Uncovering Business Value with Environmental, Social and Governance Factors

Aaron Morales
Account Director
Trucost, part of S&P Global

January 28th, 2019



Trucost ESG Analysis

S&P Global

About Trucost and S&P Global

S&P Global

"We provide intelligence that is embedded into the workflow and decision-making of customers around the globe."

<u>S&P Global</u> is the leading provider of data, analytics, benchmarks, and credit ratings to the capital and commodity markets. S&P Global ESG Solutions include data, corporate and investor analytics, indices, news, green bond evaluations, and thought leading research.

Trucost ESG Analysis

S&P Global

S&P Dow Jones Indices

A Division of S&P Global

- ESG Index provider since 1999
- Trucost carbon scorecard applied to all indices

S&P Global

Ratings

- Green Bond Evaluations
- Credit Ratings incorporate ESG factors

S&P Global

Market Intelligence

- ESG data
- ESG analytics for corporates and investors
- Trucost SDG Evaluation
- Governance, energy and asset-level data

S&P Global

Platts

- Global energy and commodity data, benchmarks, and insights
- 2 degree climate energy scenario analysis
- Leading provider of research and analytics in energy, carbon and renewables

Trucost ESG Analysis

Trucost ESG Solutions

Trucost assesses risks relating to climate change, natural resource constraints, and broader environmental, social, and governance (ESG) factors. Companies use Trucost data and analytics to understand their ESG exposure, inform resilience & identify transformative solutions for a more sustainable global economy











Investor Portfolios & Loan Books

Companies or Assets

Corporate supply chains

Commodities

New products or Technologies

Corporate Environmental Data

Database of 14,000+ companies covering 500+ environmental metrics in six major categories (carbon and greenhouse gas emissions, water use, waste, air pollution, land and water pollutants, and natural resource use).

Carbon and Energy Data

Database of company revenue from fossil fuel or \non-renewable energy, fossil fuel reserves, and green:brown technology coverage.

Impact Valuation Data

Database of valuations for valuing costs of environmental and social impacts

Carbon and Water Pricing Risk

Database of carbon pricing risk and water pricing risk

ESG Risk Adjusted Commodity Prices

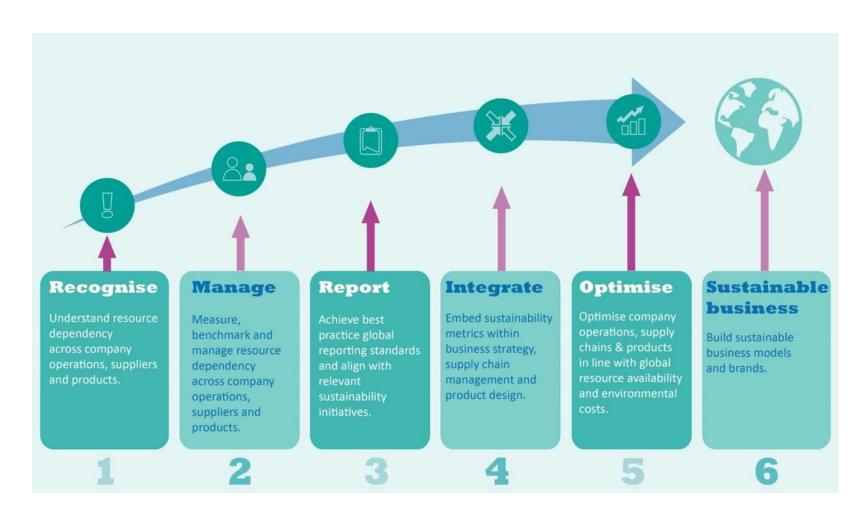
ESG regional issue analysis and risk of hard and soft commodities.

ESG Analytics & Tools

- · Company ESG Disclosure
- Environmental and SDG Footprints
- Supply Chain Analysis
- Climate Risk Aalysis (TCFD)
- Positive Impact Analysis: Net Benefit, Total Value, Sustainable Development Goals
- Science-based Targets
- Corporate Carbon Pricing Tool
- Water Risk Valuation

Sustainability Today

The Sustainability Journey



Source. Trucost

Trucost ESG Analysis

S&P Global

ESG moves from the margins toward the Mainstream in the capital markets

\$23 trillion

of assets under management consider sustainable investment issues 26%

of global assets under management consider sustainable investment 12%

annual growth rate of sustainable investment assets between 2014 to 2016 versus an industry average of about 5%.

\$24 trillion

expected to be under the control of values-driven millennials by 2020 associated with the largest intergenerational wealth transfer

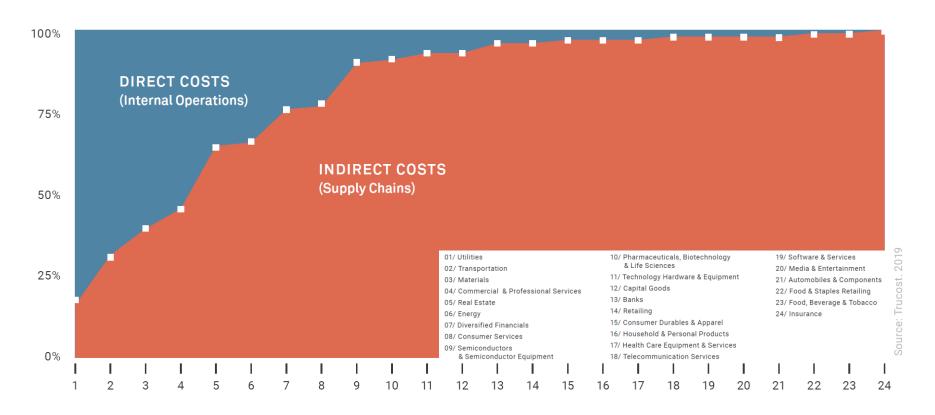
Sources: Global Sustainable Investment Review http://www.gsi-alliance.org/wp-content/uploads/2017/03/GSIR Review2016.F.pdf, Investment News, https://www.investmentnews.com/article/20161023/FREE/161019935/how-the-financial-advice-industry-performed-last-year

Trucost ESG Analysis

Hidden Costs

Majority of Natural Capital Impact Costs Come from Supply Chain for Most Sectors

Natural Capital Costs (%)

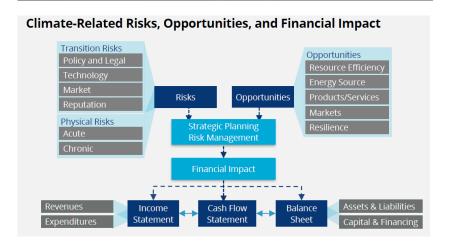


Source: State of Green Business 2020

Trucost ESG Analysis S&P Global

Increasing expectations on companies to disclose ESG information





Stock Exchange Listing Requirement for ESG Reporting Is Growing, But Mostly Voluntary



