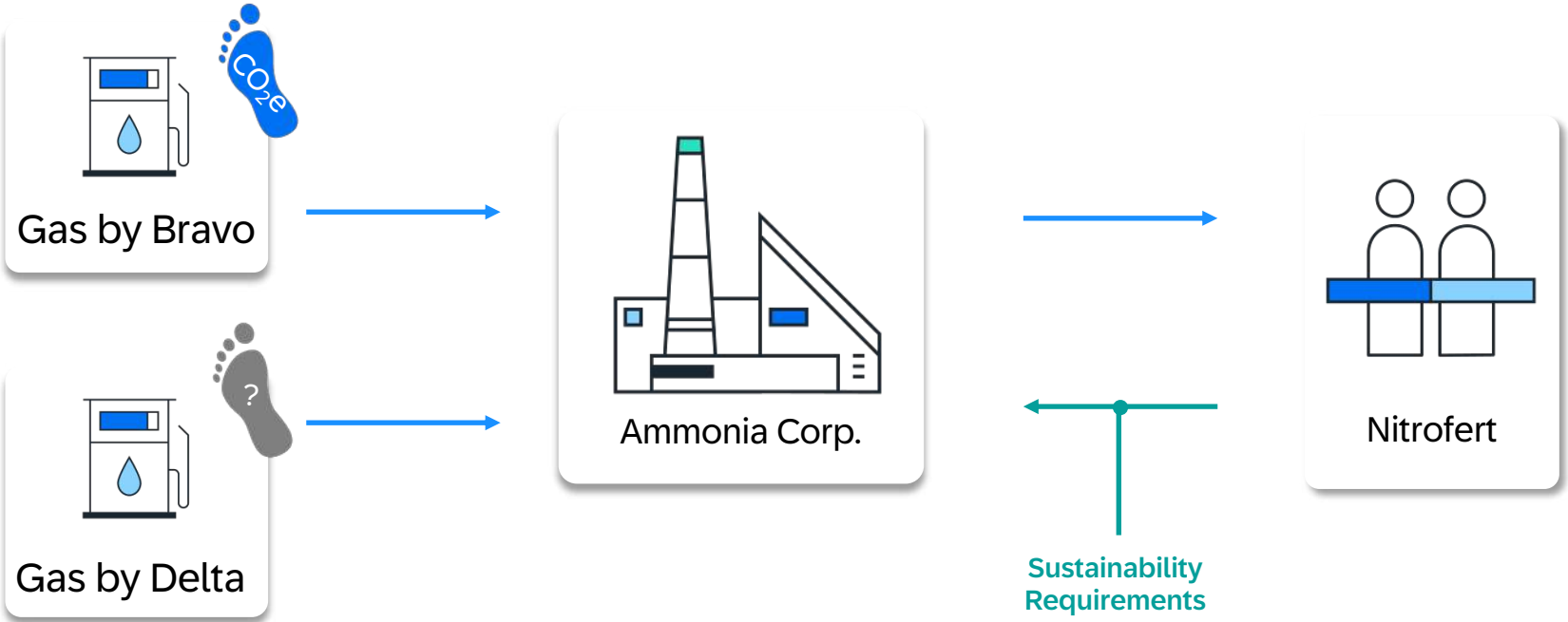
# Haber-Bosch-Process



# Haber-Bosch-Process



# Ammonia Corp's carbon footprint journey



Calculate **carbon footprint** of Ammonia Corp's products

**Granular footprint** satisfies Nitrofert's requirements

## Demo Part 1 – Gas supply by Bravo



### Communicate Footprints

- Manage Footprint Communication**
- Publish Product Footprints**  
Internal
- Publish Product Footprints**  
Carbon Data Exchan...

### Analyze Footprints

- Footprint Overview**
- Purchased Products**
- Sold Products**
- Energy Consumers**
- Waste Generated in Operations**
- Corporate Balance**

### Manage Footprint Calculations

- Import Business Transactions**
- Import Emission Data**
- Calculate Footprints**
- Monitor Business Logs**
- Manage Footprint Results**
- Manage GHG Data Collections**
- Record GHG Data**

### Manage Facilities

- Model Energy Flows**
- Manage Allocations**

### Manage Source Data

- Import Master Data**
- Manage Footprint Inventory Scopes**
- Manage Calculation Variants**
- Manage Emission Factors**
- Manage Mappings**
- Manage Purchased Product Footprints**
- Manage Supplier Footprints**
- Manage Units of Measure**
- Manage Planned Energy Consumption Rates**
- Manage Waste Footprints**

Standard ▾



Item Type:  Footprint Item:  Description:  Plant:  Valid On:  Go Adapt Filters

Organizational Footprints (38) Product Footprints (0)



Footprint Item	Description	Status	Item Type	Plant	Cycle	Product Quantity	Total CO2e
<b>Footprint Inventory: Ammonia Footprint February 2023 (Ammonia Calc. Feb 2023)</b>							
10010202/C6200	Natural Gas	Successful	Product	Ammonia B Production Facilities Operations (C6200)	No	610,340 Kilogram	167.21485 Ton
10010301/C6200	Water	Successful	Product	Ammonia B Production Facilities Operations (C6200)	No	704,000 Kilogram	0.03797 Ton
10010401/C6200	Nitrogen liquid	Successful	Product	Ammonia B Production Facilities Operations (C6200)	No	1,410,000 Kilogram	1.98204K Ton
10060443/C6200	Hydrogen	Successful	Product	Ammonia B Production Facilities Operations (C6200)	No	163,665 Kilogram	333.06882 Ton
10408	Echo	Successful	Supplier	Ammonia B Production Facilities Operations (C6200)	No		0.03797 Ton
14216	Alpha	Successful	Supplier	Ammonia B Production Facilities Operations (C6200)	No		1.98204K Ton
15220	Bravo	Successful	Supplier	Ammonia B Production Facilities Operations (C6200)	No		167.21485 Ton
20010444/C6200	Ammonia	Successful	Product	Ammonia B Production Facilities Operations (C6200)	No	1,000,000 Kilogram	2.97837K Ton
7125	Reactor	Successful	Resource	Ammonia B Production Facilities Operations (C6200)	No	1,440 Minutes	663.26400 Ton
7126	Steam Reformer	Successful	Resource	Ammonia B Production Facilities Operations (C6200)	No	1,440 Minutes	165.81600 Ton
790	Production 790	Successful	Production	Ammonia B Production Facilities Operations (C6200)	No		333.06882 Ton
791	Production 791	Successful	Production	Ammonia B Production Facilities Operations (C6200)	No		2.97837K Ton
C6200	Ammonia B Production Facilities Operations	Successful	Plant Output	Ammonia B Production Facilities Operations (C6200)	No		2.97837K Ton
ELECTRICITY METER REACTOR_B	Electricity Meter Reactor_B	Successful	Meter	Ammonia B Production Facilities Operations (C6200)	No	182,400 Kilowatt hour	65.66400 Ton
ELECTRICITY METER STEAMREFORMER_B	Electricity Meter Steamreformer_B	Successful	Meter	Ammonia B Production Facilities Operations (C6200)	No	45,600 Kilowatt hour	16.41600 Ton
ELECTRICITY_B	Electricity_B	Successful	Energy Source	Ammonia B Production Facilities Operations (C6200)	No	228,000 Kilowatt hour	82.08000 Ton
GAS METER REACTOR_B	Gas Meter Reactor_B	Successful	Meter	Ammonia B Production Facilities Operations (C6200)	No	7,968,000 Megajoule	597.60000 Ton
GAS METER REFORMER_B	Gas Meter Reformer_B	Successful	Meter	Ammonia B Production Facilities Operations (C6200)	No	1,992,000 Megajoule	149.40000 Ton
GAS_Bravo	Gas (Energy Source B)	Successful	Energy Source	Ammonia B Production Facilities Operations (C6200)	No	9,960,000 Megajoule	747.00000 Ton

