# Lessons Learned in Scope 3 Reporting in the Supply Chain from ETDX

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Chair of the Emissions Transparency Data Exchange Work Group

# GLOBAL TARGETS

PIDX™ EMISSIONS TRANSPARENCY

**2015**

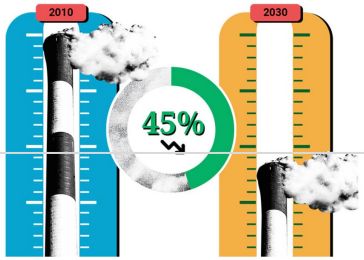
196 countries adopted the historic Paris Agreement to reduce global warming and build resilience to climate change. Its overall goal: limit warming to no more than 1.5 degrees Celsius.

**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.

100
80
60
40
20
0

2015 2017 2020 2030 2040 2050

Source: https://www.un.org/en/climatechange/net-zero-coalition

# EMISSIONS REPORTING CONTEXT

## What are the different Emissions Scopes?

* Source Carbon Trust

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

# TWO APPROACHES

## 1. TOP DOWN

What are ‘science-based targets’?

Science-based targets provide a clearly-defined pathway for companies to reduce greenhouse gas (GHG) emissions, helping prevent the worst impacts of climate change and future-proof business growth.

Targets are considered ‘science-based’ if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C.

*https://sciencebasedtargets.org/how-it-works

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Accountancy Based

Looks as Total Spend and Apportions to Revenue

Sample Calculation

Spend = $20BN x GHG Industry Factor = 5 Mega-Tons

Sales to Customer 1 = 20% of Revenue

Emissions Reporting for Customer 1 = 1 Mega Ton $CO_2e$

# TWO APPROACHES

## 2. BOTTOMS UP

What is Bottoms Up reporting?

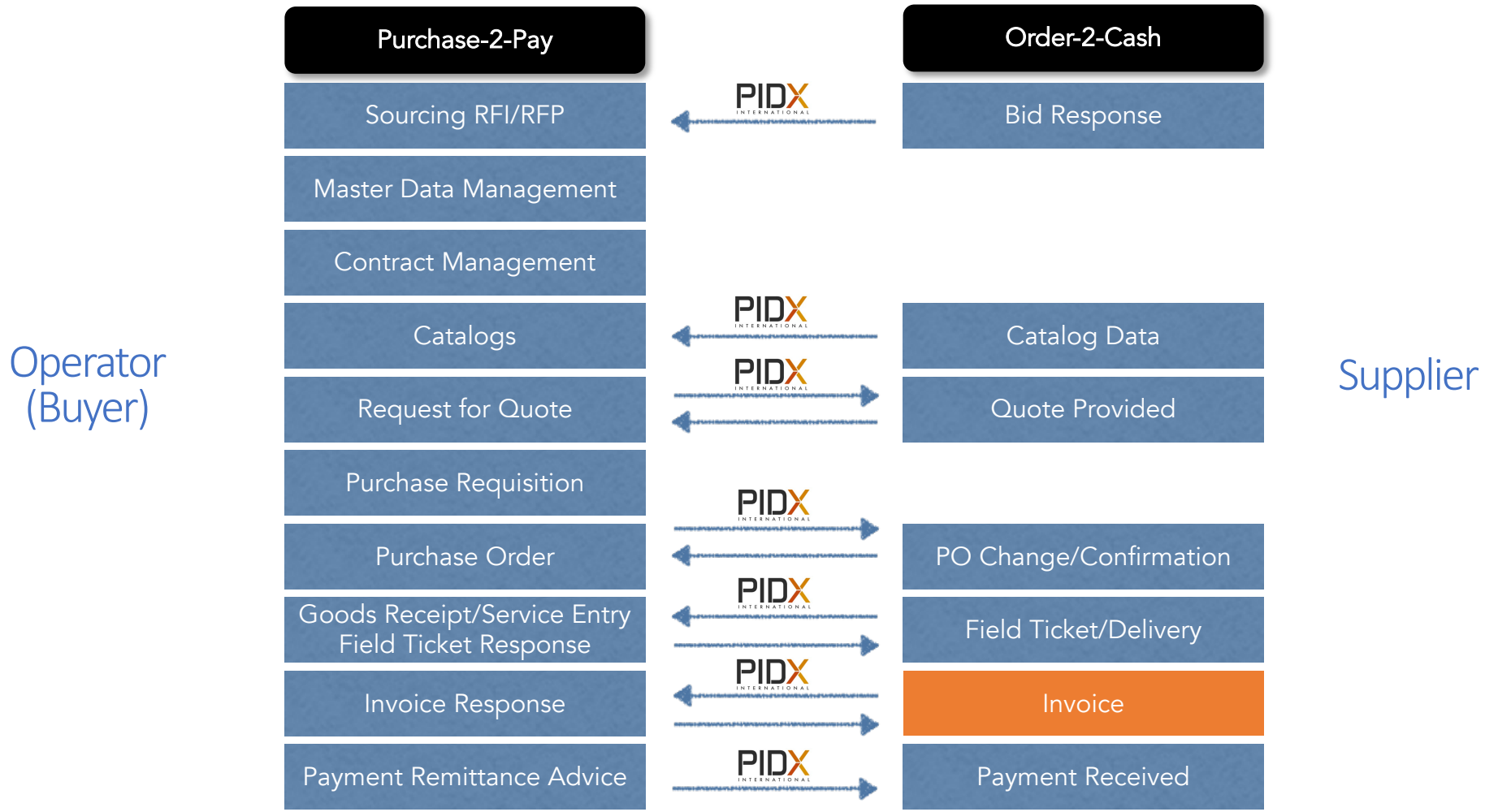
Line item Emissions reporting of products and services and their measured emissions as calculated by a verifiable method.