Source: https://www.fsb-tcfd.org/publications/final-recommendations-report/ / https://www.greenbiz.com/webcast/state-green-business-2020

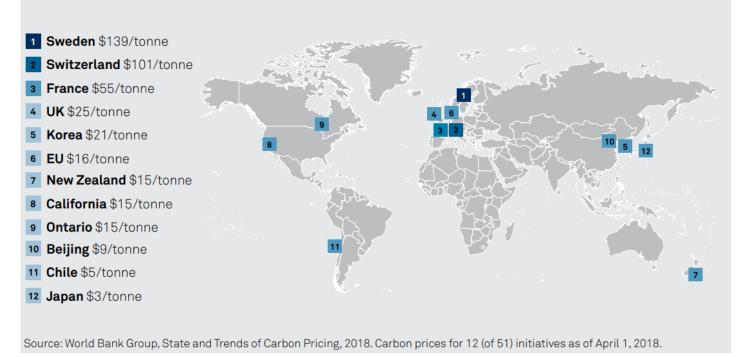
Trucost ESG Analysis

Carbon-related Risks

Forward Looking Risk: Carbon Pricing

How much are companies currently paying around the world?

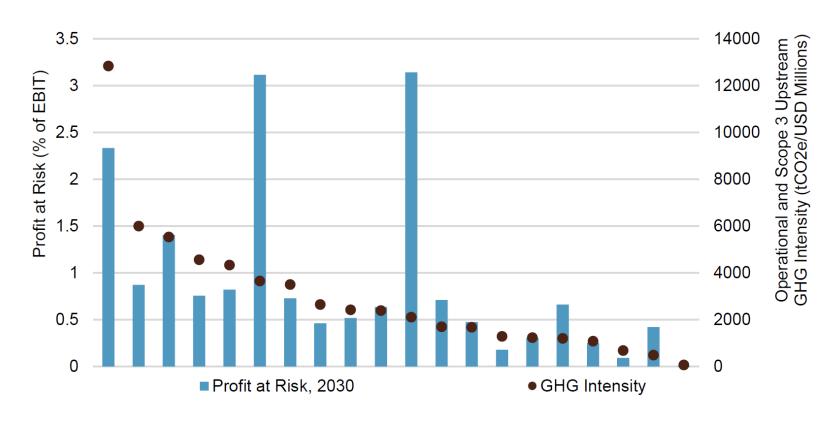
Carbon pricing schemes are becoming increasingly prevalent at the regional, country, and city levels, with 51 carbon pricing initiatives already implemented or scheduled for implementation.



Source: World Bank Group, State and Trends of Carbon Pricing, 2018. Carbon prices for 12 (of 51) initiatives as of April 1, 2018.



Financial Implications of Carbon Emissions



GHG Intensity Only a Partial Indicator of Carbon Pricing Risk Exposure – Electric Utilities

Trucost. Data as of December 2017. Chart is provided for Illustrative purposes.



Carbon Pricing Tool

This table presents an assessment of carbon pricing risk at the business unit level, based on aggregated emissions and financial data entered into the tool for all facilities within each business unit.

	Carbon Pricing Risk by Scope in 203			
		Percentage share of the Carbon Pricing Risk		
		by greenhouse gas emissions scope		
		Scope 1	Scope 2	Scope 3
BU1	Manufacturing	17%	2%	81%
BU2	Supply Chain Management	21%	2%	77%
BU3	Distribution	48%	21%	31%
BU4	Research and Development	26%	31%	43%
BU5	Administration	5%	8%	86%



Source: Trucost, July 2017

Trucost ESG Analysis

Water Risk

Quantifying the full value of water

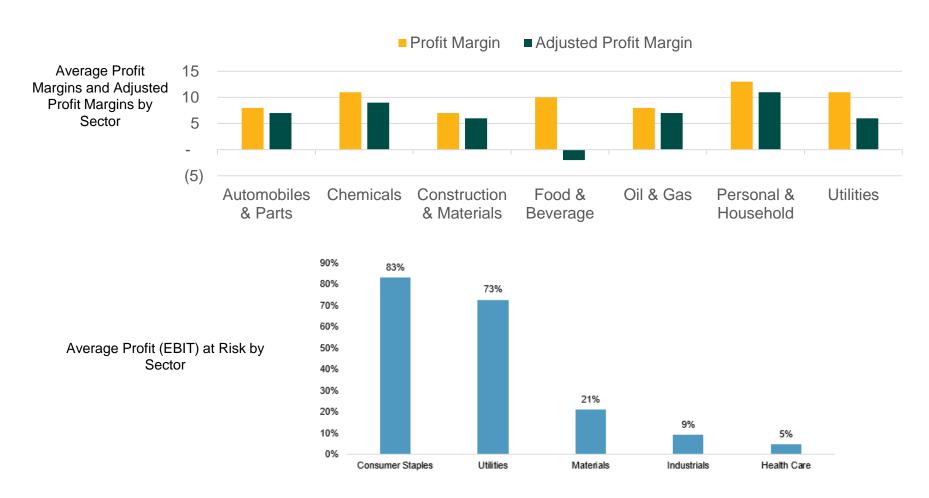
The traditional way of assessing water risks involves looking at water consumption and the market price water of water. However, there are potential risks associated with water scarcity and quality coming in from the basin and going back out.

Water Bill
Sewer Bill

- Perception that water is cheap and accessible
- ✓ Full value of water generally much higher than users realize
- Limited awareness of water as a material business asset

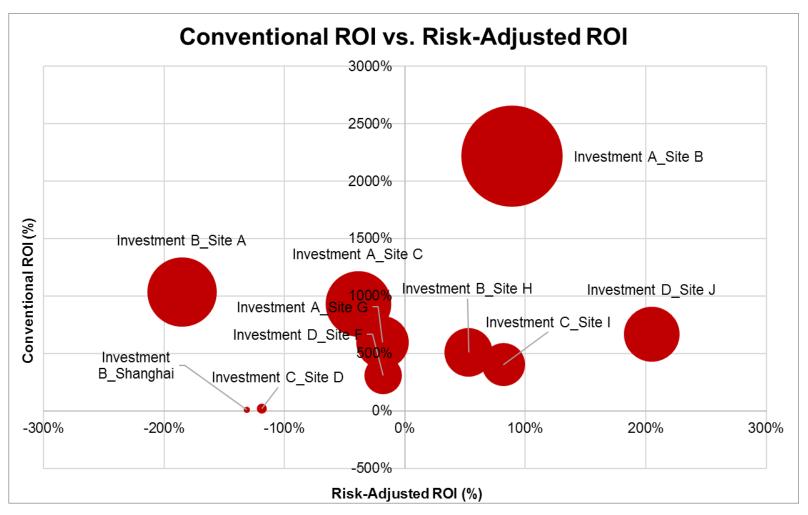


Water risks have the potential to influence revenue and profit margins



Source: Trucost. Data as of Dec. 31, 2017.

