



BLUEBERRY PIE USE CASE

Product Intelligence

Building Better Decisions from Integrated Product Data

1.82 KGC0₂E / PIE

CAD \$4.28 MATERIALS

15 DIRECT INPUTS

MULTI-TIER SUPPLY MAP

JULY 2026

BLUEBERRY PIE USE CASE

Executive Summary

Every manufactured product represents hundreds of sourcing, procurement, manufacturing, logistics, compliance and sustainability decisions.

Yet most organizations manage these decisions across disconnected systems, making it difficult to understand how a single decision affects cost, carbon emissions, supplier performance, regulatory exposure and operational resilience.

Product Intelligence addresses this challenge by transforming the product into the central unit of business decision-making.

This paper illustrates how combining 360platform's Product Visibility with CarbonOne's Product Carbon Intelligence enables manufacturers to answer better business questions using integrated product data.

The Blueberry Pie Use Case demonstrates that Product Carbon Footprints become significantly more valuable when they are connected to Product Intelligence.

**PRODUCT VISIBILITY**

Ingredients, suppliers, facilities, countries of origin, regulations and trade risk.

**PRODUCT CARBON INTELLIGENCE**

Product-level emissions, hotspots and the cost-versus-carbon comparison.

DEFINITION

Product Intelligence is the ability to combine operational, carbon, sourcing, regulatory, supplier and risk information around a single product to support better business decisions throughout its lifecycle.

01 • THE NEW MANUFACTURING REALITY

The New Manufacturing Reality

Procurement teams optimize cost. Sustainability teams measure carbon. Compliance teams monitor regulations. Operations teams manage supply disruptions. Yet all these functions make decisions about the same product. The challenge is no longer collecting more data but connecting existing data around the product itself.

02 • PRODUCT VISIBILITY

Product Visibility: Understanding the Product

Using 360platform, the blueberry pie is decomposed into every ingredient, packaging component, supplier, production facility and country of origin. The Product Breakdown Report identifies fifteen direct input materials, maps suppliers through multiple tiers, evaluates supplier, facility, country and raw material risks, determines country of origin, and highlights applicable regulations and trade risks. This product-centric visibility provides the foundation required for credible product intelligence.

Inbound Routes to Processing Facility



03 • PRODUCT CARBON FOOTPRINTS

Unlocking More Value from Product Carbon Footprints

Product Carbon Footprints have become an essential tool for manufacturers seeking to measure and reduce product-level emissions. They provide valuable insights into environmental performance and increasingly support regulatory compliance, customer expectations, and corporate sustainability strategies.

However, the quality of a Product Carbon Footprint ultimately depends on the quality of the underlying product data.

When carbon calculations are connected to detailed Product Visibility—including ingredients, suppliers, production facilities, countries of origin, and logistics—organizations gain a much deeper understanding of the factors driving emissions. Carbon results become more accurate, more transparent, and, most importantly, more actionable.

THE SHIFT

Product Visibility transforms a Product Carbon Footprint from a reporting exercise into a practical decision-support capability.

04 • PRODUCT CARBON INTELLIGENCE

Product Carbon Intelligence

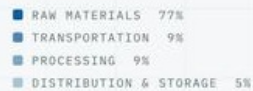
CarbonOne uses this product structure to estimate the product carbon footprint.

The analysis shows that a pie costing approximately CAD \$4.28 in materials generates about 1.82 kg CO₂e per pie. The comparison between financial cost and carbon emissions reveals that spending and emissions do not align. Some ingredients contribute relatively little to procurement cost while representing a disproportionate share of the product footprint.

03 • COST OF CARBON

Where the carbon goes.

The 1.82 kgCO₂e per pie, split two ways: by life-cycle stage, and by the ingredients that drive it. Raw materials carry more than three-quarters of the footprint.



Dairy & fats (sour cream, margarine and eggs) make up roughly 40% of raw-material emissions and 31% of total product emission. The animal-agriculture inputs punch far above their weight on the carbon ledger.

TOP INGREDIENT HOTSPOTS • kgCO₂e PER PIE

05 • SOURCING SCENARIOS

A Tale of Two Blueberries

DECISION CRITERIA	CANADIAN BLUEBERRIES	IMPORTED BLUEBERRIES
Ingredient Cost	Slightly Higher	Slightly Lower
Carbon Emission	Lower	Higher
Transport Distance	Short	Long
Fuel Price Exposure	Low	High
Supply Chain Complexity	Low	Medium
Trade Exposure	Low	Higher
Lead Time	Shorter	Longer

TAKEAWAY

The best sourcing decision is rarely determined by a single metric.

Product Intelligence enables manufacturers to evaluate trade-offs across cost, carbon, resilience, logistics and compliance simultaneously.