Requires the Supplier to perform life-cycle measurements such as the GHG Protocol “Cradle-to-Gate” measurement process and send these emissions on a per product or service basis to the Buyer.

Buyer aggregates the line item emissions to create a complete picture of their Scope 3 Emissions.

# ORCHESTRATION OF SUPPLY CHAIN MESSAGES

PIDX EMISSIONS TRANSPARENCY



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```
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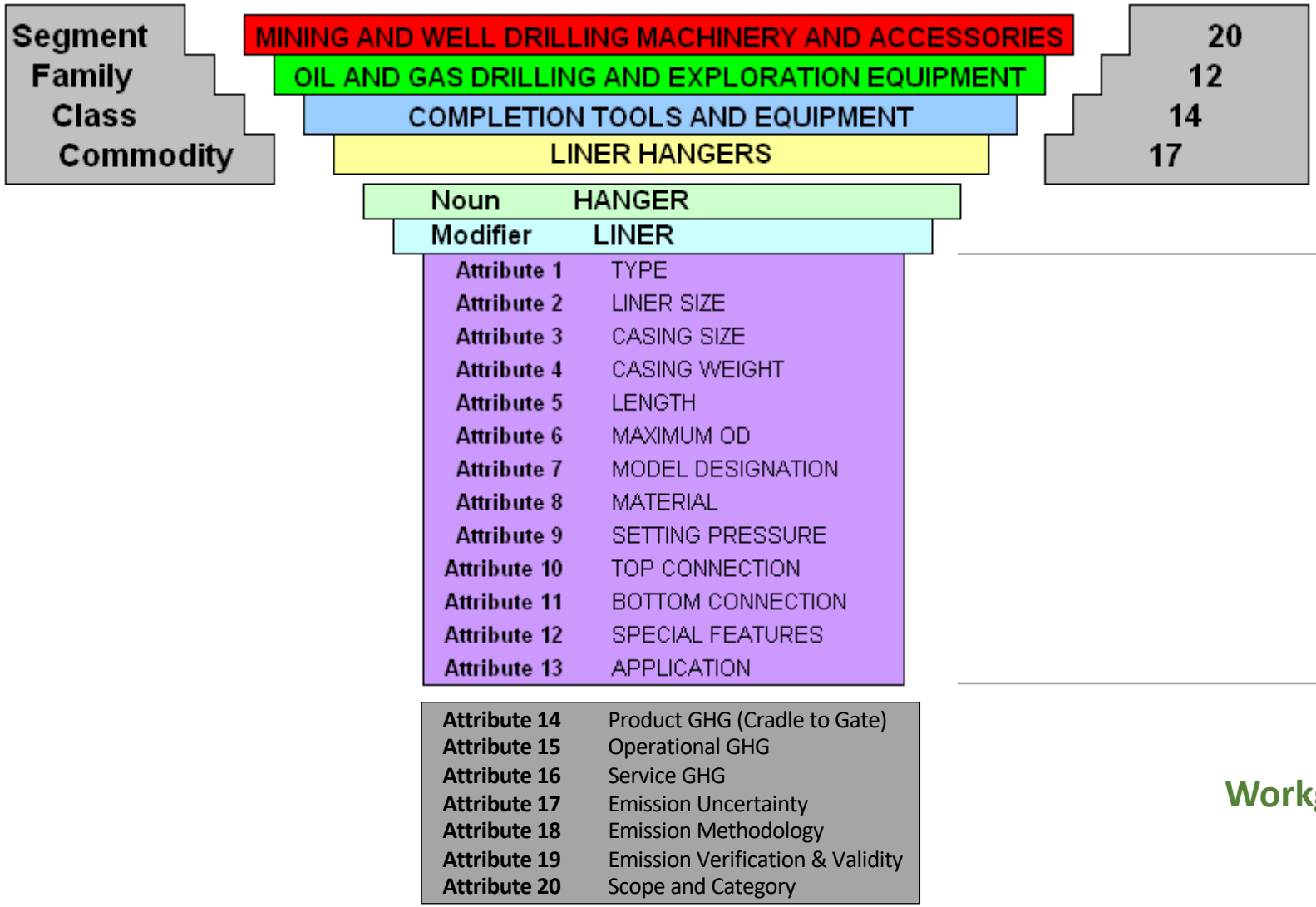
# PETROLEUM INDUSTRY DATA DICTIONARY