Water Risk Analysis

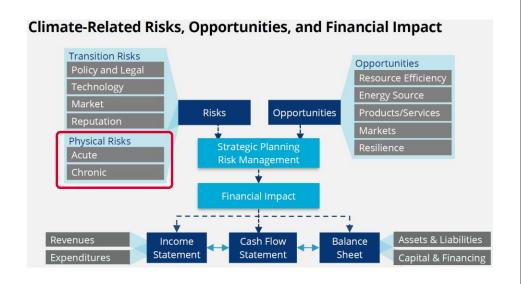


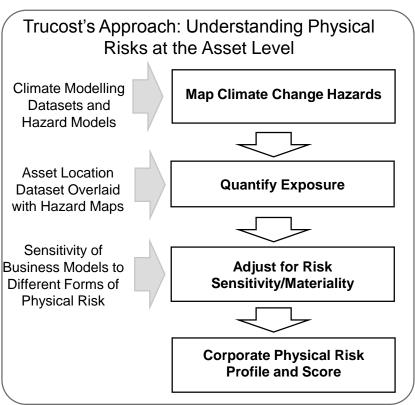
Source: Trucost

Trucost ESG Analysis S&P Global

Climate Risk

Recommendations from Taskforce on Climaterelated Financial Disclosures (TCFD)



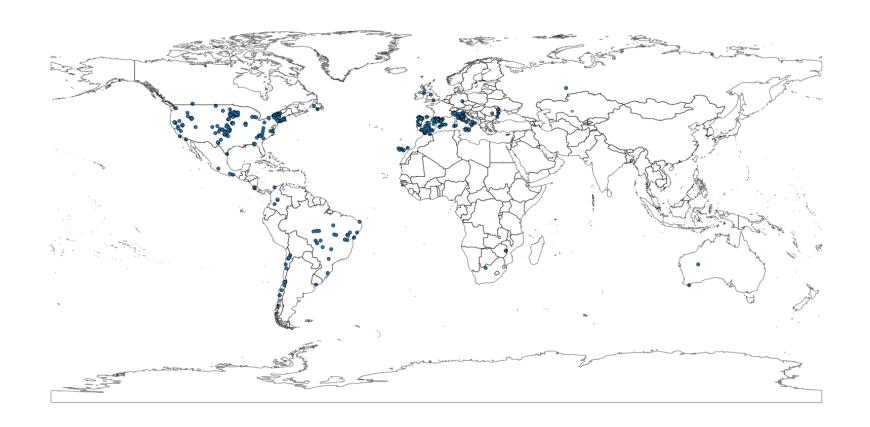


Source: TCFD June 2017; Trucost analysis as of October 2019

Trucost ESG Analysis

Example Analysis: Global Energy Company:

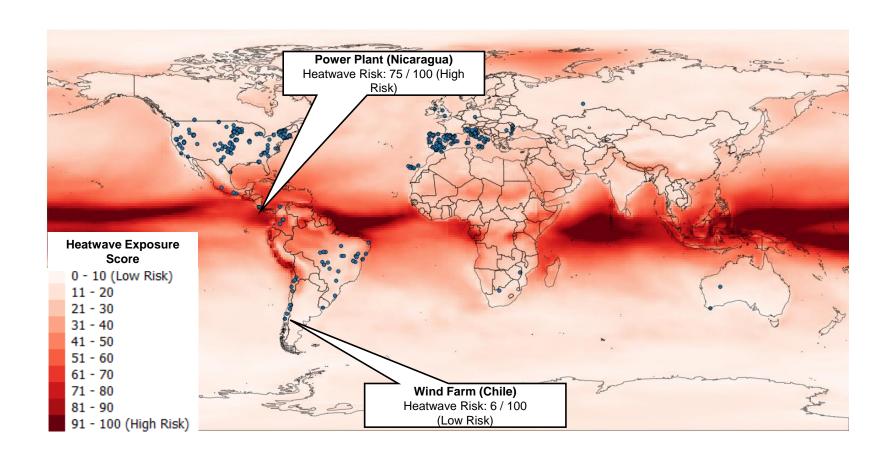
Global operations of a global energy company with activities spanning the USA, Europe, Latin America, Africa and Australia



Source: Trucost analysis as of October 2019. For illustrative purposes only



Example Analysis: Global Energy Company - Heatwave Risk



Source: Trucost analysis as of October 2019. For illustrative purposes only.

S&P Global

Thank You!

Q&A

Trucost ESG Analysis

According to Nielsen, consumers are willing to pay more for sustainable products

CONSUMER
BRANDS THAT
DEMONSTRATE
COMMITMENT TO
SUSTAINABILITY
OUTPERFORM
THOSE THAT DON'T

- In the past year alone, sales of consumer goods from brands with a demonstrated commitment to sustainability have grown more than 4% globally*, while those without grew less than 1%.
- Sixty-six percent of consumers say they are willing to pay more for sustainable brands—up from 55% in 2014 and 50% in 2013.

Source: https://www.nielsen.com/wp-content/uploads/sites/3/2019/04/global-sustainability-report-oct-2015.pdf

List of Stock Exchanges with ESG reporting required as a listing rule

Number of stock exchanges 25

Number of listed companies 16,344

Domestic market capitalization 19,256,775 million US\$

- Austria Wiener Börse (Vienna Stock Exchange)
- Belgium Euronext Brussels
- Brazil B3
- China, SAR Hong Kong Hong Kong Exchanges and Clearing Limited
- France Euronext Paris
- India BSE India Ltd. (Bombay Stock Exchange)
- India National Stock Exchange of India (NSE)
- Indonesia Indonesia Stock Exchange (IDX)
- Ireland Euronext Dublin
- Luxembourg Bourse de Luxembourg
- Malaysia Bursa Malaysia

Source: https://sseinitiative.org/data/

Trucost ESG Analysis

- Namibia Namibian Stock Exchange
- Nigeria Nigerian Stock Exchange
- Peru Bolsa de Valores de Lima
- Philippines Philippine Stock Exchange
- Portugal Euronext Lisbon (Bolsa de Lisboa)
- Seychelles Trop-X (Seychelles Securities Exchange)
- Singapore Singapore Exchange
- South Africa Johannesburg Stock Exchange
- Thailand Stock Exchange of Thailand
- The Netherlands Euronext Amsterdam
- United Kingdom Euronext London
- Vietnam Ho Chi Minh Stock Exchange
- Vietnam Hanoi Stock Exchange
- Zimbabwe Zimbabwe Stock Exchange