### Ammonia

20010444/C6200

Publish 📄



Item Type	Plant	Period	Status	Total CO2e	CO2e per Unit	Publishing Status
Product	Ammonia B Production Facilities Operations	February 2023	Successful	2,978.36982 Ton	2.97837 Kilogram / 1 Kilogram	Ready to Publish ⓘ

Overview Input Output Error Log

#### Input / Output

##### Input

Ammonia: 2,978.36982 Ton

##### Output

Product

Product

Product



#### General Information

##### General Data

ID:  
20010444/C6200

Description:  
Ammonia

Calculated Period:  
Feb 1, 2023 - Feb 28, 2023

Footprint Inventory:  
Ammonia Footprint February 2023 (Ammonia Calc. Feb 2023)

Plant:  
Ammonia B Production Facilities Operations (C6200)

Cycle:  
No

##### Footprint Information

Total CO2e (Exact):  
2,978.369822856 Ton

Product Quantity (Exact):  
1,000,000 Kilogram

CO2e per Unit (Exact):  
2.978369822856 Kilogram / 1 Kilogram

Amount:  
-

CO2e per Spend Unit (Exact):  
-

##### Administrative Details

Created On:  
May 10, 2024, 1:40:20 PM

Created By:  
hui-lai.xie@sap.com

#### Breakdown Values

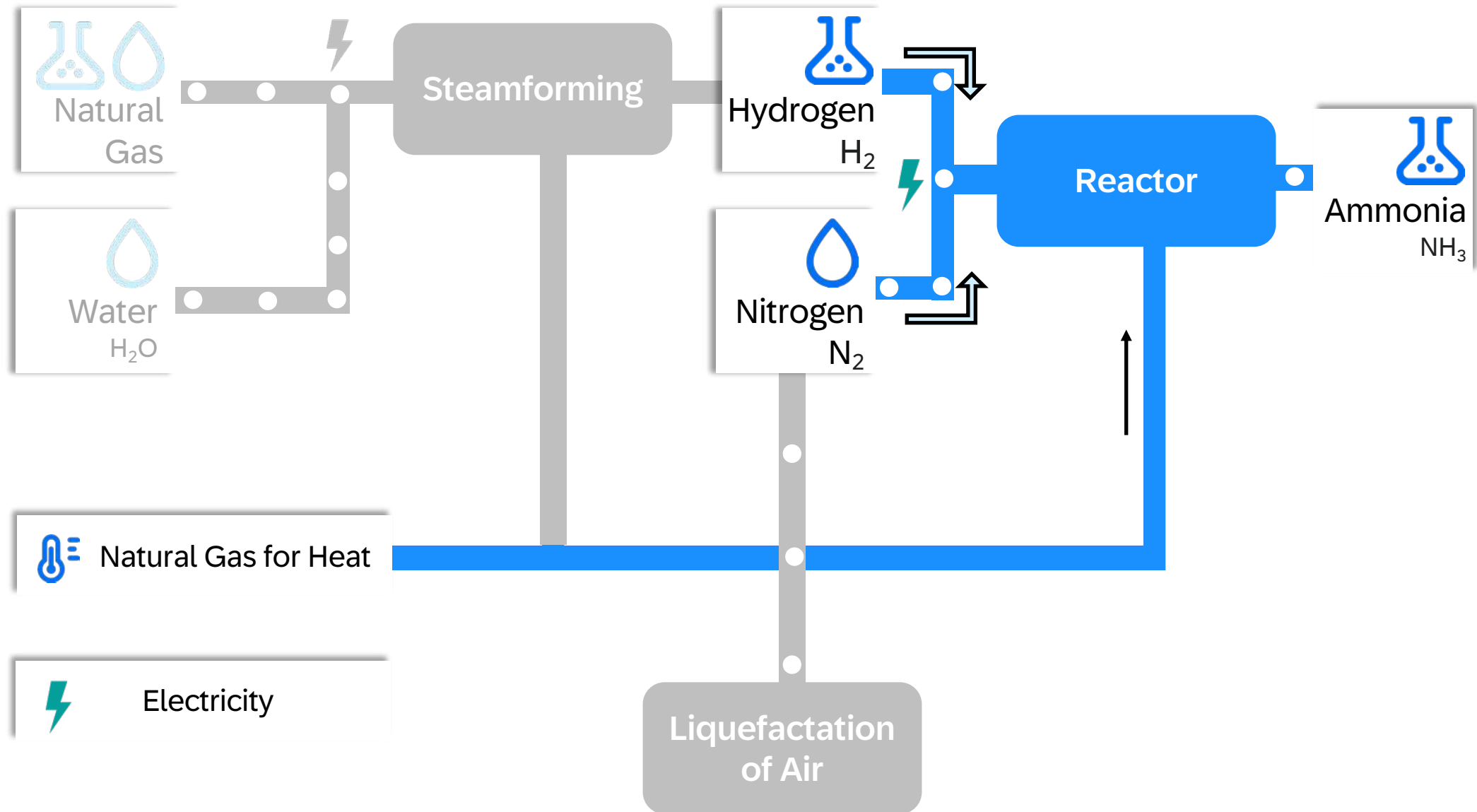
##### Breakdown Values (4)

