

The Journey to 2030

Emissions Reporting for Suppliers

GLOBAL TARGETS



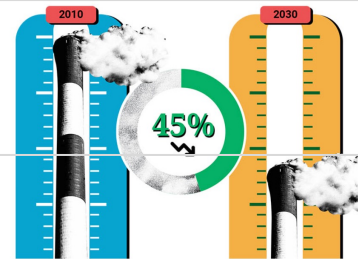
2015
196 countries adopted the historic Paris Agreement to reduce global warming and build resilience to climate change. Its overall goal: limit warming to no more than 1.5 degrees Celsius.



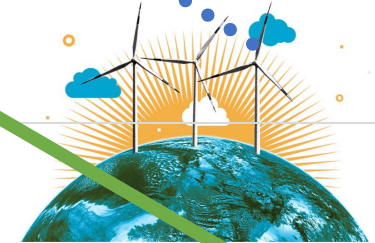
2020-2021
In the lead-up to the COP26 climate talks, countries have begun revising their NDCs to strengthen climate action. With science affirming a shrinking window of opportunity, the plans must include urgent actions to cut carbon emissions and reach net zero by 2050.



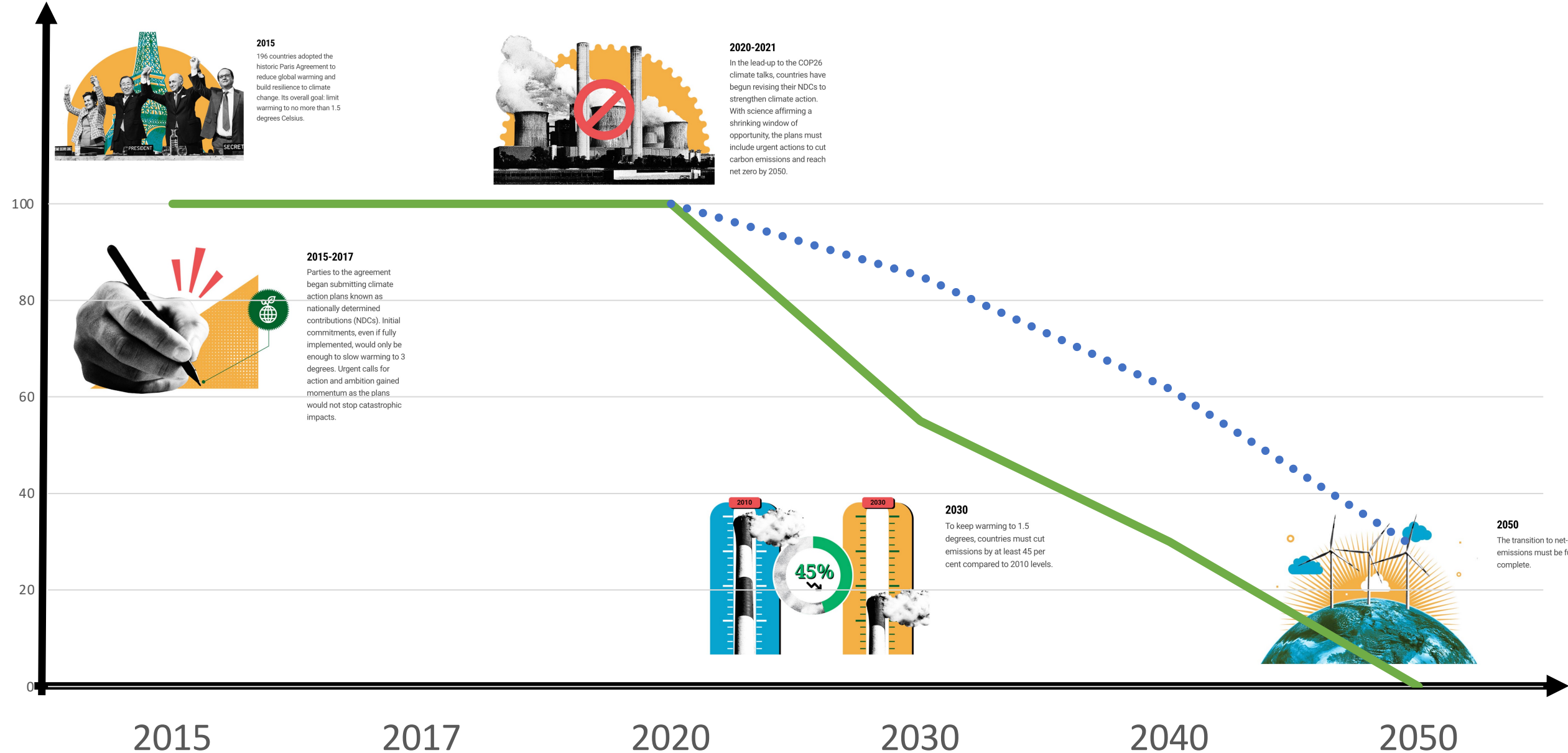
2015-2017
Parties to the agreement began submitting climate action plans known as nationally determined contributions (NDCs). Initial commitments, even if fully implemented, would only be enough to slow warming to 3 degrees. Urgent calls for action and ambition gained momentum as the plans would not stop catastrophic impacts.