UNSPSC Code 20 12 14 17

PIDX PIDD HANGER:LINER

PIDX PIDD Detailed Attributes

**Workgroup to extend PIDX PIDD for GHG**

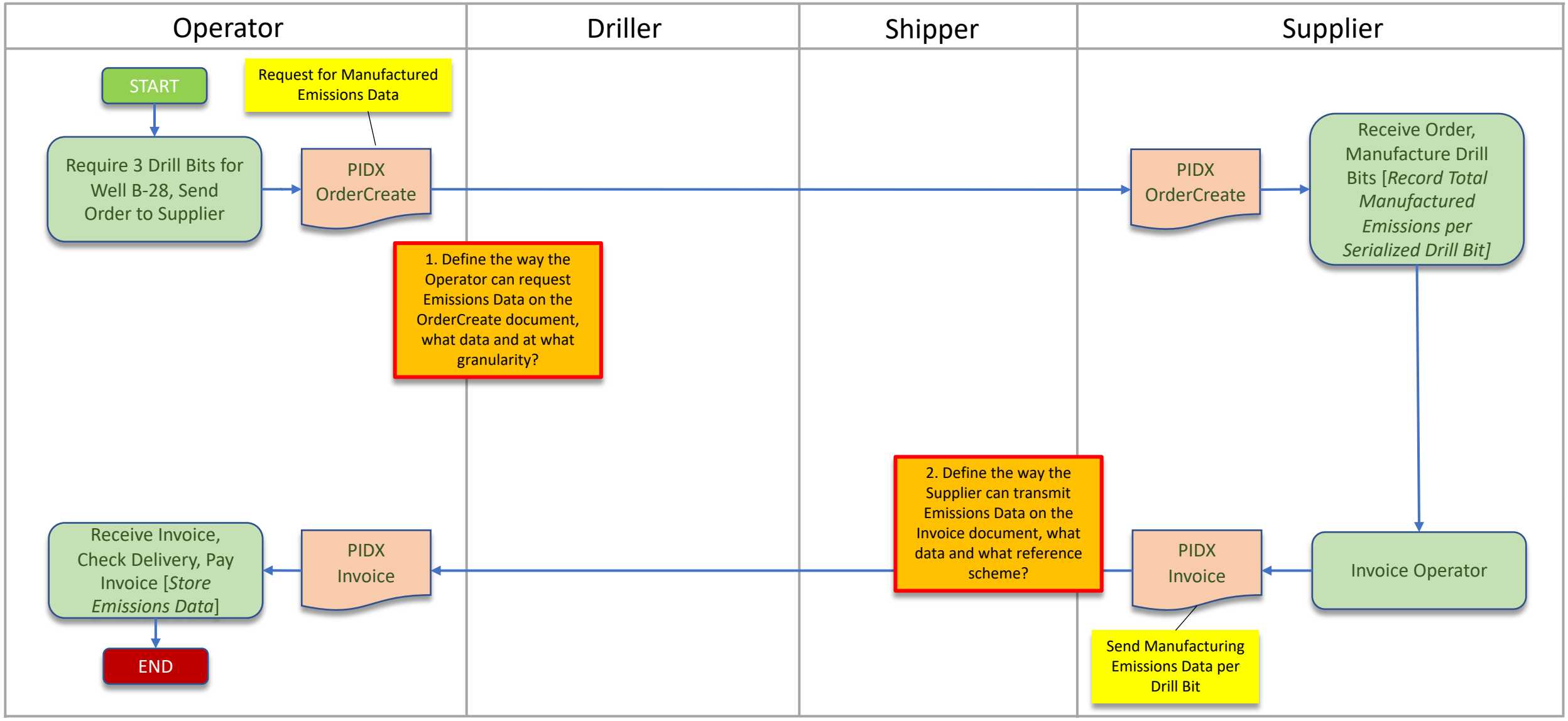
# SUPPLY CHAIN SCHEMA ADDITIONS - SCOPE 3