Search Q ⚙️ 📄

GHG Category	Contribution	CO2e
Scope 1 - Stationary combustion	25.08 %	747.00000 Ton
Scope 2 - Electricity	2.76 %	82.08000 Ton
Scope 3.1 - Purchased goods and services	72.16 %	2.14929K Ton
Scope 3.3 - Fuel- and energy-related activities	0 %	0.00000 Ton



# Haber-Bosch-Process



### Production 791

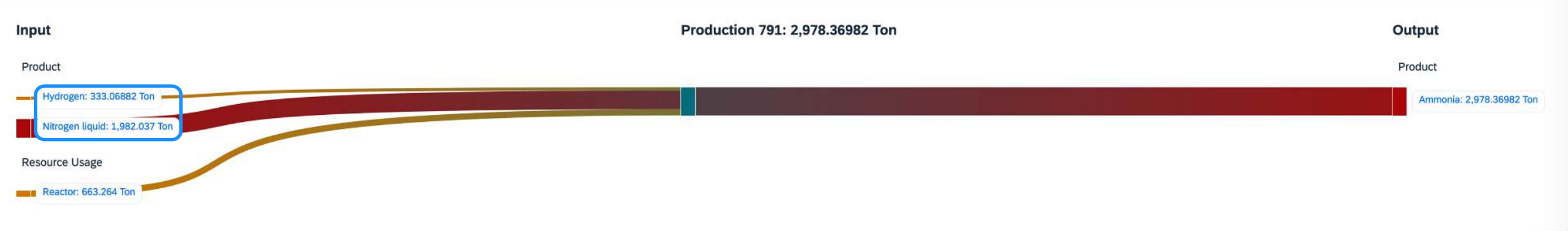
Publish

791

Item Type	Plant	Period	Status	Total CO2e	Publishing Status
Production	Ammonia B Production Facilities Operations	February 2023	Successful	2,978.36982 Ton	Cannot Publish ⓘ

Overview ▾ Input Output Error Log

#### Input / Output



#### General Information

General Data	Footprint Information	Administrative Details
ID: 791 Description: Production 791 Calculated Period: Feb 1, 2023 - Feb 28, 2023	Footprint Inventory: Ammonia Footprint February 2023 (Ammonia Calc. Feb 2023) Plant: Ammonia B Production Facilities Operations (C6200) Cycle: No	Amount: - CO2e per Spend Unit (Exact): - Created On: May 10, 2024, 1:40:20 PM Created By: hui-lai.xie@sap.com

#### Breakdown Values

**Breakdown Values (4)**

GHG Category	Contribution	CO2e
Scope 1 - Stationary combustion	25.08 %	747.00000 Ton
Scope 2 - Electricity	2.76 %	82.08000 Ton

### Production 791

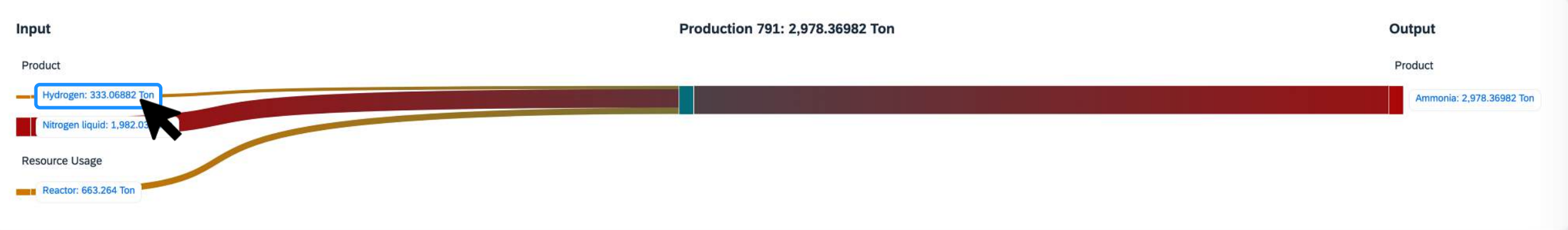
Publish

791

Item Type	Plant	Period	Status	Total CO2e	Publishing Status
Production	Ammonia B Production Facilities Operations	February 2023	Successful	2,978.36982 Ton	Cannot Publish ⓘ