06 • BEYOND CARBON

Beyond Carbon: Product Intelligence

Once product visibility exists, organizations can extend decision making beyond carbon. Supplier performance, geopolitical exposure, regulatory obligations, tariff changes, traceability, country-of-origin verification and operational resilience become part of the same decision framework. Carbon becomes one important dimension of a broader Product Intelligence capability.

KEY FINDINGS

Carbon is concentrated where you least expect it

Dairy ingredients account for roughly 40% of raw-material emissions and 31% of total product emissions, making them the largest carbon hotspot.

Money and carbon tell different stories

Blueberries and packaging represent 57% of procurement spend but only 37% of emissions. Cost optimization and carbon optimization are different business problems.

Not every procurement dollar carries the same carbon

A dollar spent on dairy, flour, sugar or eggs carries two to three times more embedded carbon than a dollar spent on blueberries or packaging.

The cheapest supplier is not always the best decision

Chilean blueberries reduce ingredient cost by about 3% but increase transport emissions by 4.3x and raise the finished product footprint while increasing logistics complexity and fuel-price exposure.

07 • DECISION HOTSPOTS

From Carbon Hotspots to Decision Hotspots

Product Carbon Footprints reveal where emissions occur within a product.

Manufacturers rarely make decisions based on carbon alone. Every sourcing decision also affects cost, supplier performance, logistics, regulatory compliance, resilience, and long-term business risk.

THE TRANSFORMATION

Product Intelligence transforms Carbon Hotspots into Decision Hotspots.

The objective is no longer to optimize a single metric, but to balance multiple business priorities simultaneously.

CARBON HOTSPOTS ANSWER:

- Where are the emissions?
- Which ingredients contribute most to the Product Carbon Footprint?
- Where should we focus our carbon reduction efforts?

DECISION HOTSPOTS ANSWER:

- Which supplier offers the best balance between cost and carbon?
- Which ingredient creates the highest overall business risk?
- Which sourcing decision delivers the greatest total value?
- Which change should be implemented first?
- How would a tariff, disruption, or regulatory change affect this product?

Carbon Hotspots tell you where emissions occur. Decision Hotspots tell you where better decisions create the greatest business value. That is where Product Intelligence begins.

Decision Hotspots

The table below illustrates how Product Intelligence expands every sourcing decision beyond carbon by integrating cost, supply risk, regulatory exposure, climate risk, and recommended actions into a single decision framework.

Product Element	Carbon	Cost	Supply Risk	Regulatory	Logistics	Recommended Decision
<i>Dairy</i>	 Very High	 Medium	 Low	 Low	 Low	 Reformulate where feasible
<i>Blueberries</i>	 Medium	 High	 Medium	 Low	 Medium	 Prefer Canadian sourcing
<i>Sugar</i>	 Medium	 Low	 High	 Medium	 Medium	 Diversify upstream suppliers
<i>Packaging</i>	 Low	 High	 Medium	 Medium	 Low	 Increase recycled content