2030
To keep warming to 1.5 degrees, countries must cut emissions by at least 45 per cent compared to 2010 levels.



2050
The transition to net-zero emissions must be fully complete.



What are the different Emissions Scopes?

* Source Carbon Trust

Scope 1	Scope 2	Scope 3
Fuel combustion Company vehicles Fugitive emissions	Purchased electricity, heat and steam	Purchased goods and services Business travel Employee commuting Waste Disposal Use of sold products Transportation and distribution (up- and downstream) Investments Leased assets and franchises

Scope 3 Emissions Defined

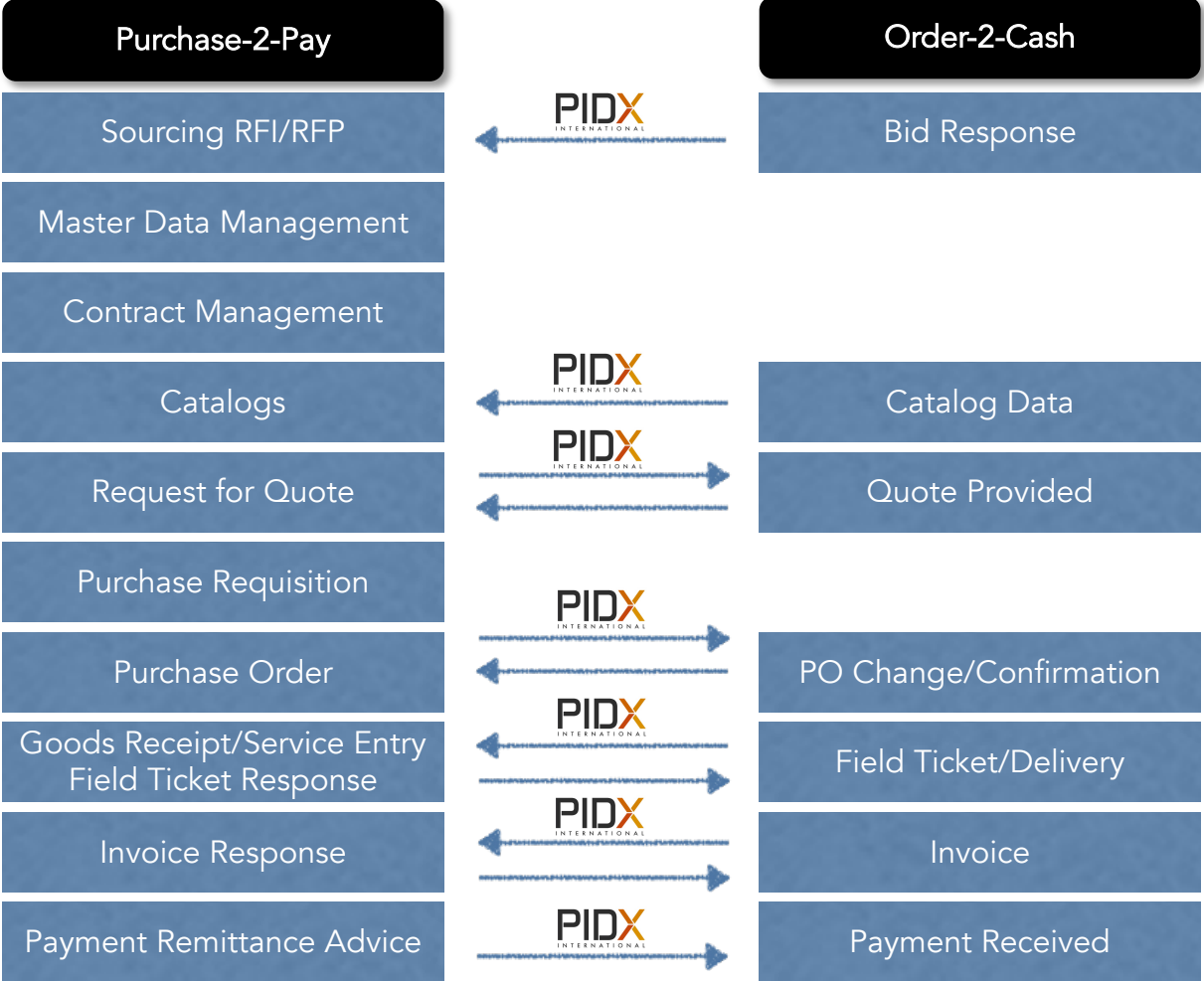
* Source GHG Protocol

Category 1: Purchased Goods and Services*

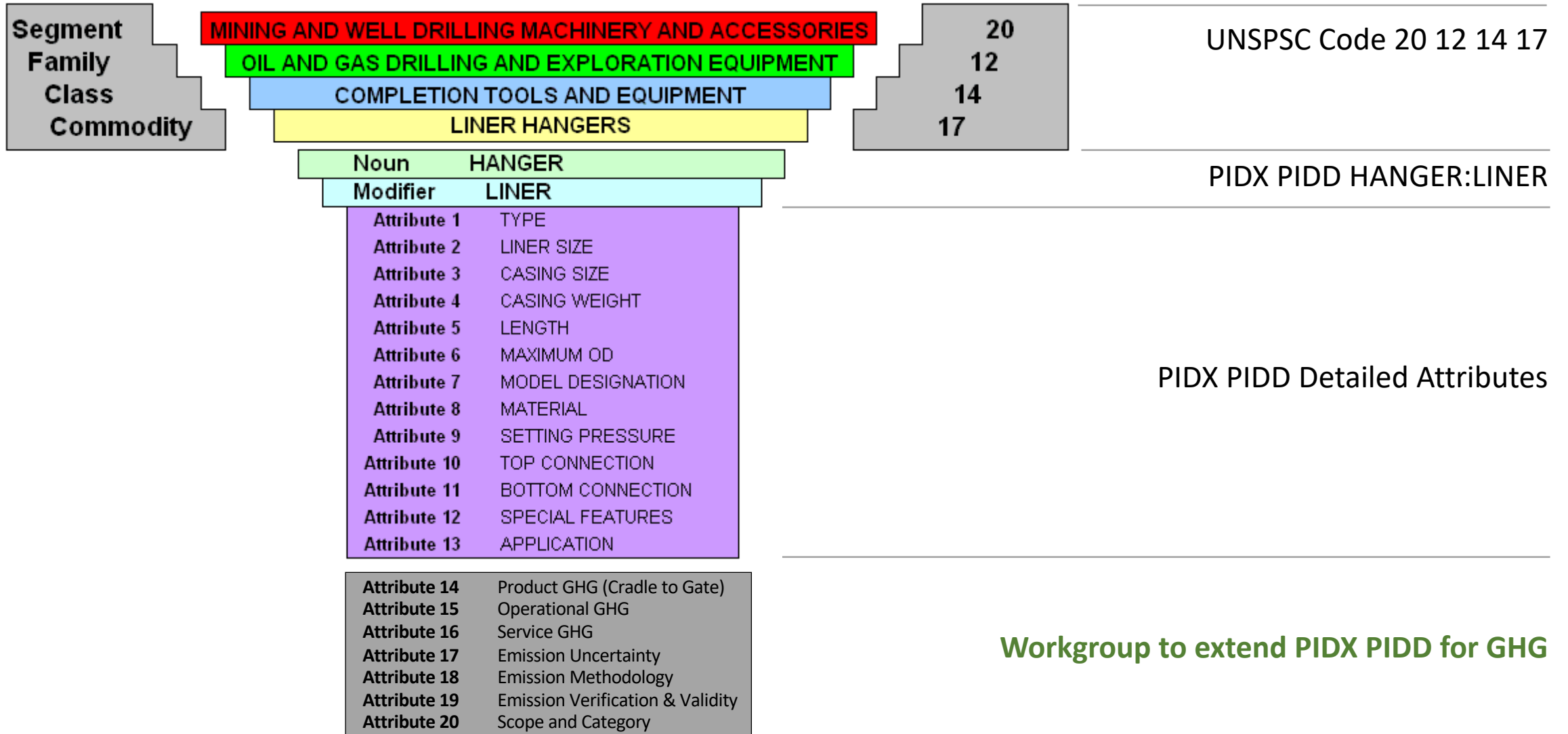
- *This category includes all upstream (i.e., cradle-to-gate) emissions from the production of products purchased or acquired by the reporting company in the reporting year. Products include both goods (tangible products) and services (intangible products).*
- Category 1 includes emissions from all purchased goods and services not otherwise included in the other categories of upstream scope 3 emissions (i.e., category 2 through category 8). Specific categories of upstream emissions are separately reported in category 2 through category 8 to enhance the transparency and consistency of scope 3 reports.
- Emissions from the transportation of purchased products from a tier one (direct) supplier to the reporting company (in vehicles not owned or controlled by the reporting company) are accounted for in category 4 (Upstream transportation and distribution).
- Companies may find it useful to differentiate between purchases of production-related products (e.g., materials, components, and parts) and non-production-related products (e.g., office furniture, office supplies, and IT support). This distinction may be aligned with procurement practices and therefore may be a useful way to more efficiently organize and collect data (see box 5.2 of the *Scope 3 Standard*).