Overview  Input  Output  Error Log

#### Input / Output



#### General Information

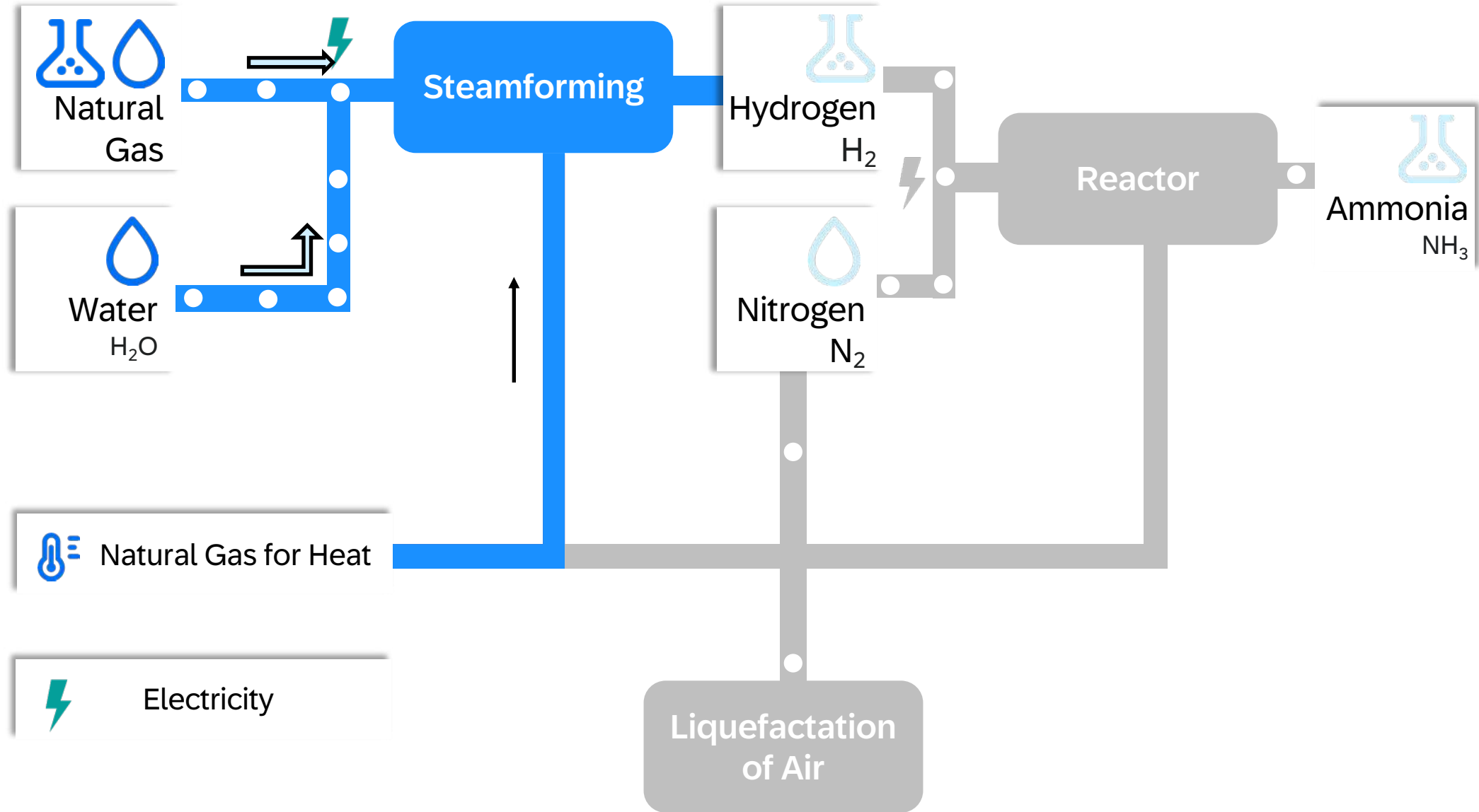
General Data	Footprint Information	Administrative Details
ID: 791 Description: Production 791 Calculated Period: Feb 1, 2023 - Feb 28, 2023	Footprint Inventory: Ammonia Footprint February 2023 (Ammonia Calc. Feb 2023) Plant: Ammonia B Production Facilities Operations (C6200) Cycle: No	Amount: - CO2e per Spend Unit (Exact): - Created On: May 10, 2024, 1:40:20 PM Created By: hui-lai.xie@sap.com

#### Breakdown Values

**Breakdown Values (4)**

GHG Category	Contribution	CO2e
Scope 1 - Stationary combustion	25.08 %	747.00000 Ton
Scope 2 - Electricity	2.76 %	82.08000 Ton

# Haber-Bosch-Process



## Production 790

790

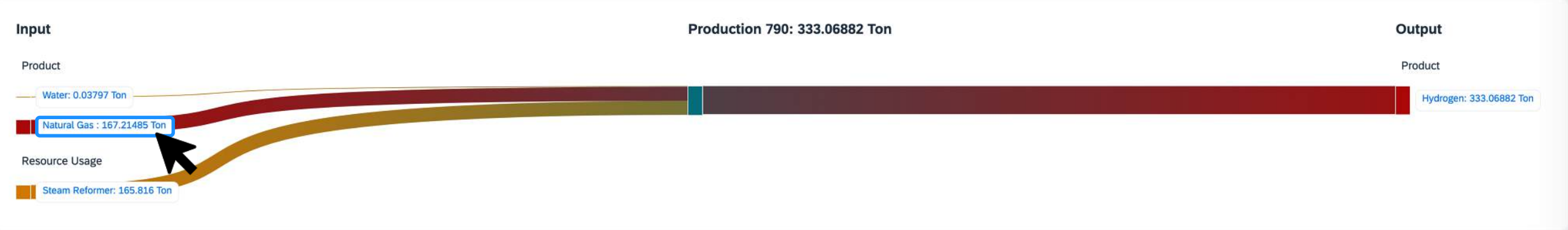


Item Type	Plant	Period	Status	Total CO2e	Publishing Status
Production	Ammonia B Production Facilities Operations	February 2023	Successful	333.06882 Ton	Cannot Publish ⓘ

Publish

Overview ▾ Input Output Error Log

### Input / Output



### General Information

General Data	Footprint Information	Administrative Details
ID: 790 Description: Production 790 Calculated Period: Feb 1, 2023 - Feb 28, 2023	Footprint Inventory: <a href="#">Ammonia Footprint February 2023 (Ammonia Calc. Feb 2023)</a> Plant: <a href="#">Ammonia B Production Facilities Operations (C6200)</a> Cycle: No	Amount: - CO2e per Spend Unit (Exact): - Created On: May 10, 2024, 1:40:20 PM Created By: hui-lai.xie@sap.com

### Breakdown Values

**Breakdown Values (4)**

GHG Category	Contribution	CO2e
Scope 1 - Stationary combustion	44.86 %	149.40000 Ton
Scope 2 - Electricity	4.93 %	16.41600 Ton

### Natural Gas

10010202/C6200

Publish

Item Type	Plant	Period	Status	Total CO2e	CO2e per Unit	Publishing Status
Product	Ammonia B Production Facilities Operations	February 2023	Successful	167.21485 Ton	0.27397 Kilogram / 1 Kilogram	Ready to Publish ⓘ



Overview  Input  Output  Error Log

#### Input / Output

##### Input

**Natural Gas : 167.21485 Ton**

##### Output



#### General Information

General Data	Footprint Information	Administrative Details
ID: 10010202/C6200 Description: Natural Gas Calculated Period: Feb 1, 2023 - Feb 28, 2023	Footprint Inventory: Ammonia Footprint February 2023 (Ammonia Calc. Feb 2023) Plant: Ammonia B Production Facilities Operations (C6200) Cycle: No Total CO2e (Exact): 167.2148498 Ton Product Quantity (Exact): 610,340 Kilogram	CO2e per Unit (Exact): 0.27397 Kilogram / 1 Kilogram Amount: - CO2e per Spend Unit (Exact): - Created On: May 10, 2024, 1:40:20 PM Created By: hui-lai.xie@sap.com

#### Breakdown Values

##### Breakdown Values (1)

Search

GHG Category	Contribution	CO2e
Scope 3.1 - Purchased goods and services	100 %	167.21485 Ton