PIDX™ EMISSIONS TRANSPARENCY

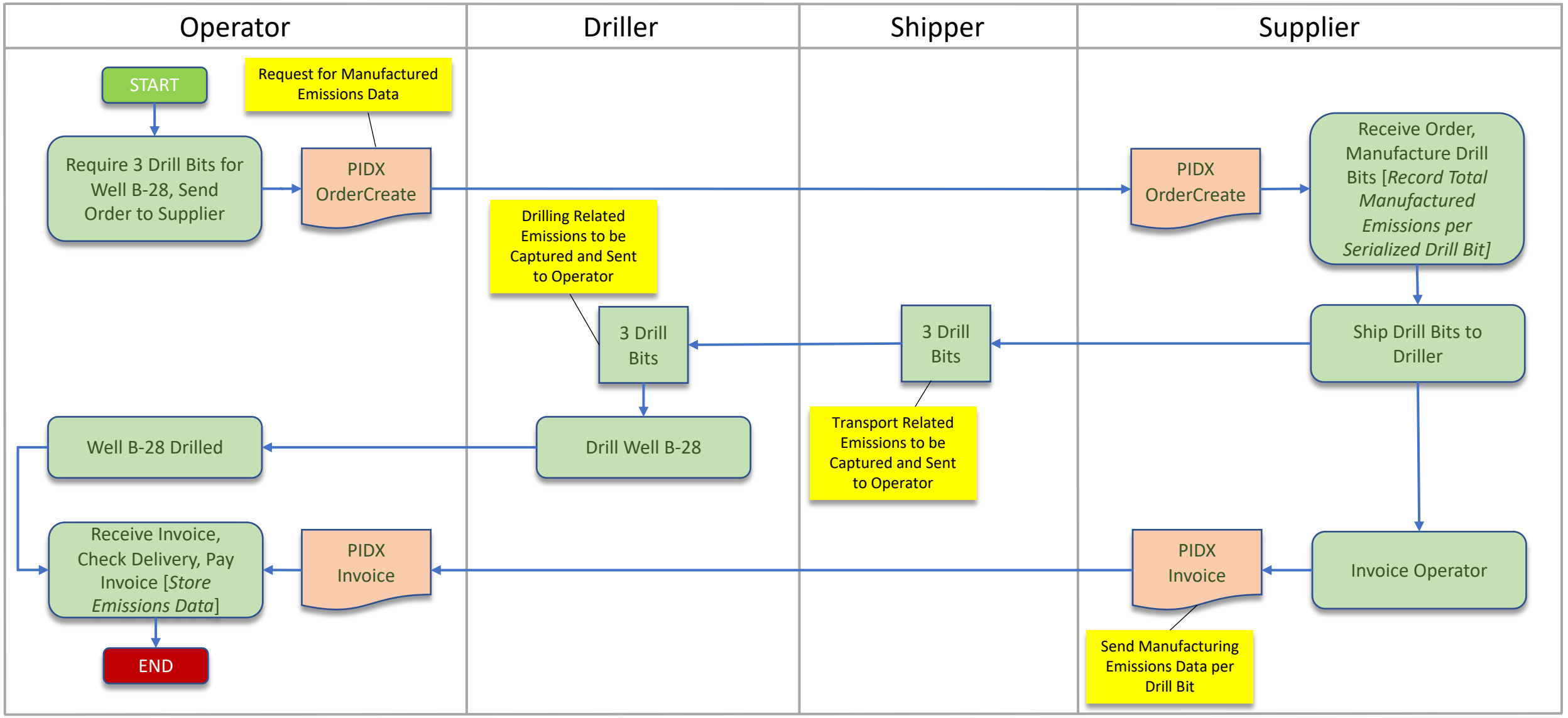
## Emissions Data for Products and Services (Scope 3 Category 1)

| # | Attribute | Unit | Notes / References |
|---|---|---|---|
| 14 | Product GHG Emission (cradle-to-gate) | kg $CO_2e$ | 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 $CO_2e$ / [time] | This attribute is a guide to the expected emissions in the use of the product.<br>This could be a URL, provided for reference – detail of ranges, real case studies, etc. |
| 16 | Service GHG Emission | e.g.,<br>kg $CO_2e$ / 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 Uncertainly | % | An estimate of how certain the company is of the value in Attribute #14 / #16 |
| 18 | Emission Methodology | String | 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 | String | Entity that has verified and/or validated emissions, based on ISO 14064-3:2019 |
| 20 | Scope & Category | Limited List | 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