ORCHESTRATION OF SUPPLY CHAIN MESSAGES

Operator
(Buyer)



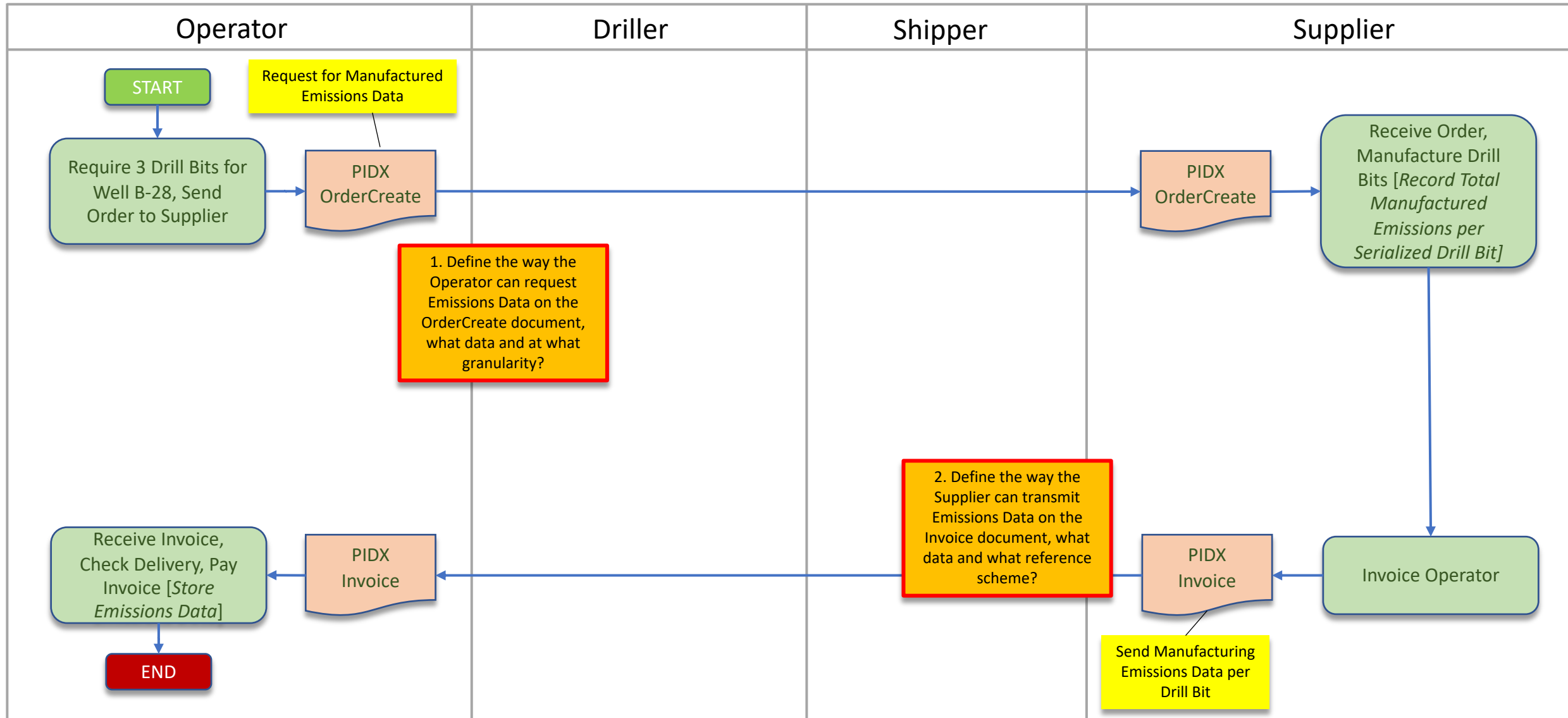
Supplier



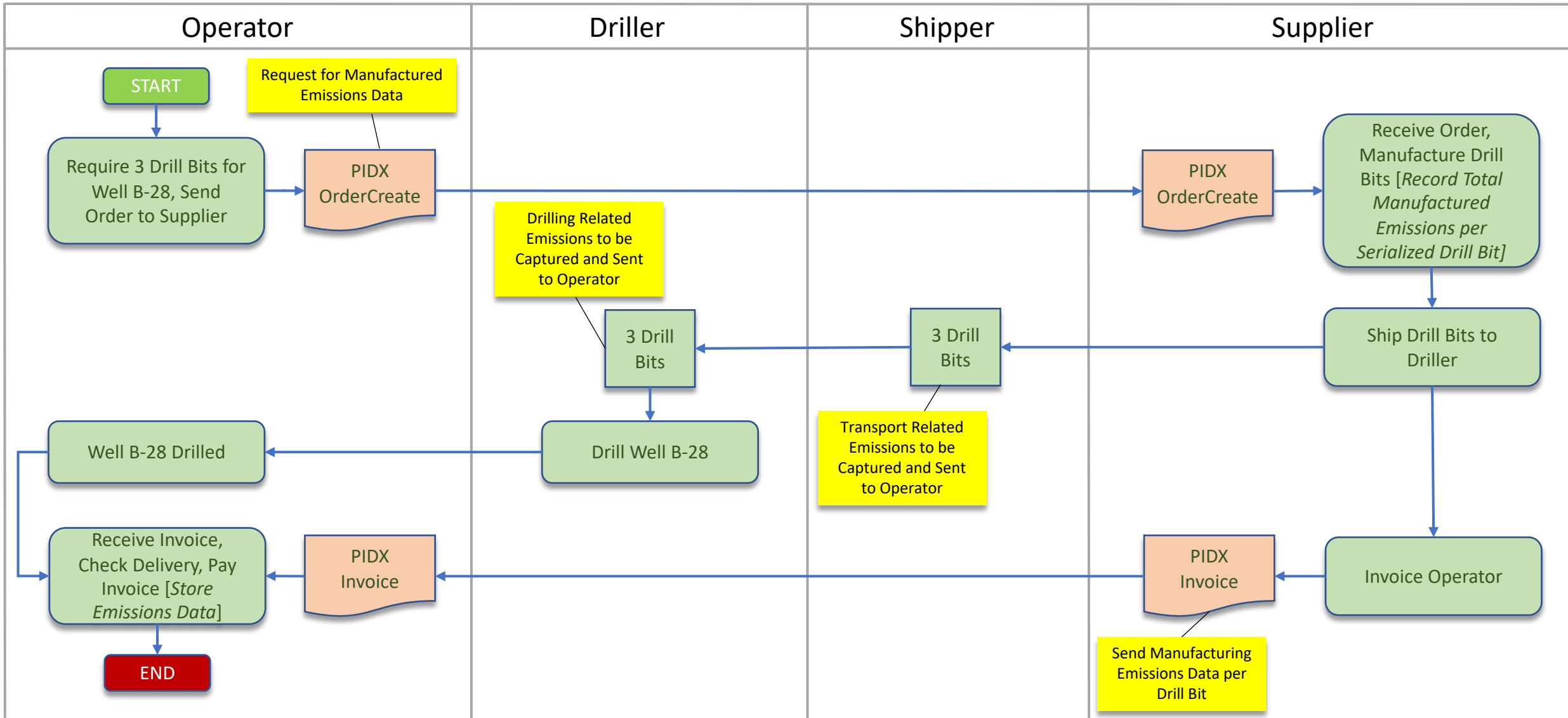
Emissions Data for Products and Services (Scope 3 Category 1)

#	Attribute	Unit	Notes / References
14	Product GHG Emission (cradle-to-gate)	kg CO ₂ e	Upon purchase of the product, this attribute is expected to become part of the purchasing company's upstream scope 3 emissions.
15	Operational GHG Emission	kg CO ₂ e / [time]	This attribute is a guide to the expected emissions in the use of the product. This could be a URL, provided for reference – detail of ranges, real case studies, etc.
16	Service GHG Emission	e.g., kg CO ₂ e / hour	This attribute expected for services. What are emissions for this service? Per day, per hour, per whatever unit the service is provided.
17	Emission Uncertainty	%	An estimate of how certain the company is of the value in Attribute #14 / #16
18	Emission Methodology	(unitless)	A description of/reference to the methodologies used to quantify emissions in Attribute #14 / #16, and a description of the data sources used (including emission factors and GWP values), e.g., AR5 ¹ .
19	Emission Verification & Validity	(unitless)	Entity that has verified and/or validated emissions, based on ISO 14064-3:2019
20	Scope & Category		To give a suggestion to the buyer as to which scope and scope category of the emission, e.g., Scope 3, Category 1 – Goods and Services.