## Natural Gas

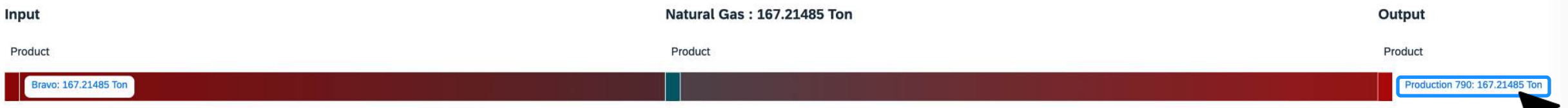
10010202/C6200

Publish

Item Type	Plant	Period	Status	Total CO2e	CO2e per Unit	Publishing Status
Product	Ammonia B Production Facilities Operations	February 2023	Successful	167.21485 Ton	0.27397 Kilogram / 1 Kilogram	Ready to Publish ⓘ

Overview

### Input / Output



### General Information

General Data	Footprint Information	Administrative Details
ID: 10010202/C6200 Description: Natural Gas Calculated Period: Feb 1, 2023 - Feb 28, 2023	Footprint Inventory: <a href="#">Ammonia Footprint February 2023 (Ammonia Calc. Feb 2023)</a> Plant: <a href="#">Ammonia B Production Facilities Operations (C6200)</a> Cycle: No Total CO2e (Exact): 167.2148498 Ton Product Quantity (Exact): 610,340 Kilogram	CO2e per Unit (Exact): 0.27397 Kilogram / 1 Kilogram Amount: - CO2e per Spend Unit (Exact): - Created On: May 10, 2024, 1:40:20 PM Created By: hui-lai.xie@sap.com

### Breakdown Values

**Breakdown Values (1)**

GHG Category	Contribution	CO2e
Scope 3.1 - Purchased goods and services	100 %	167.21485 Ton



## Ammonia

20010444/C6200

Publish

Item Type	Plant	Period	Status	Total CO2e	CO2e per Unit	Publishing Status
Product	Ammonia B Production Facilities Operations	February 2023	Successful	2,978.36982 Ton	2.97837 Kilogram / 1 Kilogram	Ready to Publish ⓘ



Overview ▾ Input Output Error Log

### Input / Output

#### Input

Product

**Ammonia: 2,978.36982 Ton**

Product

#### Output

Product

Production 791: 2,978.36982 Ton

Ammonia B Production Facilities...: 2,978.36982 Ton

### General Information

#### General Data

ID:  
20010444/C6200

Description:  
Ammonia

Calculated Period:  
Feb 1, 2023 - Feb 28, 2023

Footprint Inventory:  
[Ammonia Footprint February 2023 \(Ammonia Calc. Feb 2023\)](#)

Plant:  
[Ammonia B Production Facilities Operations \(C6200\)](#)

Cycle:  
No

#### Footprint Information

Total CO2e (Exact):  
2,978.369822856 Ton

Product Quantity (Exact):  
1,000,000 Kilogram

#### Administrative Details

Created On:  
May 10, 2024, 1:40:20 PM

Created By:  
hui-lai.xie@sap.com

CO2e per Unit (Exact):  
2.978369822856 Kilogram / 1 Kilogram

Amount:  
-

CO2e per Spend Unit (Exact):  
-

### Breakdown Values

#### Breakdown Values (4)

Search

GHG Category	Contribution	CO2e
Scope 1 - Stationary combustion	25.08 %	747.00000 Ton
Scope 2 - Electricity	2.76 %	82.08000 Ton
Scope 3.1 - Purchased goods and services	72.16 %	2.14929K Ton
Scope 3.3 - Fuel- and energy-related activities	0 %	0.00000 Ton



## Demo Part 2 – Gas supply by Delta



## Hello, Hui-Lai

### Open Activities



**You are up to date!**

You don't have any open activities.

### Sustainability Data Exchange

Import Footprint Data



Manage Supplier Footprint Exchanges



Manage Customer Footprint Exchanges



Manage Footprints



### Administration

Import Master Data



View Company Profile



View Partners

4

Partners

Get Activity Logs



## Footprint Inventory Standard ▾

[Reset Filter](#)

Product (ID):  Data Owner:  Footprint Status:



### Product Footprint (5)

[Import](#) [Synchronize ?](#) [Export | ▾](#)

Product (ID)	Data Owner	Footprint Status
Ammonia (20010444)	Ammonia Corp. ✓	No data >
Natural Gas (10010202)	Delta	No data >
Natural Gas (10010202)	Bravo	No data >
Nitrogen liquid (10010401)	Alpha	No data >
Water (10010301)	Echo	No data >

**Footprint Inventory** Standard ▾

[Reset Filter](#)

Product (ID):  Data Owner:  Footprint Status:



**Product Footprint (5)**

[Import](#) [Synchronize ?](#) [Export | ▾](#)

Product (ID)	Data Owner	Footprint Status
Ammonia (20010444)	Ammonia Corp. ✓	No data >
Natural Gas (10010202)	Delta	No data >
Natural Gas (10010202)	Bravo	No data >
Nitrogen liquid (10010401)	Alpha	No data >
Water (10010301)	Echo	No data >



# Natural Gas

Product ID: 10010202

Show Footprint history

- General Information
- Footprint Data**
- Exchange

## Footprint Details

Status  
**No data**

Data Owner  
**Delta**

## Footprint Data



**No footprint data yet.**  
Please request information about the product carbon footprint from your supplier.

## Exchange

**Manage Supplier Exchange**  
Referring to Natural Gas

Delta  
Supplier

**Not requested**  
Footprint Exchange

# Natural Gas

Product ID: 10010202

Show Footprint history

- General Information
- Footprint Data
- Exchange

## Footprint Details

Status

**No data**

Data Owner

**Delta**

## Footprint Data



**No footprint data yet.**

Please request information about the product carbon footprint from your supplier.

