AI-Powered sustainability for intelligent net zero journeys

TCS Intelligent Urban Exchange™ for sustainability
Data-driven climate action

Organizations today are on a journey to become operationally interconnected, resilient, and sustainable as they step up their climate action strategies.

While profitability and consistent returns continue to be the fundamental operating principles of businesses, governments, and institutions, consumer sentiment for climate-friendly practices, such as Environmental, Social, and Governance (ESG) guidelines, is rapidly growing.

In addition, mandatory emissions and climate protocols are rapidly being developed by global consortiums such as the Conference of the Parties (COPS) and the Intergovernmental Panel on Climate Change (IPCC). Backed by world bodies such as the United Nations and the World Health Organization these regulations are compelling executive boards of organizations around the globe to prioritize and expedite their sustainability journeys. Forward-thinking enterprises are quickly incorporating and adjusting business models, operations, and supply chains to align with these evolving standards and consumer expectations.

TCS Intelligent Urban Exchange™ for sustainability is an advanced AI and ML-powered solution that delivers comprehensive insights, recommendations, and metrics for environmentally clean organizational and value chain operations. The aggregate system-wide impact of TCS Intelligent Urban Exchange™ for sustainability results in substantial emissions reduction, cost savings, and resource conservation while also advancing corporate environment stewardship, compliance, and social responsibility.

Overview

Climate change acceleration is affecting the places we live, the food and water that we consume, and the businesses where we work. Organizations of all types play a critical role in helping to reduce the environmental, social, and economic impacts caused by climate change. Businesses and government entities need to rethink operating models to reduce their carbon footprint and accelerate sustainability efforts while remaining agile and resilient.

Challenges

Current systems offer a limited view of an organization's emissions, such as 'last mile' and facilities operations emissions. These disparate views leave gaps and do not provide a holistic, integrated view across operations. Blind spots created by such gaps create the potential for untracked emissions and risk unintended regulation and target non-compliance.
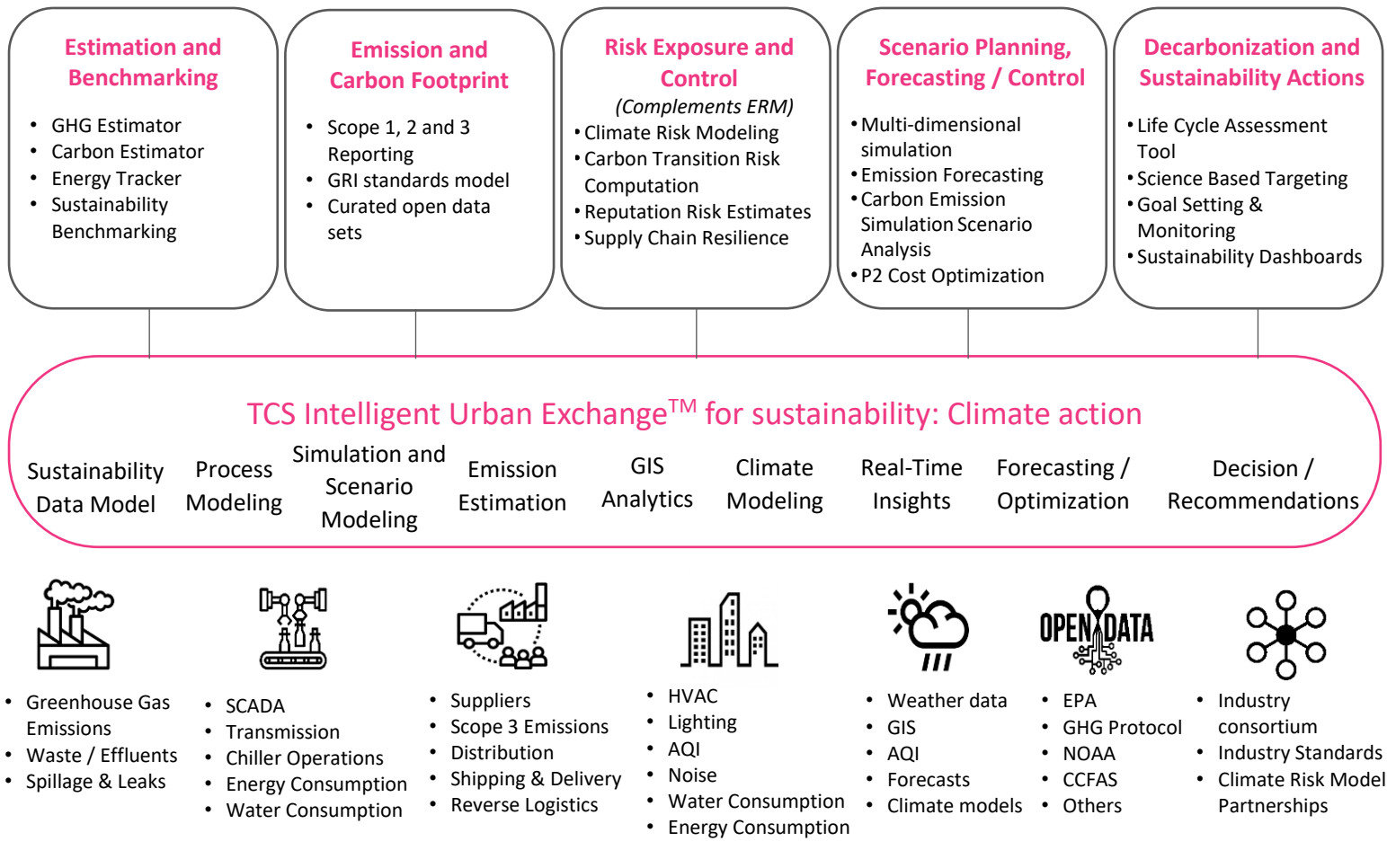
Also, emission reporting systems are manual in nature with limited capability to address Scope 1 and Scope 2 emissions. In addition, Scope 3 emission monitoring is proving more difficult than expected, delaying the ability of organizations to manage, track and report on them, again risking non-compliance.