PIDX DOCUMENT EXCHANGE

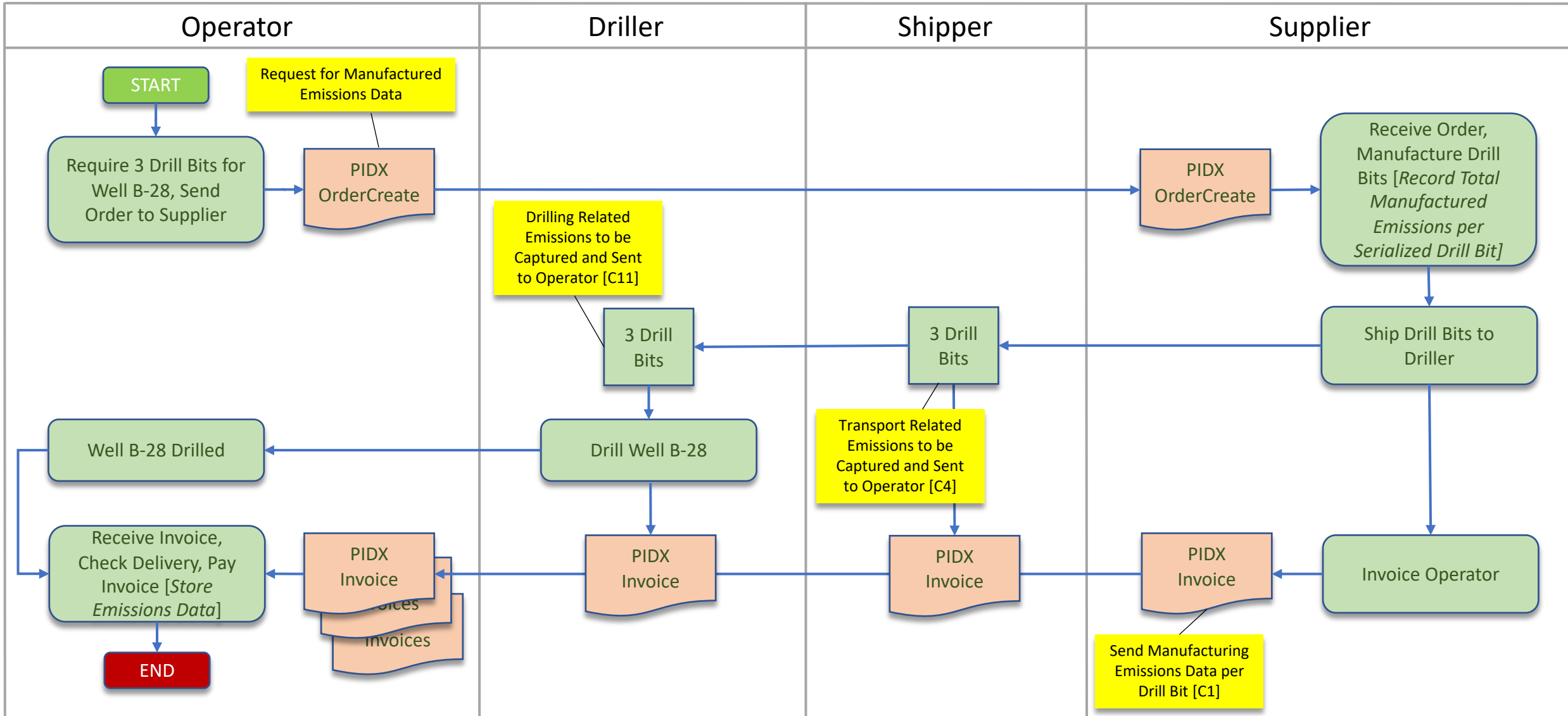


BUSINESS PROCESS DATAFLOW USE CASE 1.0



SAMPLE PIDX INVOICE DATA

```
Invoice pidx:InvoiceDetails pidx:InvoiceLineItem pidx:EmissionsData
1 <?xml version="1.0" encoding="UTF-8"?>
2 <Invoice xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3 xsi:schemaLocation="http://www.pidx.org/schemas/v1.7 ../../../../../../Users/chriswelsh/Documents/PIDXV1.7/Invoice.xsd"
4 xmlns="http://www.pidx.org/schemas/v1.7" xmlns:pidx="http://www.pidx.org/schemas/v1.7"
5 pidx:version="1.7" pidx:transactionPurposeIndicator="Original">
6 <pidx:InvoiceProperties> [176 lines]
183 <pidx:InvoiceDetails>
184 <pidx:InvoiceLineItem>
185 <pidx:LineItemNumber>1</pidx:LineItemNumber>
186 <pidx:InvoiceQuantity> [3 lines]
190 <pidx:LineItemInformation>
191 <pidx:LineItemIdentifier identifierIndicator="AssignedBySeller">PartNumber-001</pidx:LineItemIdentifier>
192 <pidx:LineItemName>GP BIT 01, SC-2R XYZ7237/01</pidx:LineItemName>
193 <pidx:LineItemDescription>GP BIT 01R, Speed Bit 01 Series XYZ7237/01</pidx:LineItemDescription>
194 <pidx:ManufacturerIdentifier>Serial-001</pidx:ManufacturerIdentifier>
195 </pidx:LineItemInformation>
196 <pidx:FieldTicketInformation> [2 lines]
199 <pidx:PartnerInformation partnerRoleIndicator="ShipToParty"> [11 lines]
211 <pidx:PartnerInformation partnerRoleIndicator="ShipFromParty"> [11 lines]
223 <pidx:JobLocationInformation> [9 lines]
233 <pidx:Pricing> [10 lines]
244 <pidx:Tax> [21 lines]
266 <pidx:LineItemTotal> [3 lines]
270 <pidx:ServiceDateTime dateTypeIndicator="ShippedDate" [1 line]
272 <pidx:ServiceDateTime dateTypeIndicator="ServicePeriodStart" [1 line]
274 <pidx:ServiceDateTime dateTypeIndicator="ServicePeriodEnd" [1 line]
276 <pidx:ReferenceInformation referenceInformationIndicator="DeliveryTicketNumber"> [3 lines]
280 <pidx:Comment>Job Summary: BSN, Norway VANSTANGER</pidx:Comment>
281 <pidx:EmissionsData>
282 <pidx:EmissionProductGHGQuantity>
283 <Quantity>60</Quantity>
284 <UnitOfMeasureCode>KG CO2e</UnitOfMeasureCode>
285 </pidx:EmissionProductGHGQuantity>
286 <pidx:EmissionScope>3</pidx:EmissionScope>
287 <pidx:EmissionScopeCategory>1</pidx:EmissionScopeCategory>
288 <EmissionUncertainty>75%</EmissionUncertainty>
289 <EmissionMethodology>OEM LifeCycle Audit Method</EmissionMethodology>
290 <EmissionVerificationValidity>ISO 14064-3:2019</EmissionVerificationValidity>
291 </pidx:EmissionsData>
292 </pidx:InvoiceLineItem>
293 <pidx:InvoiceLineItem> [107 lines]
401 <pidx:InvoiceLineItem> [106 lines]
508 </pidx:InvoiceDetails>
509 <pidx:InvoiceSummary> [18 lines]
528 </Invoice>
```