## Exchange

**Manage Supplier Exchange**

Referring to Natural Gas



Delta  
Supplier



**Not requested**  
Footprint Exchange



## Supplier Footprint Exchange Standard ▾

[Reset Filter](#)

Product (ID):   Supplier:   Exchange Status:  ▾ Footprint Status:  ▾

 Group by Bill of Materials 

### Supplier Footprint Exchanges (1)

<input type="checkbox"/> Product (ID)	Supplier	Exchange Status	Footprint Status
<input type="checkbox"/> <a href="#">Natural Gas (10010202)</a>	Delta	Not requested	<a href="#">No data</a> >

### Supplier Footprint Exchange Standard ▾

[Reset Filter](#)

Product (ID):   Supplier:   Exchange Status:  ▾ Footprint Status:  ▾

Group by Bill of Materials

#### Supplier Footprint Exchanges (1)

<input type="checkbox"/> Product (ID)	Supplier	Exchange Status	Footprint Status
<input type="checkbox"/> <a href="#">Natural Gas (10010202)</a>	Delta	Not requested	No data





### Supplier Footprint Exchange Standard ▾

[Reset Filter](#)

Product (ID):   Supplier:   Exchange Status:  ▾ Footprint Status:  ▾

Group by Bill of Materials

#### Supplier Footprint Exchanges (1)

<input type="checkbox"/> Product (ID)	Supplier	Exchange Status	Footprint Status
<input type="checkbox"/> <a href="#">Natural Gas (10010202)</a>	Delta	Not requested	No data <input type="button" value="&gt;"/>

### Delta

#### Product Footprint

Product (ID):  
[Natural Gas \(10010202\)](#)

Footprint Status:  
No data

#### Supplier Process

Exchange Status:  
Not requested

Comment :

[Request Footprint](#)

#### Activity

Only shared with your supplier Delta

### Supplier Footprint Exchange Standard ▾

[Reset Filter](#)

Product (ID):   Supplier:   Exchange Status:  ▾ Footprint Status:  ▾

Group by Bill of Materials

#### Supplier Footprint Exchanges (1)

<input type="checkbox"/>	Product (ID)	Supplier	Exchange Status	Footprint Status
<input type="checkbox"/>	Natural Gas (10010202)	Delta	Requested	No data

### Delta

✕

#### Product Footprint

Product (ID):  
**Natural Gas (10010202)**

Footprint Status:  
No data

#### Supplier Process



#### Footprint requested

We'll notify your supplier that you have requested data.

[View Supplier Process](#)

#### Activity

Only shared with your supplier Delta

- ← **Ammonia Corp.** requested the Product Carbon Footprint for **Natural Gas**  
13/05/24 21:48 PM

## Hello, Hui-Lai

### Open Activities

Manage Customer Footprint Exchanges



1

Pending Requests

### Sustainability Data Exchange

Import Footprint Data



Manage Supplier Footprint Exchanges



Manage Customer Footprint Exchanges



Manage Footprints



### Administration

Import Master Data



View Company Profile



View Partners

4

Partners

Get Activity Logs



**Customer Footprint Exchange** Standard ▾

[Reset Filter](#)

Product (ID):  Customer:  Exchange Status: Requested ▾ Footprint Status: All ▾

**Customer Footprint Exchanges (1)**

<input type="checkbox"/>	Product (ID)	Customer	Exchange Status	Footprint Status	Update
<input type="checkbox"/>	Natural Gas (10010202)	Ammonia Corp.	Requested	Valid	>

Customer Footprint Exchange Standard ▾

Reset Filter

Product (ID):  Customer:  Exchange Status: Requested ▾ Footprint Status: All ▾

Customer Footprint Exchanges (1)

<input type="checkbox"/>	Product (ID)	Customer	Exchange Status	Footprint Status	Update
<input type="checkbox"/>	Natural Gas (10010202)	Ammonia Corp.	Requested	Valid	>

Ammonia Corp.

Product Footprint

Product (ID):  
**Natural Gas (10010202)**

Footprint Status:  
Valid

Validity period:  
31 Dec 2023 - 31 Dec 2024

Data Quality:  
Primary Data Share 30 %

Total Emissions:  
**0.36 kgCO<sub>2</sub>e / megajoule**  
Fossil GHG Emissions 0.36 kgCO<sub>2</sub>e / megajoule (100 %)  
Biogenic Emissions 0 kgCO<sub>2</sub>e / megajoule (0 %)

Carbon Content:  
**0.5 kgC / megajoule**  
Fossil Carbon Content 0.2 kgC / megajoule (40 %)  
Biogenic Carbon Content 0.3 kgC / megajoule (60 %)

Customer Process

Exchange Status: Requested Included Update: -

Comment :

Activity

Only shared with your customer Ammonia Corp.

→ Ammonia Corp. requested the Product Carbon Footprint for Natural Gas

### Analyze Footprints

Footprint Overview



Purchased Products



Sold Products



Energy Consumers



Waste Generated in Operations



Corporate Balance



### Manage Footprint Calculations

Import Business Transactions



Import Emission Data



Calculate Footprints



Monitor Business Logs



Manage Footprint Results



Manage GHG Data Collections



Record GHG Data



### Manage Facilities

Model Energy Flows



Manage Allocations



### Manage Source Data

Import Master Data



Manage Footprint Inventory Scopes



Manage Calculation Variants



Manage Emission Factors



Manage Mappings



Manage Purchased Product Footprints



Manage Supplier Footprints



1

Pending Reviews

Manage Units of Measure



Manage Planned Energy Consumption Rates



Manage Waste Footprints



### Analyze Footprints

Footprint Overview



Purchased Products



Sold Products



Energy Consumers



Waste Generated in Operations



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### Manage Footprint Calculations

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Import Master Data



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Manage Emission Factors



Manage Mappings



Manage Purchased Product Footprints



Manage Supplier Footprints



1  
Pending Reviews



Manage Units of Measure



Manage Planned Energy Consumption Rates



Manage Waste Footprints



Standard

Editing Status:  Product:  Supplier:  Valid On:

Go Adapt Filters (1)

Pending Reviews (1) Processed Entries (1) Inconsistent (0)

### Supplier Footprints

Import Download Template Assign Plants Release Reject

Product	Supplier	Plants	Valid From	Valid To	CO2e per Unit	Product Quantity	Primary Data Share
<input type="checkbox"/> Natural Gas_ (10010202)	Delta (11212)	0	Dec 31, 2023	Dec 31, 2026	0.3596 kgCO2e / Megajoule	1 Megajoule	30 %





Standard ▾

Editing Status:  Product:  Supplier:  Valid On:

**Go** Adapt Filters (1)

[Pending Reviews \(1\)](#) [Processed Entries \(1\)](#) [Inconsistent \(0\)](#)

### Supplier Footprints

[Import](#) [Download Template](#) [Assign Plants](#) [Release](#) [Reject](#)