PIDX EMISSIONS TRANSPARENCY

Invoice pidx:InvoiceDetails pidx:InvoiceLineItem pidx:EmissionsData

```
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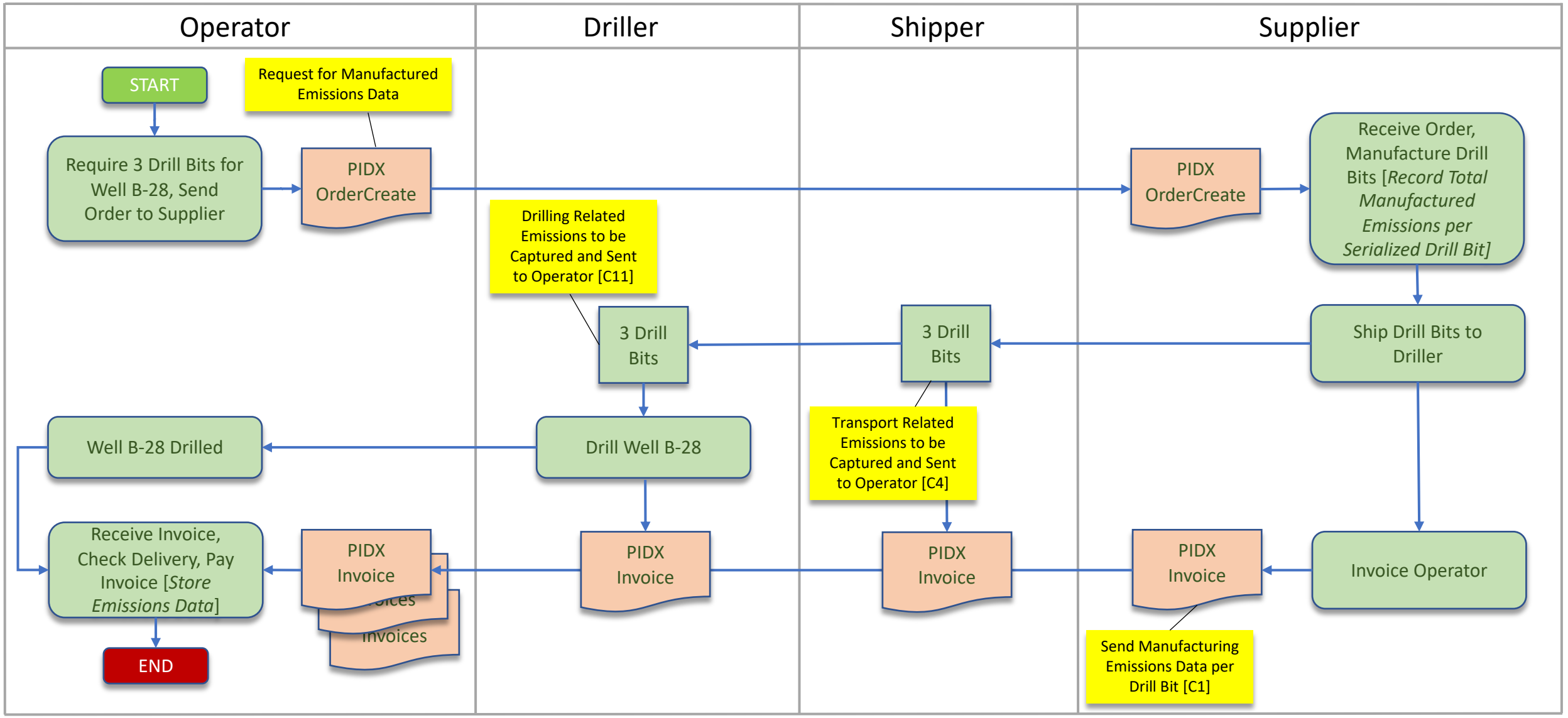
# ART OF THE POSSIBLE



# WHAT IS AVAILABLE TODAY – TOP DOWN

PIDX™ EMISSIONS TRANSPARENCY

## Scope 3 GHG emissions [A] [B]

| | Unit | 2021 | 2020 | 2019 | 2018 | 2017 | IPIECA | SASB | GRI |
|---|---|---|---|---|---|---|---|---|---|
| **Purchased goods and services (Category 1)** | | | | | | | | | |
| Third-party products [C] | million tonnes $CO_2e$ | **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 $CO_2e$ | **136** | 103 | 102 | 96 | 87 | CCE-4 | – | 305-3 |
| **Downstream Transportation and Distribution (Category 9)** | | | | | | | | | |