WHAT IS AVAILABLE TODAY

Scope 3 GHG emissions [A] [B]

	Unit	2021	2020	2019	2018	2017	IPECA	SASB	GRI
Purchased goods and services (Category 1)									
Third-party products [C]	million tonnes CO ₂ e	147	147	178	190	186	CCE-4	-	305-3
Fuel and energy-related activities (not included in Scope 1 or Scope 2) (Category 3)									
Third-party power [D]	million tonnes CO ₂ e	136	103	102	96	87	CCE-4	-	305-3
Downstream Transportation and Distribution (Category 9)									
Sold own energy products [E]	million tonnes CO ₂ e	6	-	-	-	-	-	-	305-3
Use of sold products (Category 11)									
Use of sold products [F]	million tonnes CO ₂ e	1,010	1,054	1,271	1,351	1,318	CCE-4	-	305-3
Own production [G]	million tonnes CO ₂ e	380	452	564	594	582	CCE-4	-	305-3
Third-party products [H]	million tonnes CO ₂ e	630	602	708	757	736	CCE-4	-	305-3

[A] The values in this table reflect estimated Scope 3 emissions included in our net carbon intensity. This excludes certain contracts held for trading purposes and reported net rather than gross. Business-specific methodologies to net volumes have been applied in oil products and pipeline gas and power. Paper trades that do not result in physical product delivery are excluded. Retail sales volumes from markets where Shell operates under trademark licensing agreements are also excluded from the scope of Shell's carbon intensity metric.

[B] Estimated emissions from other Scope 3 categories are published on www.shell.com/ghg. 2021 data will be available in June 2022.

[C] This category includes estimated well-to-tank emissions from purchased third-party refined oil products, natural gas, LNG, crude oil and biofuels.

[D] This category includes estimated well-to-wire emissions from generation of purchased power included in our net carbon intensity.

[E] Estimated emissions from transportation and distribution of sold own oil products, LNG, GTL, natural gas, and biofuels.

[F] This category includes estimated emissions from sales volumes of oil products, natural gas, LNG, GTL and biofuels.

[G] This category includes estimated emissions from our refinery production, natural gas, LNG and GTL products.

[H] Estimated as the difference between own production and total sold products.

<https://reports.shell.com/sustainability-report/2021/our-performance-data/greenhouse-gas-and-energy-data.html>

Companies Produce Sustainability Reports
at a Macro Level using Industry Averages