<input checked="" type="checkbox"/>	Product	Supplier	Plants	Valid From	Valid To	CO2e per Unit	Product Quantity	Primary Data Share	
<input checked="" type="checkbox"/>	Natural Gas (10010202)	Delta (11212)	0	Dec 31, 2023	Dec 31, 2026	0.3596 kgCO2e / Megajoule	1 Megajoule	30 % <input type="range" value="30"/>	>

### Communicate Footprints

**Manage Footprint Communication**

**Publish Product Footprints**  
Internal

**Publish Product Footprints**  
Carbon Data Exchan...

### Analyze Footprints

**Footprint Overview**

**Purchased Products**

**Sold Products**

**Energy Consumers**

**Waste Generated in Operations**

**Corporate Balance**

### Manage Footprint Calculations

**Import Business Transactions**

**Import Emission Data**

**Calculate Footprints**

**Monitor Business Logs**

**Manage Footprint Results**

**Manage GHG Data Collections**

**Record GHG Data**

### Manage Facilities

**Model Energy Flows**

**Manage Allocations**

### Manage Source Data

**Import Master Data**

**Manage Footprint Inventory Scopes**

**Manage Calculation Variants**

**Manage Emission Factors**

**Manage Mappings**

**Manage Purchased Product Footprints**

**Manage Supplier Footprints**

**Manage Units of Measure**

**Manage Planned Energy Consumption Rates**

**Manage Waste Footprints**

**Standard** ▾

No filters active

**Organizational Footprints (38)** **Product Footprints (0)**

☰ ☰ ⚙️ 📄 ▾

Footprint Item	Description	Status	Item Type	Plant	Cycle	Product Quantity	Total CO2e
ELECTRICITY_B	Electricity_B	Successful	Energy Source	Ammonia B Production Facilities Operations (C6200)	No	228,000 Kilowatt hour	82.08000 Ton
GAS METER REACTOR_B	Gas Meter Reactor_B	Successful	Meter	Ammonia B Production Facilities Operations (C6200)	No	7,968,000 Megajoule	597.60000 Ton
GAS METER REFORMER_B	Gas Meter Reformer_B	Successful	Meter	Ammonia B Production Facilities Operations (C6200)	No	1,992,000 Megajoule	149.40000 Ton
GAS_Bravo	Gas (Energy Source B)	Successful	Energy Source	Ammonia B Production Facilities Operations (C6200)	No	9,960,000 Megajoule	747.00000 Ton
<b>Footprint Inventory: Ammonia Footprint January 2023 (Ammonia Calc. Jan 2023)</b>							
10010202/C6100	Natural Gas	Successful	Product	Ammonia A Production Facilities Operations (C6100)	No	610,340 Kilogram	219.47826 Ton
10010301/C6100	Water	Successful	Product	Ammonia A Production Facilities Operations (C6100)	No	704,000 Kilogram	0.03797 Ton
10010401/C6100	Nitrogen liquid	Successful	Product	Ammonia A Production Facilities Operations (C6100)	No	1,410,000 Kilogram	1.98204K Ton
10060443/C6100	Hydrogen	Successful	Product	Ammonia A Production Facilities Operations (C6100)	No	163,665 Kilogram	405.25224 Ton
10408	Echo	Successful	Supplier	Ammonia A Production Facilities Operations (C6100)	No		0.03797 Ton
11212	Delta	Successful	Supplier	Ammonia A Production Facilities Operations (C6100)	No		219.47826 Ton
14216	Alpha	Successful	Supplier	Ammonia A Production Facilities Operations (C6100)	No		1.98204K Ton
20010444/C6100	Ammonia	Successful	Product	Ammonia A Production Facilities Operations (C6100)	No	1,000,000 Kilogram	3.13023K Ton
7123	Reactor	Successful	Resource	Ammonia A Production Facilities Operations (C6100)	No	1,440 Minutes	742.94400 Ton
7124	Steam Reformer	Successful	Resource	Ammonia A Production Facilities Operations (C6100)	No	1,440 Minutes	185.73600 Ton
788	Production 788	Successful	Production	Ammonia A Production Facilities Operations (C6100)	No		405.25224 Ton
789	Production 789	Successful	Production	Ammonia A Production Facilities Operations (C6100)	No		3.13023K Ton
C6100	Ammonia Production Facilities Operations	Successful	Plant Output	Ammonia A Production Facilities Operations (C6100)	No		3.13023K Ton
ELECTRICITY	Electricity (Energy Source)	Successful	Energy Source	Ammonia A Production Facilities Operations (C6100)	No	228,000 Kilowatt hour	82.08000 Ton
ELECTRICITY METER REACTOR	Electricity Meter Reactor	Successful	Meter	Ammonia A Production Facilities Operations (C6100)	No	182,400 Kilowatt hour	65.66400 Ton
ELECTRICITY METER STEAMREFORMER	Electricity Meter Steamreformer	Successful	Meter	Ammonia A Production Facilities Operations (C6100)	No	45,600 Kilowatt hour	16.41600 Ton
GAS	Gas (Energy Source)	Successful	Energy Source	Ammonia A Production Facilities Operations (C6100)	No	9,960,000 Megajoule	846.60000 Ton
GAS METER REACTOR	Gas Meter Reactor	Successful	Meter	Ammonia A Production Facilities Operations (C6100)	No	7,968,000 Megajoule	677.28000 Ton
GAS METER REFORMER	Gas Meter Reformer	Successful	Meter	Ammonia A Production Facilities Operations (C6100)	No	1,992,000 Megajoule	169.32000 Ton

## Ammonia

20010444/C6100

Publish 🔄 ▾

Item Type	Plant	Period	Status	Total CO2e	CO2e per Unit	Publishing Status
Product	Ammonia A Production Facilities Operations	January 2023	Successful	3,130.23324 Ton	3.13023 Kilogram / 1 Kilogram	Ready to Publish ⓘ



Overview ▾ Input Output Error Log

### Input / Output

#### Input

Ammonia: 3,130.23324 Ton

#### Output

Product

Product

Product

Production 789: 3,130.23324 Ton

Ammonia Production Facilities...: 3,130.23324 Ton

### General Information

#### General Data

ID:  
20010444/C6100

Description:  
Ammonia

Calculated Period:  
Jan 1, 2023 - Jan 31, 2023

Footprint Inventory:  
Ammonia Footprint January 2023 (Ammonia Calc. Jan 2023)

