Industry leaders share initial results of pioneering effort to decarbonize global supply chains

Sumitomo Corporation of Americas · SINAI · AMAGGI · JBS · rumo

CarbonPrime

This Sumitomo Corporation of Americas initiative started in 2020 in collaboration with Bayer, AMAGGI, JBS, RUMO and Sinai. The goal is to demonstrate how digital technology can help drive investment in supply chain emission reduction.

Phase 1 focus on Sharing Primary data
Collecting, allocating, and sharing data across global supply chains.

2020

Supply chains are not linear

2021

Proof of Concept (POC) Scope

It was important to limit POC scope in order to allow validation and audits to take place in a timely manner. For example, fertilizer and soil biogenic removals were not included in this phase. Yet, scope did include seed processing, planting, harvesting, feed production, transportation, among other key operations. In fact, the scope used 2020 primary data from over 15 commercially connected facilities involved in the production of 2,550 tons of chicken nuggets.

2550 t Chicken nuggets

Secondary Data

Corn

Minimum	1.1921
Average (kg CO2e/kg)	0.4740
Maximum	0.2073

Soy

Minimum	5.5789
Average (kg CO2e/kg)	1.9071
Maximum	0.1069

Corn Seed Processing

Minimum	1.9779
Average (kg CO2e/kg)	1.6880
Maximum	1.5229

Soy Seed Processing

Minimum	2.7479
Average (kg CO2e/kg)	1.9960
Maximum	0.7565

Rail Freight

Minimum	0.0364
Average (kg CO2e/kg)	0.0190
Maximum	0.0049

From several databases

There are many sources of secondary emission data, offering a range of results - each representing reality at a specific place and time. These references have many uses and enable emission reporting, supply chain emission estimates, among others.

Primary Data

Rail Freight	0.11 kg CO2e/kg
Corn	0.37 kg CO2e/kg
Soy	0.11 kg CO2e/kg
Corn Seed Processing	0.25 kg CO2e/kg
Soy seed Processing	0.025 kg CO2e/kg

SINAI Platform

From individual operations

Leveraging Sinai's capabilities, POC participants were able to upload detailed primary data from individual operations. This allows for precise and efficient calculations which generate a unique value. In this way, primary data can be shared and serve as the basis for business decisions across supply chains.

2022

Concept validation

Along the way, reputable third parties, such as Rocky Mountain Institute and IETA, were consulted to validate the concept. Beyond following WBCSD Pathfinder framework and GHG Protocol, Sinai enabled industry experts to access Primary data and develop sector specific allocation frameworks.

RMI · IETA

2023

Fertilizer Use	68.9
Farmers Zone	8.48
Farm Operations	371.91
Rail Transport	9,715.75
Rail Logistics	48.47
Feed Production	256.01
Feed Transport	75.26
Chicken Farm	1,280.90
TOTAL	1,094.77

2550 t Chicken Nuggets

When we compare primary data and secondary data flows, we see there is a cascading effect which amplifies uncertainty for decision making. In this example, primary data within POC scope covers several emission sources and is attributed proportionately to the 2,550 ton of chicken nuggets. This makes data relevant to the product/service flow in question and also protects players from revealing confidential information.

Communicating key takeaway

Because secondary references can differ greatly from the reality of a specific location and time, primary data is indeed the ideal basis for business decisions.

Initiate phase 2

- Invite the Big Four Accounting Firms to audit POC results
- Publish proposed allocation frameworks in a white paper making them "open-source"
- Update POC scope with 2021 primary data
- Develop marginal Abatement Cost Curves for facilities in original POC Scope

NEXT STEPS

Expand

- Expand the primary data scope to areas such as seed and fertilizer production, small and medium farmers, leather products, among others suppliers and consumers
- Connect POC Results to the Climate Action Data Trust

Climate Action Data Trust

Connect POC Results with the Climate Action Data Trust

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Join CarbonPrime's movement. Our results show primary data is crucial in managing supply chain emissions. We don't claim to have all the answers or that we get everything right the first time. This announcement is not about perfection, it is about progress! We believe that working with your supply chain partners may be the key to unlock investment needed to reduce emissions across global supply chains.

Learn more

Our approach is aligned with ISSO 14064, the GHG Protocol Life Cycle Standard and the WBCSD Pathfinder standard.