2020 GHG Emissions Reported by Category (metric tonnes of CO₂e)

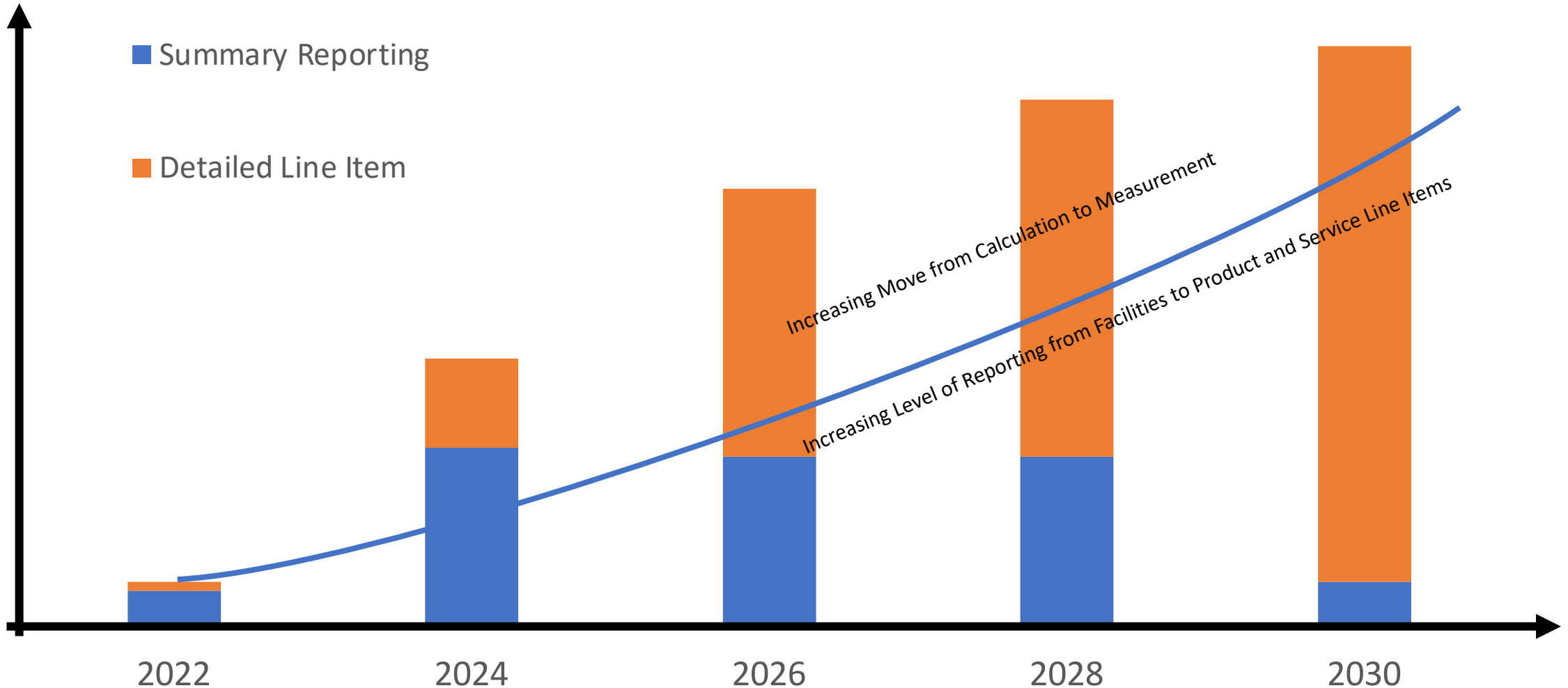
Scope	Emissions	Notes
Scope 1 (Direct) Emissions	1,973,000	Manufacturing process, onsite fuel combustion, refrigerants, onsite fleet/air travel
Scope 2 (Indirect, Electricity)	909,000	Market-based method; ¹ includes renewable energy purchases.
Scope 1 and 2 Total	2,882,000	
Scope 3 Total	29,866,000	Indirect/value chain.
Leased Vehicles and Commuting	296,000	Employee leased vehicles and commuting.
Logistics and Distribution	189,000	Upstream and downstream transport and distribution.
Employee Business Travel	24,000	Air travel, car rentals, and hotel stays.
Supply Chain	4,484,000	Represents the 2020 estimate based on key suppliers' 2020 CDP Climate Change Questionnaire information.
Capital Goods	93,000	Extraction, production, and transport of capital goods purchased.
Fuel and Energy Related Activities	95,000	Impacts related to extraction, production, and transportation of fuels and energy purchased, not already included in Scope 1 or 2. Market-based method. ²
Waste Generated in Operations	7,000	Disposal and treatment of waste generated in our operations.
Product Energy Usage	24,407,000	Represents the GHG emissions of the product lifetime (5,596,000 metric tonnes of CO ₂ e annualized).
Processing of Sold Products	271,000	Processing of intermediate products sold to downstream manufacturers.

¹ Location-based method Scope 2 emissions (does not account for any renewable energy purchases) = 3,700,000 metric tonnes CO₂e/year.

² Market-based method includes renewable purchases. Location-based method emissions (does not account for any renewable energy purchases) = 253,000 metric tonnes of CO₂e/year.

DATA RAMP UP AND CONVERSION

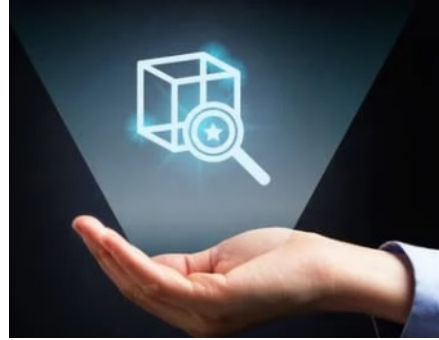
Amount
of Data



Challenges with calculation and reporting of emissions



Stakeholder
and reporting
pressures



Lack of
standards

Or abundance



Slow, manual
processes



Value Chain
Scope 3
emissions

“Today, carbon accounting suffers from data quality issues, measurement and reporting inconsistencies, siloed platforms, and infrastructure challenges. This makes it difficult to compare, combine and share reliable data, particularly for companies.”

The Carbon Call – Feb 10, 2022

PIDIXTM
INTERNATIONAL

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EMISSIONS TRANSPARENCY

How To Get
More Involved

CONTACT

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TRUSTED ENERGY SUPPLY CHAIN NETWORK

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