 Very High / High Impact
  Medium Impact
  Low Impact

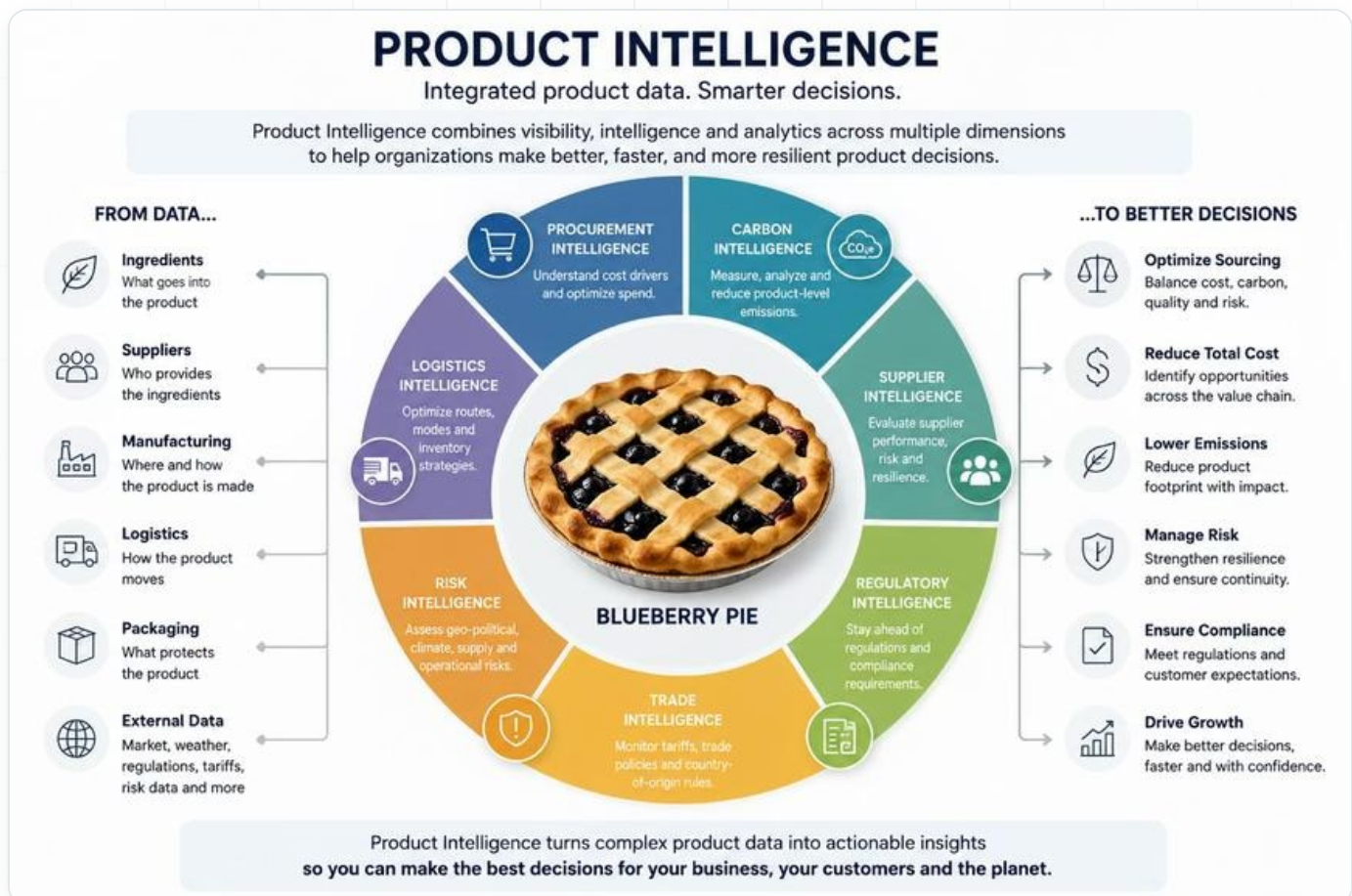
Beyond Carbon Accounting

Traditional Product Carbon Footprints explain what happened. Product Intelligence helps organizations decide what to do next.

By combining Product Visibility from 360platform with Product Carbon Intelligence from CarbonOne, manufacturers can evaluate sourcing decisions through multiple business lenses simultaneously: carbon, cost, supplier performance, regulatory compliance, geopolitical exposure, and operational resilience.

The Blueberry Pie Use Case demonstrates that the same product data supporting a Product Carbon Footprint can also drive procurement, sourcing, and product development decisions.

Carbon accounting therefore represents only one application of a broader Product Intelligence capability.



As manufacturers face growing pressure from climate regulation, trade disruptions, digital product passports, and increasing supply chain complexity, competitive advantage will increasingly depend on an organization's ability to transform product data into integrated decision intelligence.

The future is not simply better carbon accounting. It is better product decisions.

INSTEAD OF ASKING:

- What is my product's carbon footprint?

MANUFACTURERS CAN NOW ASK:

- Which supplier reduces both cost and carbon?
- Which ingredient creates the highest business risk?
- How would a tariff affect this product?
- Which supplier should we replace first?
- What happens if a country becomes unavailable?
- Which decision creates the greatest overall value?

Product Carbon Footprints tell you what happened. Product Intelligence helps you decide what should happen next.

Product Intelligence enables Decision Intelligence.

DEFINITION

Decision Intelligence is the ability to evaluate multiple business dimensions simultaneously to identify the best product decision.

Just as Enterprise Resource Planning transformed how organizations manage transactions, Product Intelligence has the potential to transform how organizations make product decisions.

ABOUT THE PARTNERS

**About CarbonOne**

CarbonOne is a Canadian carbon intelligence company founded to make carbon measurement simple, affordable, and credible for the companies that need it most.

Built by experts with decades of experience across the consumer-packaged goods sector, CarbonOne helps organizations measure, report, and reduce product-level carbon emissions through practical and decision-oriented lifecycle analysis.

CarbonOne enables companies to transform carbon from a reporting requirement into a strategic operational variable.

Brett Wills, CarbonOne CEO

brett@carbon-one.ca

**About 360platform**

360platform is a Canadian Product Intelligence Platform that helps manufacturers build detailed visibility into products and multi-tier supply chains.

The platform combines supply chain visibility, supplier intelligence, regulatory intelligence, and risk intelligence to support Product Carbon Footprints (PCFs), Digital Product Passports (DPPs), CBAM readiness, supplier resilience, and strategic sourcing initiatives.

360platform helps organizations transform product and supply chain data into actionable operational intelligence.

Pierre Courtemanche, 360platform CEO

pierre@courtemanche.works