Contact Information

UK (HEAD OFFICE)

Trucost Plc

20 Canada Square Canary Wharf London, E14 5LH United Kingdom

T: +44 (0) 20 7160 9800 **E:** Trucostinfo@spglobal.com

EUROPE

Trucost Plc

40 rue de Courcelles

Paris 75008

France

E: TrucostEMEA@spglobal.com

NORTH AMERICA

Trucost Plc

55 Water Street, 27th Floor

New York NY 10041

United States of America

T: +1 800 402 8774

E: Trucostnorthamerica@spglobal.com

ASIA

Trucost Plc

Unit 01, Level 69

International Commerce Centre

1 Austin Road West

Kowloon

Hong Kong

E: Trucostasiapacific@spglobal.com

SOUTH AMERICA

E: Trucostsouthamerica@spglobal.com

ALL OTHER ENQUIRIES PLEASE CONTACT

US ON:

E: Trucostinfo@spglobal.com



Aaron Morales
Account Director
Trucost ESG Analysis

S&P Global, 130 E Randolph St, Chicago, IL, 60601

Cellular: +1 773 255 9035 E-mail: <u>aaron.m@spglobal.com</u>

Uncovering Business Value from Environmental, Social and Governance Factors



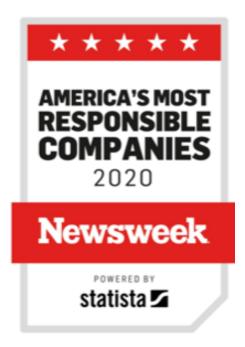
Intelex as a Company

Intelex is a leader in sustainability, environmental, health and safety, quality and supply chain management software systems. We've been around since 1992 which makes us one of the most established vendors in the space.



Fortive Corporate Responsibility

Newsweek Top 300 Most Responsible Company





Fortive and Sustainability









How we invest in people and community



Education Clubs for Employees



Global Sustainability/CSR Focus



Intelex Student Scholarship Program



Green Start Up Program



IntelexOne – Diversity, Inclusion and Belonging



Leaders in the Local Community





Intelex and BLR Sustainability Study

...and why we make an excellent partner.



Assessing Sustainability Efforts

Measuring Sustainability is very important. Proper assessment and communication of sustainability efforts is a high priority among survey respondents. Knowing what to measure, and how to measure is paramount in to achieving success.

On average, respondents ranked the importance of "transparency" at 8.1 on a 10-point scale, and they ranked the importance of "data accuracy" at 8.5. Further, organizations use 12 methods and metrics to track their longitudinal sustainability performance.



Assessing Sustainability Efforts





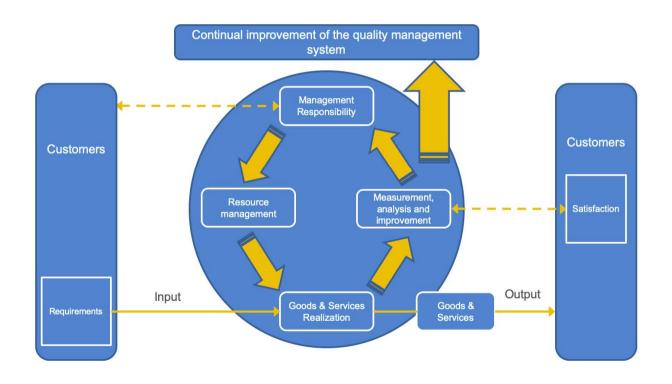
Sustainability and Quality

...and why we make an excellent partner.



Key Components of ISO 9001

Basics of the ISO 9001 Quality Management System





Shared Concepts

- Making hidden costs visible: From a quality perspective, hidden costs related to wasted materials, wasted
 energy, distracted employees, dissatisfied customers, and poorly performing products can amount to 10 to
 40 percent of total costs. Similarly, CSR might use lifecycle approaches to highlight costs buried deep in the
 value chain, like supplier and consumer energy use for the manufacture and operation of products. This idea
 is already taking hold, with 86 percent of CEOs viewing "accurate valuation by investors of sustainability as
 important to reaching a tipping point in sustainability," according to a UN Global Compact report.
- Corporate governance: In quality, senior management holds complete responsibility for quality problems, and quality is made in the boardroom. The majority of quality problems are the fault of poor management rather than poor workmanship. Likewise, CSR success is directly related to CEO commitment.
- Empowerment: "Quality at the source" refers to an approach in which workers are given the authority to stop a production line if there is a quality problem or offer a customer an on-the-spot refund if the service is not satisfactory. Empowerment is also a primary pillar in promoting supply chain sustainability. The promotion of an informed, participatory workplace helps ensure fair working conditions.



Shared Concepts

- From reactive to proactive: In quality, prevention and continuous improvement are more effective than inspection. And in sustainability, supply chain monitoring approaches used alone fail to address root causes for social and environmental challenges.
- Internal alignment: According to the total quality approach, each department views other departments as internal customers, causing barriers to fall. This kind of cross-functional approach is useful in identifying and managing CSR issues. Both quality and sustainability, therefore, encourage internal collaboration both vertically (from the CEO level to the factory floor) and horizontally (across departmental silos).



Intelex Sustainability Software Solution

...and why we make an excellent partner.



Intelex as a Sustainability Software Solution

- Simplify Data Collection
- Assess Risks
- Create an Emission Factor Library to Easily Calculate GHG Emissions
- Configurable Charts, Dashboards, and Reports
- Sustainability Project Center
- Improve Communication via Bulletins

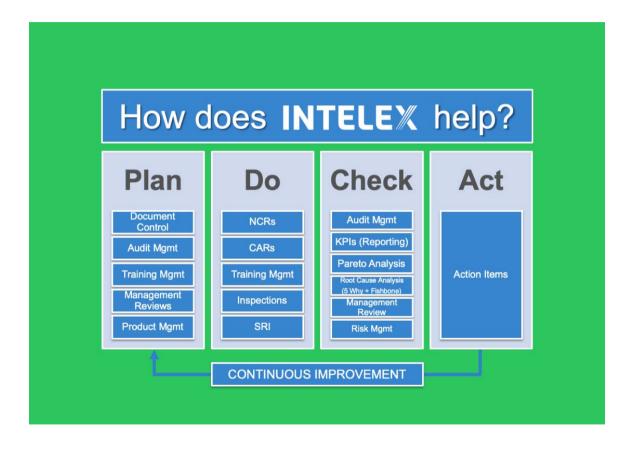


How We Help

- We help our clients keep their employees safe, reduce their environmental impacts and improve the quality of their products and services.
- We help them streamline their operations, achieve operational excellence and ensure the sustainability of their businesses.
- Intelex empowers organizations to meet the challenges of an increasingly complex marketplace while minimizing their negative social, environmental and human impacts.
- Intelex provides real-time monitoring and analytics with Industrial Scientific monitoring equipment.