Plant:  
Ammonia A Production Facilities Operations (C6100)

Cycle:  
No

#### Footprint Information

Total CO2e (Exact):  
3,130.233237056 Ton

Product Quantity (Exact):  
1,000,000 Kilogram

#### Administrative Details

Created On:  
Apr 19, 2024, 8:36:03AM

Created By:  
hui-lai.xie@sap.com

### Breakdown Values

#### Breakdown Values (4)

Search 🔍 ⚙️ 📄 ▾

GHG Category	Contribution	CO2e
Scope 1 - Stationary combustion	27.05 %	846.60000 Ton
Scope 2 - Electricity	2.62 %	82.08000 Ton
Scope 3.1 - Purchased goods and services	70.33 %	2.20155K Ton
Scope 3.3 - Fuel- and energy-related activities	0 %	0.00000 Ton

# Gas supply by Delta

## Ammonia

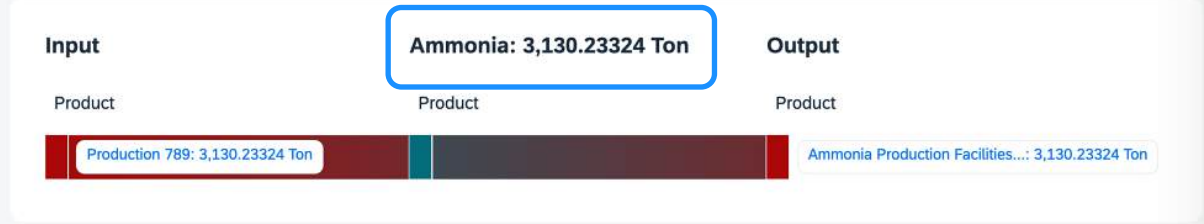
20010444/C6100

Item Type	Plant	Period	Status
Product	Ammonia A Production Facilities Operations	January 2023	Successful

**Total CO2e** 3,130.23324 Ton  
**CO2e per Unit** 3.13023 Kilogram / 1 Kilogram  
**Publishing Status** Ready to Publish

- Overview
- Input
- Output
- Error Log

### Input / Output



### General Information

General Data	Footprint Information	Administrative Details
ID: 20010444/C6100	Total CO2e (Exact): 3,130.233237056 Ton	Created On: Apr 19, 2024, 8:36:03 AM
Description: Ammonia	Product Quantity (Exact): 1,000,000 Kilogram	Created By: hui-lai.xie@sap.com
Calculated Period: Jan 1, 2023 - Jan 31, 2023	CO2e per Unit (Exact): 3.130233237056 Kilogram / 1 Kilogram	
Footprint Inventory: Ammonia Footprint January 2023 (Ammonia Calc. Jan 2023)	Amount: -	
Plant: Ammonia A Production Facilities Operations (C6100)	CO2e per Spend Unit (Exact): -	
Cycle: No		

# Gas supply by Bravo

## Ammonia

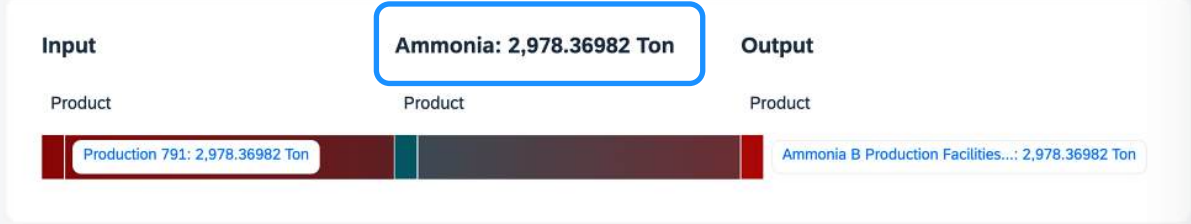
20010444/C6200

Item Type	Plant	Period	Status
Product	Ammonia B Production Facilities Operations	February 2023	Successful

**Total CO2e** 2,978.36982 Ton  
**CO2e per Unit** 2.97837 Kilogram / 1 Kilogram  
**Publishing Status** Ready to Publish

- Overview
- Input
- Output
- Error Log

### Input / Output

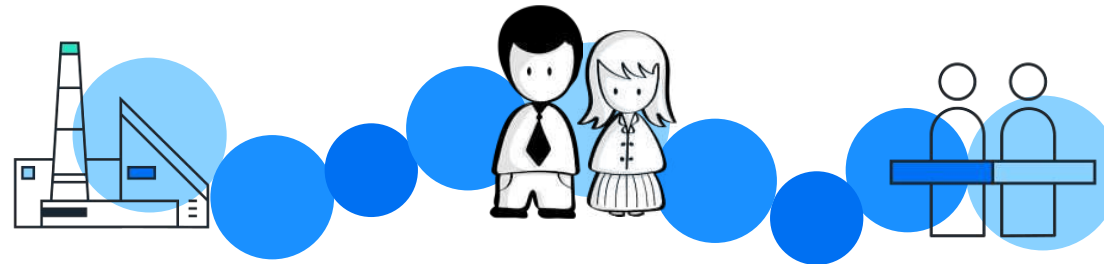


### General Information

General Data	Footprint Information	Administrative Details
ID: 20010444/C6200	Total CO2e (Exact): 2,978.369822856 Ton	Created On: May 10, 2024, 1:40:20 PM
Description: Ammonia	Product Quantity (Exact): 1,000,000 Kilogram	Created By: hui-lai.xie@sap.com
Calculated Period: Feb 1, 2023 - Feb 28, 2023	CO2e per Unit (Exact): 2.978369822856 Kilogram / 1 Kilogram	
Footprint Inventory: Ammonia Footprint February 2023 (Ammonia Calc. Feb 2023)	Amount: -	
Plant: Ammonia B Production Facilities Operations (C6200)	CO2e per Spend Unit (Exact): -	
Cycle: No		



# SAP Sustainability Footprint Management & SAP Sustainability Data Exchange



The New World  
with SAP



Single Source  
of Truth



Ready for Lifecycle  
Assessment (LCA) and  
Supplier Information



Automated And  
Streamlined Calculations



Advanced Analysis For  
Real-time Actionable  
Insights



Proactively Help  
The Climate Cause

... help creating a more sustainable supply chain

... and Marta & her team  
can enjoy their weekend.

# Thank you.

Contact information:

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 **Bring out your best.**