Our solution

TCS Intelligent Urban Exchange™ for sustainability is a cloud-based sustainability decisioning solution for enterprises with prebuilt tools that simplifies climate action and net-zero journeys. TCS Intelligent Urban Exchange™ for sustainability is designed as an enterprise/city-grade analytics platform to address the sustainability goals of enterprises and cities. It is a holistic sustainability solution for strategic planning, risk management, forecasting, monitoring, and reporting. Key features include:

- **Automated Scope 1, 2, and Scope 3 reporting:** Available out of the box with easy configuration.

- **Leading climate models:** Minimize climate risk and projected loss.

- **Carbon transition risk assessment:** Drives energy transition and climate action.

- **AI-based ESG sentiment analyzer:** Delivers insights on public perception of ESG initiatives.

- **Sustainability twin carbon value chain simulation:** Supports enterprise decarbonization strategy planning from Scope 1 to Scope 3.

- **Optimal sustainability initiatives:** Enables organizations to achieve more effective and cost-effective carbon reduction.

TCS Intelligent Urban Exchange™ supports net-zero journeys

Estimation and Benchmarking
- GHG Estimator
- Carbon Estimator
- Energy Tracker
- Sustainability Benchmarking

Emission and Carbon Footprint
- Scope 1, 2 and 3 Reporting
- GRI standards model
- Curated open data sets

Risk Exposure and Control
(Complements ERM)
- Climate Risk Modeling
- Carbon Transition Risk Computation
- Reputation Risk Estimates
- Supply Chain Resilience

Scenario Planning, Forecasting / Control
- Multi-dimensional simulation
- Emission Forecasting
- Carbon Emission Simulation Scenario Analysis
- P2 Cost Optimization

Decarbonization and Sustainability Actions
- Life Cycle Assessment Tool
- Science Based Targeting
- Goal Setting & Monitoring
- Sustainability Dashboards

TCS Intelligent Urban Exchange™ for sustainability: Climate action

Sustainability Data Model | Process Modeling | Simulation and Scenario Modeling | Emission Estimation | GIS Analytics | Climate Modeling | Real-Time Insights | Forecasting / Optimization | Decision / Recommendations

- Greenhouse Gas Emissions
- Waste / Effluents
- Spillage & Leaks

- SCADA
- Transmission
- Chiller Operations
- Energy Consumption
- Water Consumption

- Suppliers
- Scope 3 Emissions
- Distribution
- Shipping & Delivery
- Reverse Logistics

- HVAC
- Lighting
- AQI
- Noise
- Water Consumption
- Energy Consumption

- Weather data
- GIS
- AQI
- Forecasts
- Climate models

OPEN DATA
- EPA
- GHG Protocol
- NOAA
- CCFAS
- Others

- Industry consortium
- Industry Standards
- Climate Risk Model Partnerships

Benefits

TCS Intelligent Urban Exchange™ for sustainability delivers the following benefits:

Integrated risk assessment: Climate risk assessments that empower organizations to see the impact of climate changes on operations

Sustainability insights: Our solution provides an accurate and comprehensive insights for optimizing Scope 1, 2 and 3 emissions

Robust emission reduction: AI/ML-powered decarbonization optimization that exposes the key drivers of emissions, and provides unique insights to the most effective solutions for reducing them

Achieve net zero goals: Carbon emission capabilities simulate complete emission behavior of the value chain enabling organizations to identify and attain optimal emissions levels

Continuous reporting: Automated emission management provides continuous Scope 1, 2, and 3 emission reporting across the entire value chain that facilitates expedited corrective actions

The TCS advantage

TCS helps organizations take advantage of the following key differentiators:

Award winning expertise: Our software has been created by industry experts who are actively and continuously scanning the global business horizon. Our industry specific development approach is complemented with the latest innovations from TCS' award-winning R&D efforts.

Lower cost of ownership: We create modular and integrated solutions for solving the real- world problems our customers face. Our flexible platform architecture allows you to adopt what you need today and scale as your needs evolve - all with limited if any downtime.

Simplified business and engagement models: We offer flexible business models that adapt to how you want to engage. We build our solution to enable rapid implementation that accelerates time to value.

World class innovation: Unencumbered by legacy code and requirements, we bring state of the art open-source technology to our solutions that fits today's and tomorrow's requirements – such as artificial intelligence (AI), machine learning (ML), and intelligent workflows

Awards and Accolades

To learn more, contact

Visit the https://www.tcs.com/what-we-do/products-platforms/tcs-intelligent-urban-exchange page on https://www.tcs.com

About Tata Consultancy Services Ltd. (TCS)

Tata Consultancy Services is a purpose-led transformation partner to many of the world's largest businesses. For more than 50 years, it has been collaborating with clients and communities to build a greater future through innovation and collective knowledge. TCS offers an integrated portfolio of cognitive powered business, technology and engineering services and solutions. The company's 469,000 consultants in 46 countries help empower individuals, enterprises, and societies to build on belief.

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