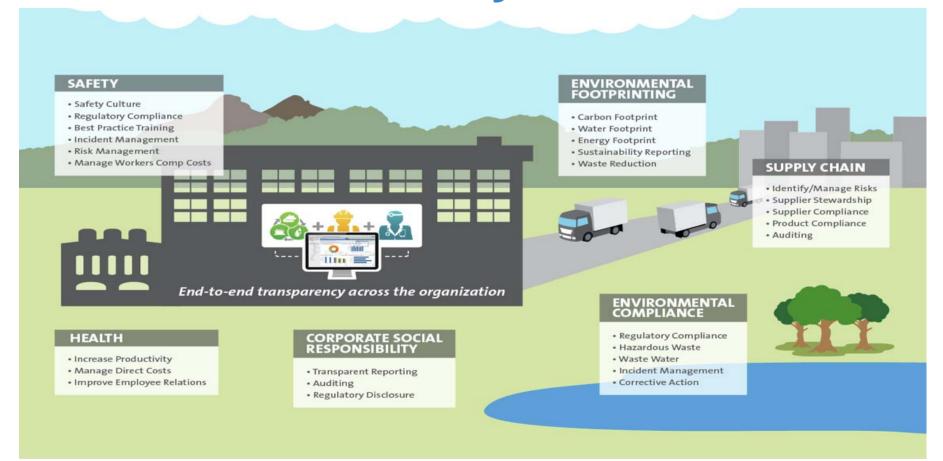


How We Help





Intelex Sustainability Solution





Operational Excellence

...and why we make an excellent partner.



Wearables for Connected Safety

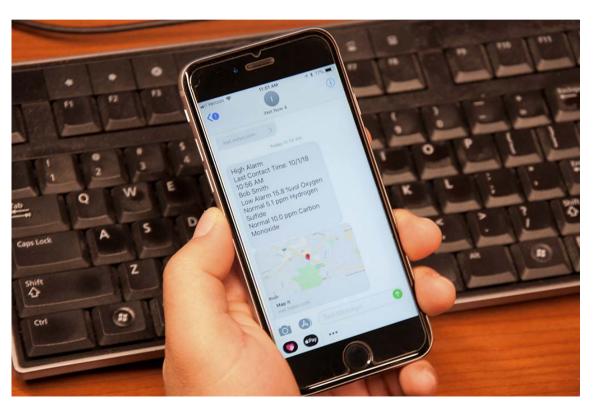
- Improve team and site safety by locally sharing alarms and gas readings
- remote live monitoring with location details
- Track assets and people in realtime





Increased Efficiency for Your Organization

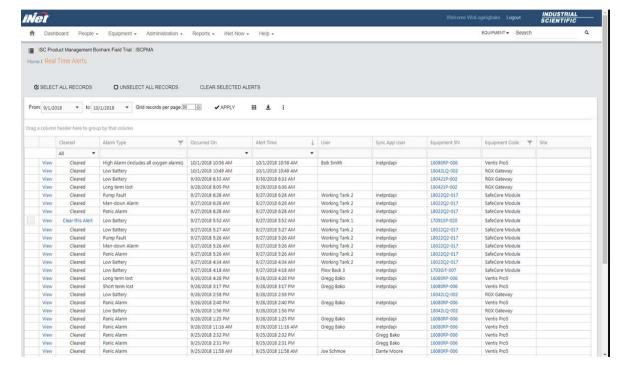
- Use real-time data to assess emergency situations and respond appropriately
- Verify mobile worker status without burdening or distracting workers with manual check-ins





Valuable Insights for Your Organization

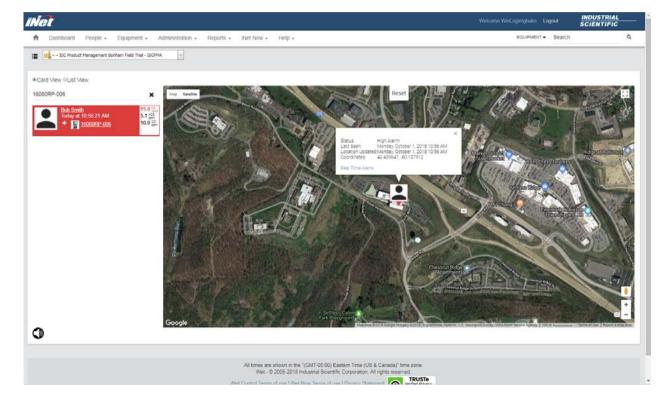
- Improve the reporting of your safety incidents by following up in real time versus days or weeks later
- View a log of real-time alerts to see what hazards were encountered in the field and export data for easy reporting and follow up
- Analyze worker or instrument records to understand duration of alarms, time of alarms, monitoring status, and alarm readings





Total Visibility for Your Organization

- View a live map to pinpoint where workers are located and whether they have encountered hazardous gas, pressed the panic button, or activated the man-down alert
- Receive real-time text messages and email alerts and respond immediately when a worker encounters a high alarm, low alarm, TWA, STEL, panic, or man-down situation



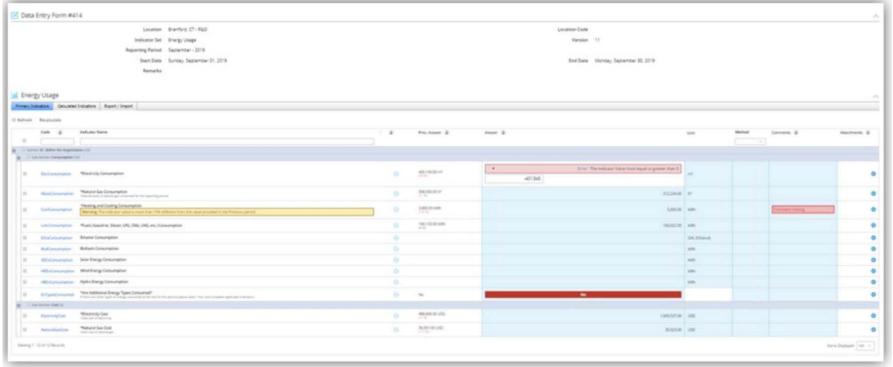


Intelex Data Collection

...and why we make an excellent partner.