| Sold own energy products [E] | million tonnes $CO_2e$ | **6** | – | – | – | – | – | – | 305-3 |
| **Use of sold products (Category 11)** | | | | | | | | | |
| Use of sold products [F] | million tonnes $CO_2e$ | **1,010** | 1,054 | 1,271 | 1,351 | 1,318 | CCE-4 | – | 305-3 |
| Own production [G] | million tonnes $CO_2e$ | **380** | 452 | 564 | 594 | 582 | CCE-4 | – | 305-3 |
| Third-party products [H] | million tonnes $CO_2e$ | **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

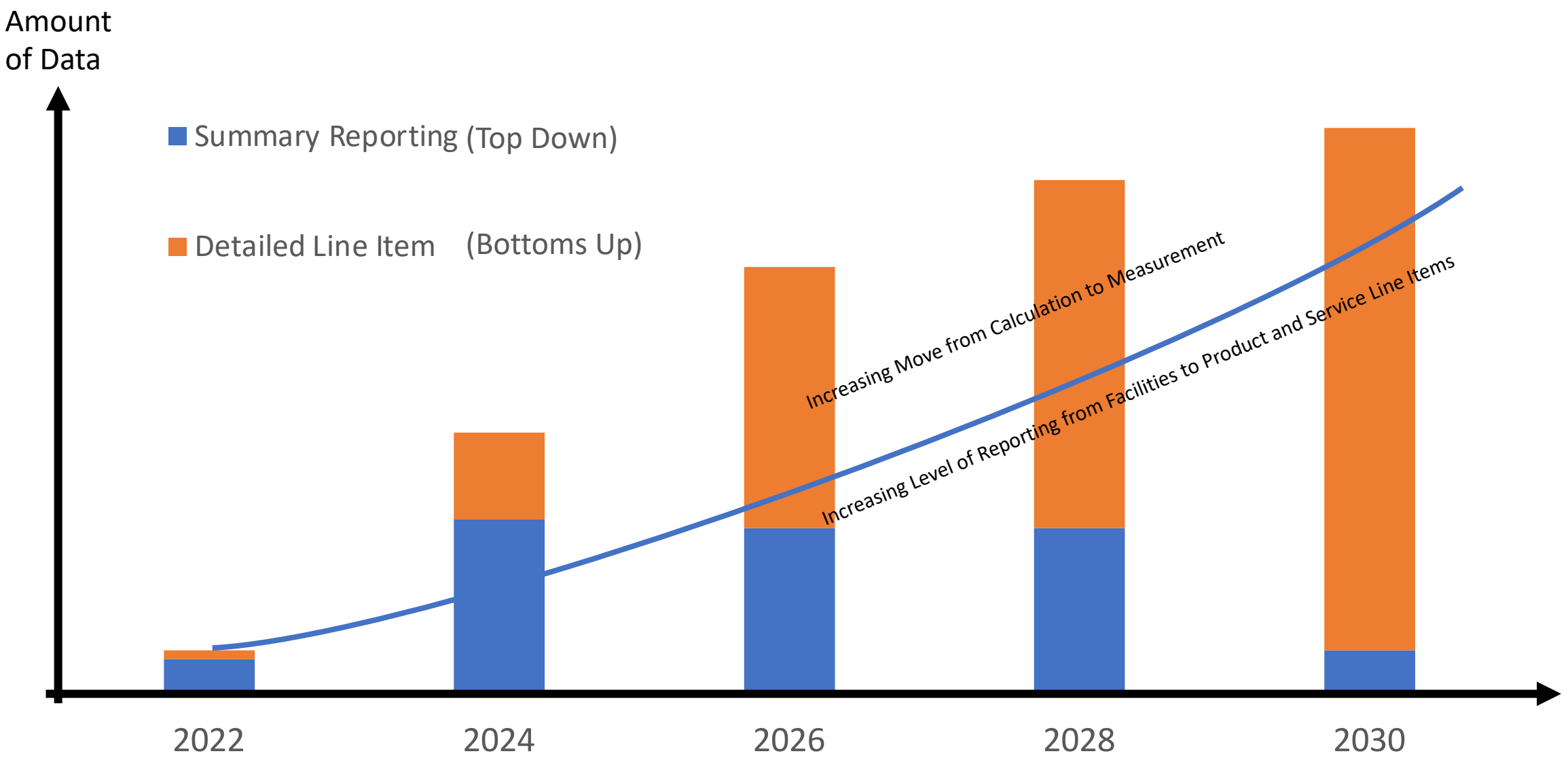
Companies Produce Sustainability Reports at a Macro Level using Industry Averages

**2020 GHG Emissions Reported by Category (metric tonnes of $CO_2e$)**

| 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 $CO_2e$ annualized). |