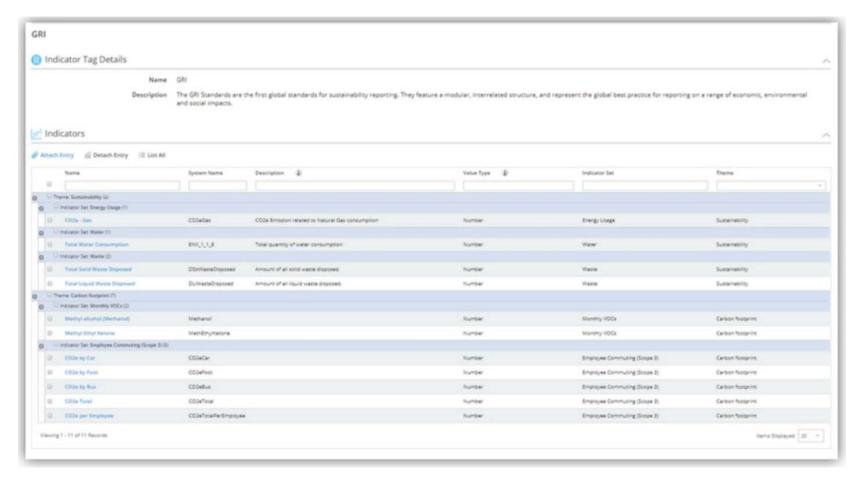


Collect Data Across Your Organization



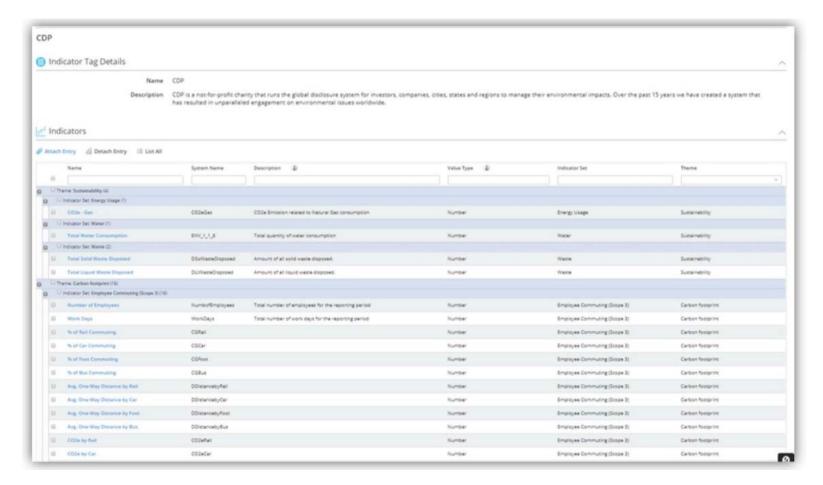


GRI Indicators



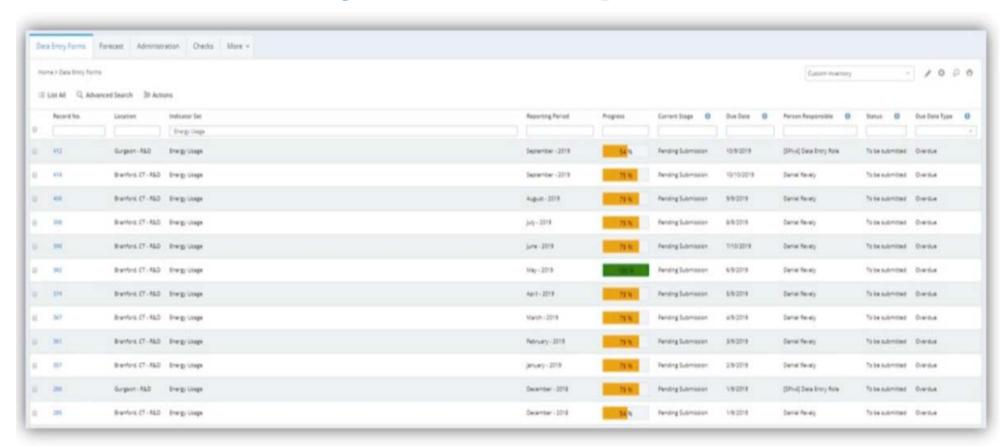


CDP Indicators





Sustainability Status Update





Intelex Sustainability Partners

Trucost ESG Analysis

S&P Global

Trucost, part of S&P Global, assesses risks relating to climate change, natural resource constraints, and broader environmental, social, and governance factors. Trucost is a company which makes estimates about the hidden costs of unsustainable use of natural resources by companies.



Intelex Sustainability Partners



Integrate utility bill data from Urjanet into Intelex and automate input of data. This removes the need to set up separate feeds to individual utility providers.

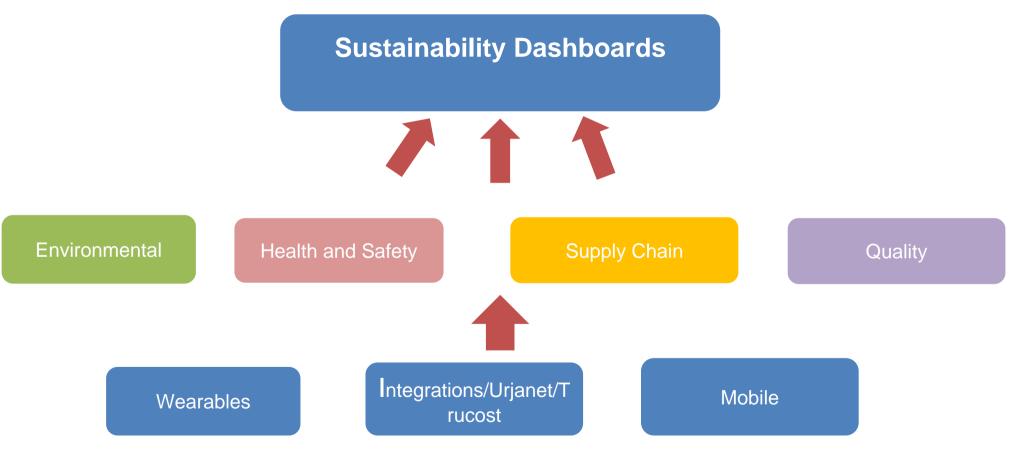


Assessing Risk

...and why we make an excellent partner.



Intelex Sustainability Data Feeds



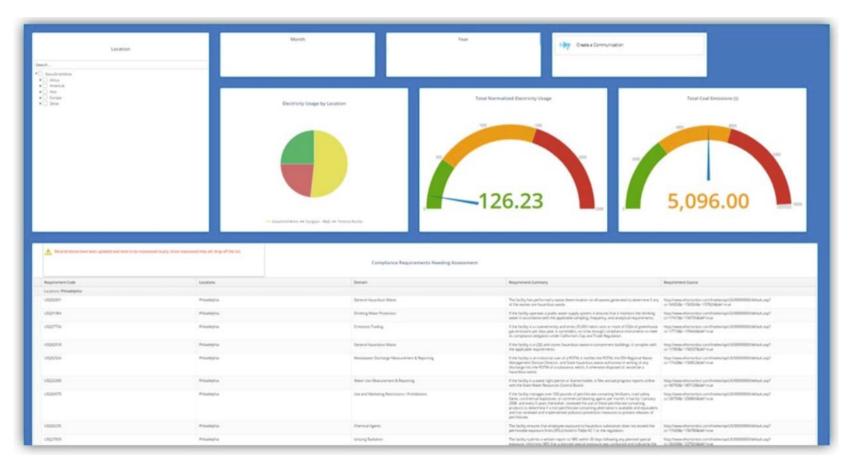


Intelex Sustainability Dashboard

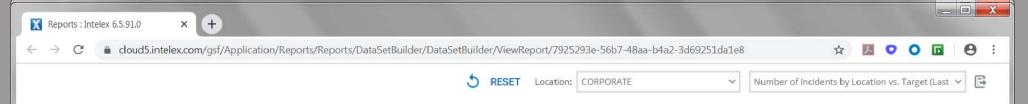




Intelex Sustainability Dashboard



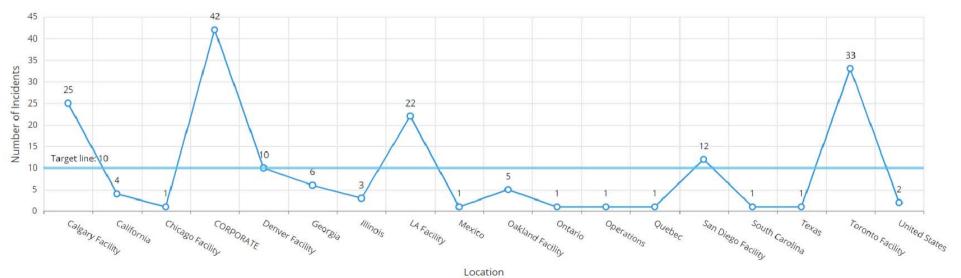




[Injury/Illness] - Injuries

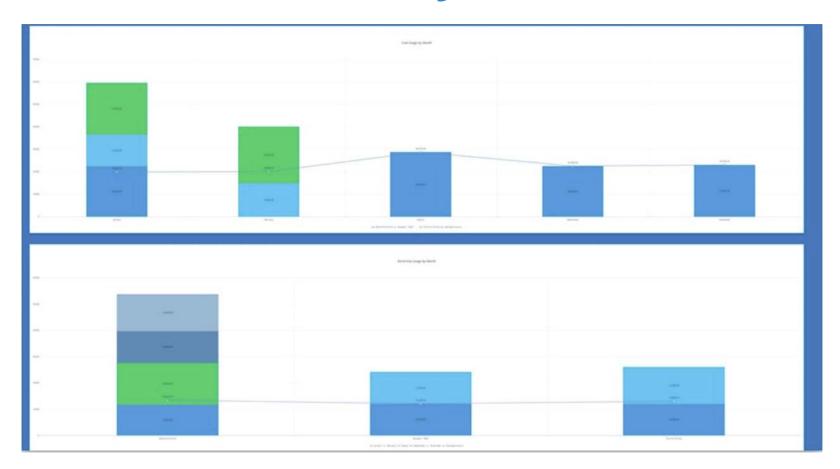


Number of Incidents by Location vs. Target (Last Month)



Location: CORPORATE

Intelex Sustainability Dashboard





Sustainability Reporting Principles

Accuracy	This principle requires that the reported information be sufficiently accurate and detailed for stakeholders to assess the reporting organization's performance.				
Balance	This principle requires that the reported information reflects positive and negative aspects or the reporting organization's performance to enable a reasoned assessment of overall performance.				
Clarity	This requires the reporting organization to make information available in a manner that is understandable and accessible to stakeholders using that information.				
Comparability	This principle requires the reporting organization to select, compile, and report information consistently The reported information is required to be presented in a manner that enables stakeholders to analyze changes in the organization's performance over time, and that could support analysis relative to other organizations.				
Reliability	This principle requires the reporting organization to gather, record, compile, analyze, and report information and processes used in the preparation of the report in a way that they can be subject to examination, and that establishes the quality and materiality of the information.				
Timeliness	This principle requires the reporting organization to report on a regular schedule so that information is available in time for stakeholders to make informed decisions.				



Intelex ACTS Module

...and why we make an excellent partner.



Intelex GHG Management

Intelex ACTS enables users to automatically calculate the correct GHG footprint for any common GHG source. We maintain a library of common factor sets (including GHG Protocol, DECC/DEFRA, eGrid, IPCC, IEA, and Climate Leaders) that are used in calculations to automatically produce your emissions data. You also have the flexibility to incorporate custom factors by overriding the standard factors at any level of the business (if for example you have a specific factor from a supplier).



Emission Factors

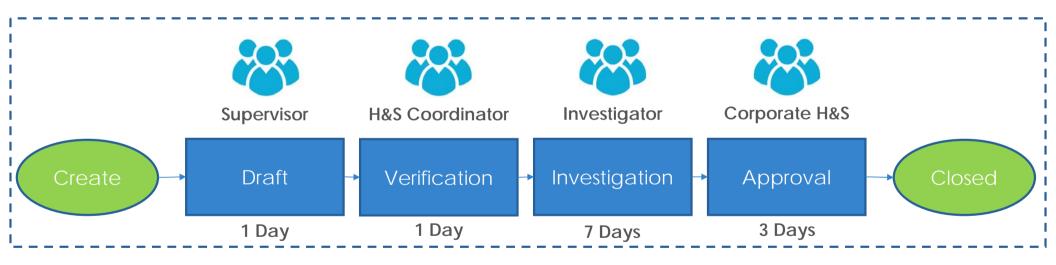
STANDARD	FMIS	EMISSIONS CALCULATION						
» Carbon Dioxide								
01 Jan 2016 to 31 Jan 2016	522.42 ton/mon S y S	System includes calculation						
	522.42 Carbon Pme	thods using AP-42 and						
» Carbon Monoxide	oth	or common industry						
01 Jan 2016 to 31 Jan 2016	3.28 ton/monOUT	other common industry						
3.28 Carbon Noractices								
» Nitrogen Oxides								
01 Jan 2016 to 31 Jan 2016	2.30 ton/month	2 {g/hp·hr} * 1400 {hp} * 744 {hr/month} / 453.59 {g/lb} / 2000 {lb/ton}						
2.30 Nitrogen Oxides Total								
» Sulfur Dioxide								
01 Jan 2016 to 31 Jan 2016	268.67 ton/month	234 {g/hp·hr} * 1400 {hp} * 744 {hr/month} / 453.59 {g/lb} / 2000 {lb/ton}						
	268.67 Sulfur Dioxide Tota							

Example Connectivity

...and why we make an excellent partner.