| Processing of Sold Products | 271,000 | Processing of intermediate products sold to down-stream manufacturers. |

[1] Location-based method Scope 2 emissions (does not account for any renewable energy purchases) = 3,700,000 metric tonnes $CO_2e$/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 $CO_2e$/year.

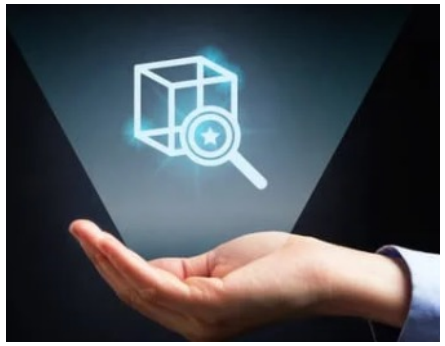
# DATA RAMP UP AND CONVERSION



# Challenges with calculation and reporting of emissions

PIDX™
EMISSIONS TRANSPARENCY

**Stakeholder and reporting pressures**



**Lack of standards**

**Or abundance**

**Slow, manual processes**

**Value Chain**

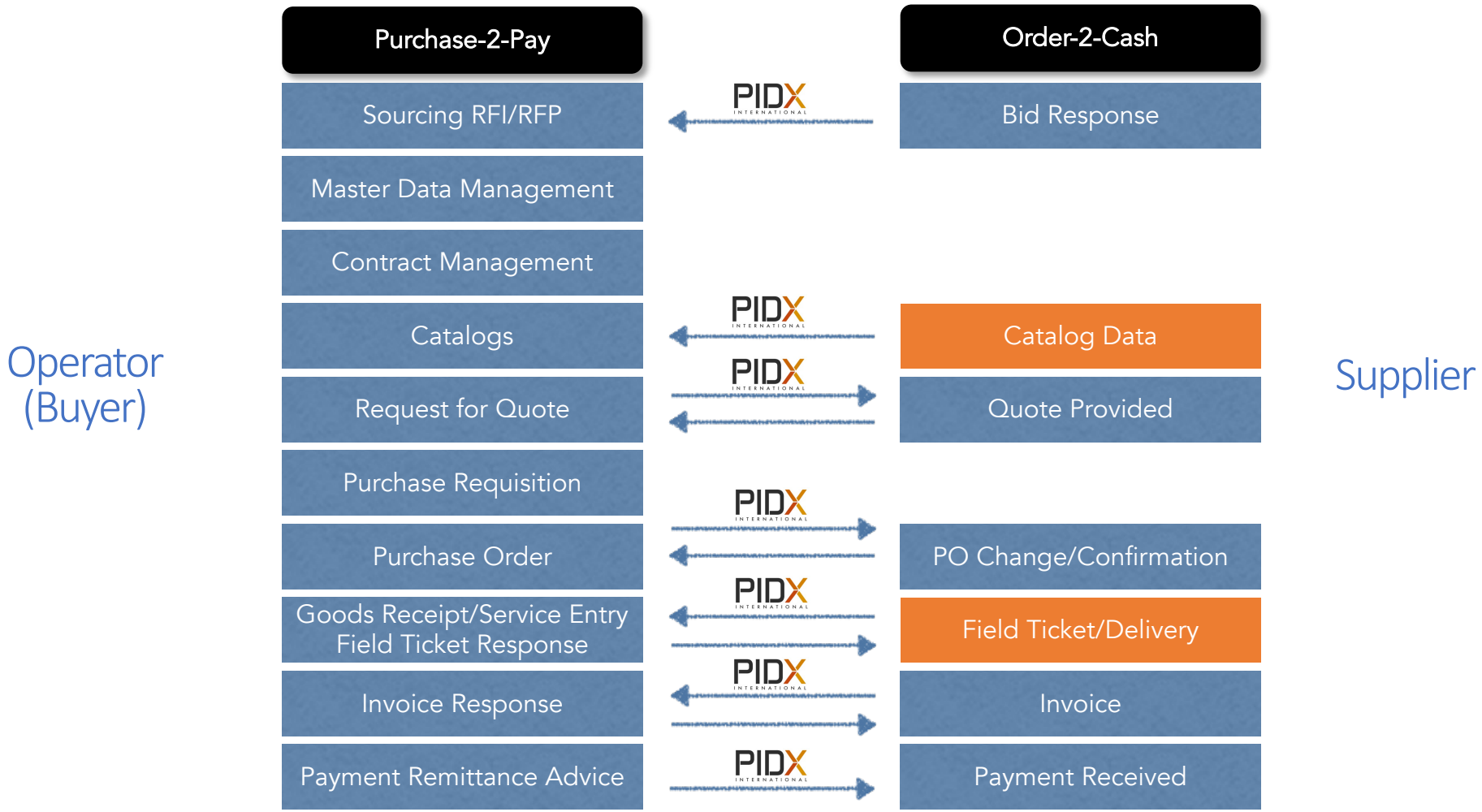
**Scope 3 emissions**

*"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*

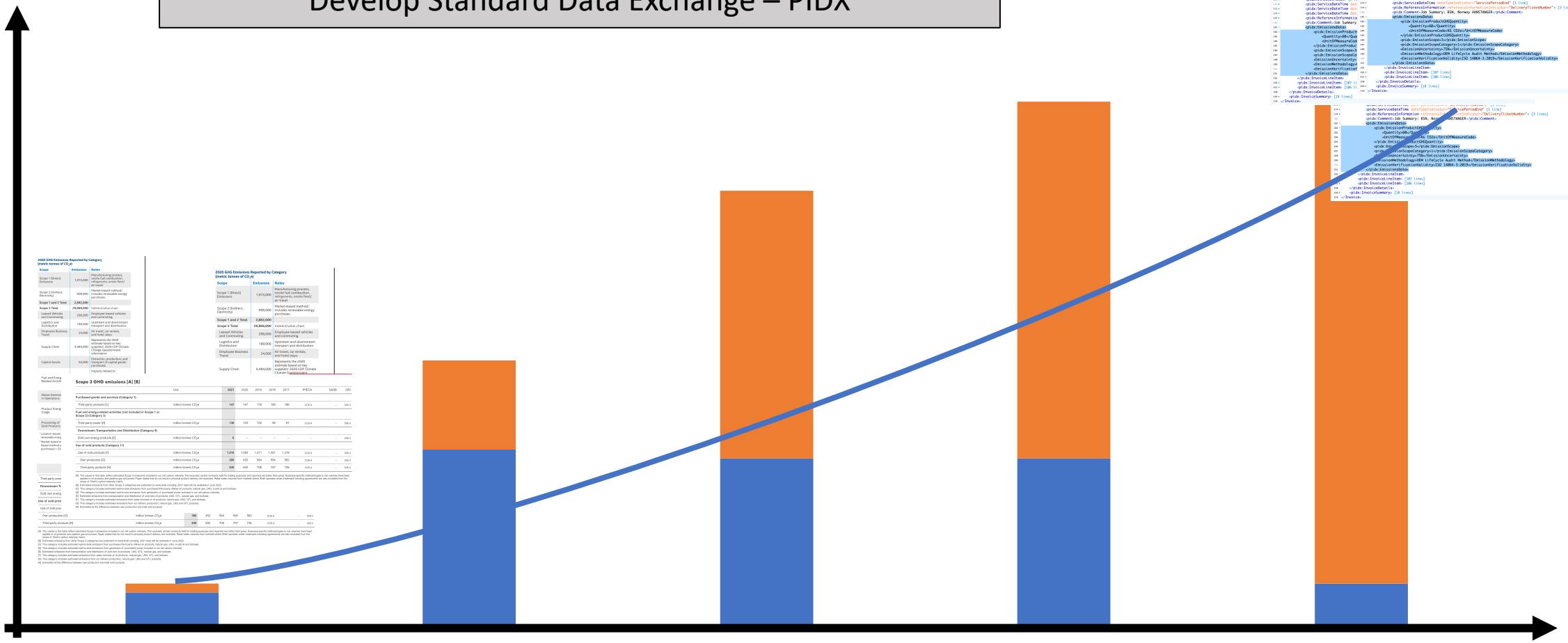
# ORCHESTRATION OF SUPPLY CHAIN MESSAGES

PIDX EMISSIONS TRANSPARENCY



# THERE IS A CLEAR PATH - STANDARDS

Define Standard Reporting Data – OpenFootprint
Develop Standard Data Exchange – PIDX



# CARBON REDUCTION & COLLABORATION

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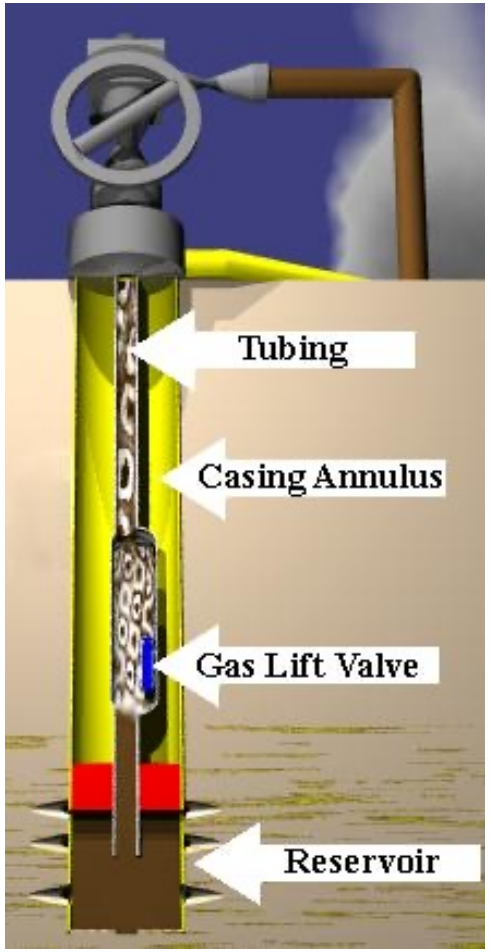
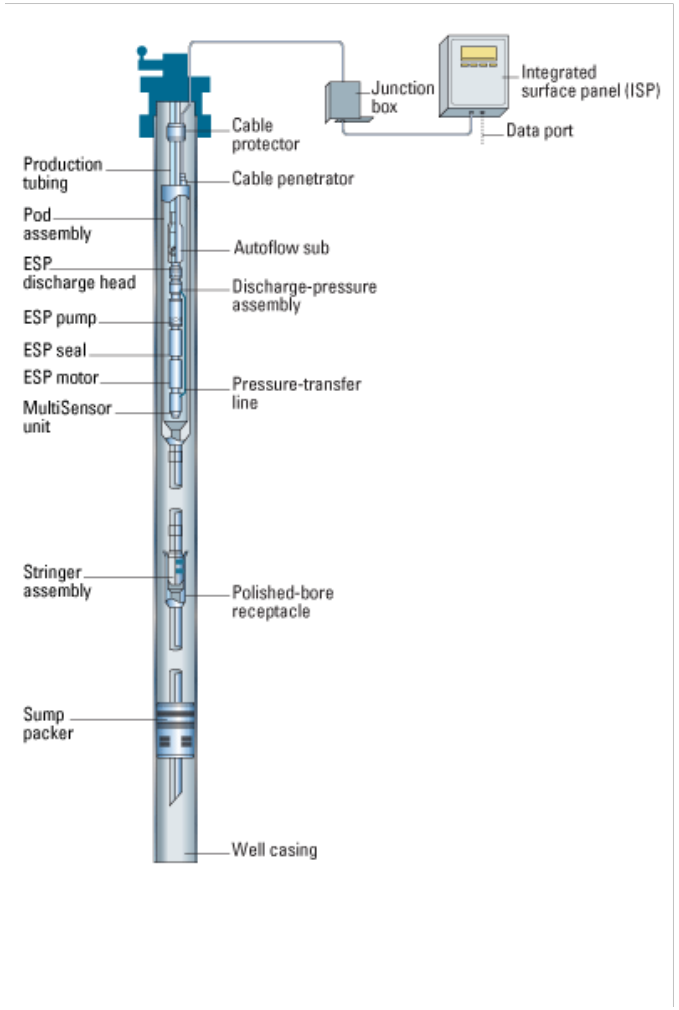
Buyer and Supplier Partner to Reduce Carbon Footprint




Gas Lift vs. Electric Submersible Pump



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# How To Get More Involved

# CONTACT

OFS PORTAL™
TRUSTED ENERGY SUPPLY CHAIN NETWORK

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