Example: Accident/Incident Investigation Process

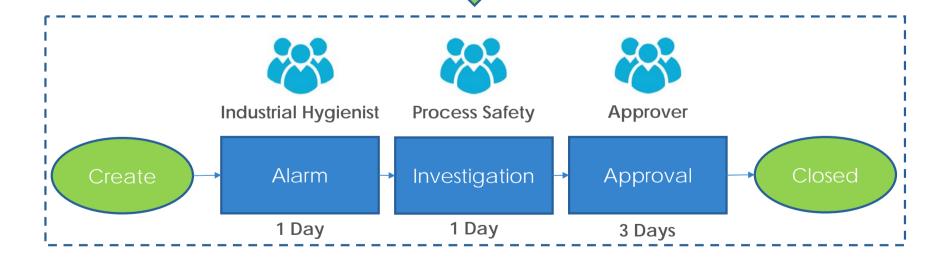








- INTELEX



Intelex Communication

...and why we make an excellent partner.



Communicate First

What are Bulletins?

Bulletins are targeted, measurable, short-form communications that are created and shared to drive specific actions.

Safety Bulletins, Environmental Alerts, Sharing Lessons Learned / Best Practices, Sharing Company Vision, Sharing Metrics Performance, Recognition, etc.

What are Posts?

Posts deliver transformative content, curated by you or our Intelex Content team, directly to our users.

Articles, Blog Posts, Whitepapers, Information Updates, etc.

Intelex Sustainability Solution

		_	_
	GE	v I =	4 7 6 6
 - / -	~		

FORESIGHT

COLLABORATION

Communicate First

Reach all levels of the organization and add value to their personal mission.

Easy To Consume

Make it easy for everyone to participate and benefit.

Change Behaviour

Collect feedback to have new insight into your engagement

Bulletin Communications

Measure

Analyze all your EHSQ inputs to derive valuable insights with leading indicators.

Set Goals

Convey business value to stakeholders to gain further support for your program.

Optimize

<u>Take action</u> based on insights to accelerate performance.

Sustainability Engagement Score

Learn

Be better informed by learning from peer organizations

Share

Share professionally curated bulletins with frontline staff

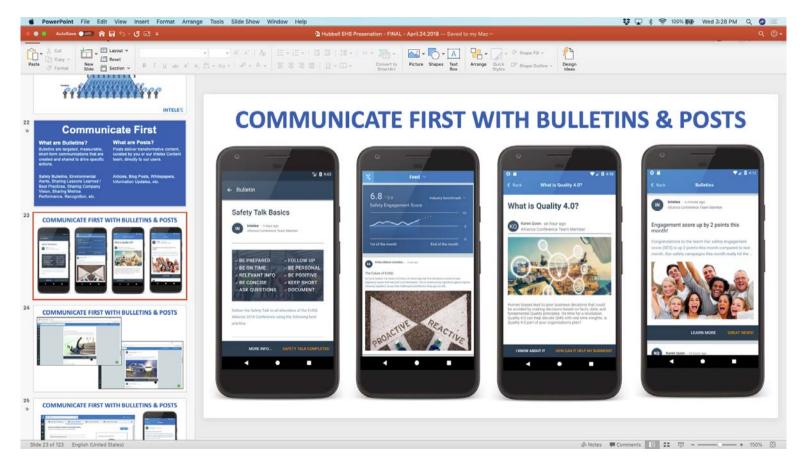
Compare

Improve your program by comparing your metrics between locations.

Content

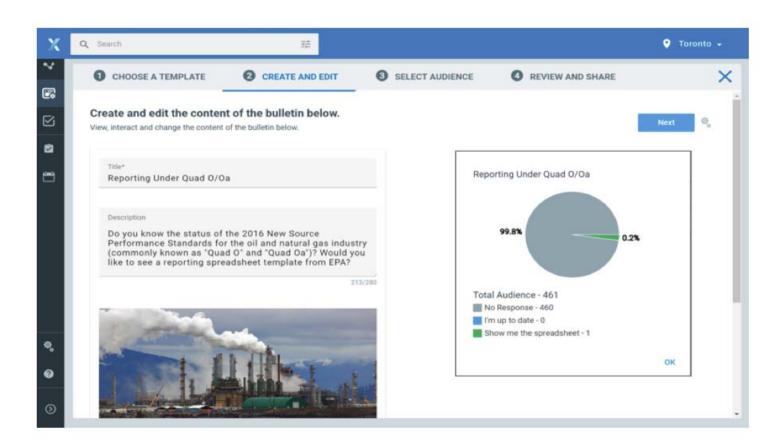


Intelex Communication





Intelex Communication Status





Intelex Key Benefits

...and why we make an excellent partner.



Intelex Software Solution Key

Benefits
Gain insight into sustainability metrics that were once incredibly difficult to gather on an ongoing basis. Sustainability metrics rarely come from one central department in an organization, so it requires a lot of diligence to gather the information accordingly.

- Replacing excel and phone calls to multiple sites to manually gather energy usage, calculate emissions and share data.
- Using ACTS for Green House Gas calculations to set emissions thresholds, through a managed library bringing together for commonly used factor sets. Pick the appropriate factor sets for each area of your business to get the most accurate emissions report.



Intelex Software Solution Key Benefits

- Have a better handle on your data, having it in an organized format with automated collection so you can make smart decisions
- Easily delegate data collection out to site specific users, and control the approval process for accurate data reporting
- Intelex allows for easy reporting which would normally take you months to gather data, validate, and report out for annual reports. Now you can just export the charts you have created in the solution in a matter of minutes. Create scheduled reports of your most important metrics, sent automatically to key stakeholders.



Intelex Software Solution Key Benefits Create new environmental/sustainability initiatives

- Track performance against targets and benchmarking, both for global targets and site specific (target dashboards). Can be set up for custom metrics (waste/water consumption, utility costs, GHG emissions, etc.)
- Calculate emissions from scopes 1, 2, and 3 for a holistic view of your company's total emissions
- Tracking CSR data such as donations, volunteer hours and diversity



INTELEX LIVE WEBINAR

Managing Sustainability with Key Performance Indicators

January 30, 2020 | 2:00 PM EDT



Aaron Davis
Senior Product Marketing Manager



Georgia Dransutavicius
Senior Product Solution Consultant, Sustainability



Questions?

...because that was a lot of information.

