

Salmon feed in Norway could cut CO₂-eq emissions by 41%



Norwegian salmon production is highly dependent on sourcing soy feed components (Soy Protein Concentrate – SPC) from Brazil. This import is often related to social and environmental concerns such as deforestation and conversion of natural ecosystems, illegal pesticide use, land degradation and exploitation of the rural poor.

The use of Europe Soya certified SPC in salmon feed production, can cut 41% of CO₂ - eq emissions compared to Brazilian default. This is the result of recent research done by the Research Institute of Organic Agriculture (FiBL) in Austria, Footprint-consult e.U, commissioned by Donau Soja Organisation.

Europe Soya offers an alternative. Europe Soya certification system meets the demand for more sustainable, non - GM, regional and transparent soya supply. In addition, it contributes to climate friendly agri-food system in Europe and strengthens regional farmers.

Shift from Brazil standard SPC to Europe Soya certified SPC could **cut 1.5 million tons CO₂-eq, which corresponds to CO₂-eq emission of 149,000 inhabitants in Norway - the whole city of Stavanger.**



About the Research

This research calculates the carbon footprint of **Europe Soya certified Soy Protein Concentrate (SPC)** produced by the Sodrugestvo Group.

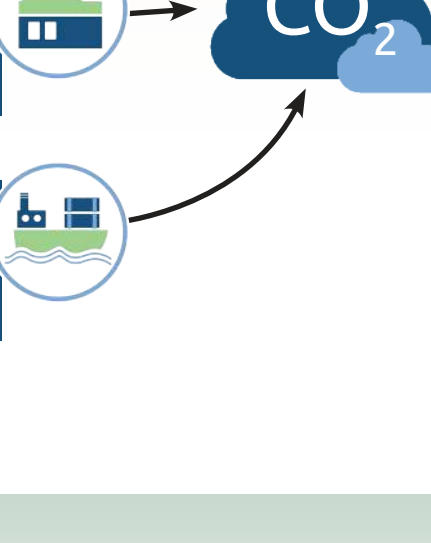
Methodology: The life cycle assessment (LCA) is carried out according to the regular standards along the value chain within defined system boundaries. The assessment is closely aligned with the international life cycle assessment standards (ISO standards 14040 and 14044, 14067).

System boundaries: from the soybean production to the factory exit gate of SPC in Kaliningrad, Russia (from the cradle to port).

Research performed by: Research Institute of Organic Agriculture (FiBL), Austria Footprint-consult e.U. commissioned by Donau Soja Organisation

- Functional Unit:** 1kg of SPC
- Geographical scope:** European soybeans produced in Serbia, Croatia, Romania. SPC produced in Kaliningrad, Russia
- Technological scope:** relevant technological processes from soybean production to SPC production via hexane extraction and ethanol extraction
- Temporal coverage:** 2019 (calendar year) for industrial processing

- 1. Europe Soya agricultural production considered**
 - Production outputs (soybean yields)
 - Production inputs (seeds, fertilizers, pesticides, fuel, other energy)
 - Logistic to primary collector
- 2. Transport considered**
 - Transportation from Europe Soya certified primary collector to Europe Soya certified Sodrugestvo Group processing plant / port in Kaliningrad
- 3. SPC production/industrial processing considered**
 - Production inputs (material and energy)
 - Production outputs (Soy Protein Concentrate yield)



Results

Significant CO₂-eq reduction potential

The difference speaks for itself: Carbon-footprint of 1 kg Europe Soya certified Soy Protein Concentrate (SPC) is 1.6 kg CO₂-eq. This is 4.2 times less than the Brazilian SPC default (6.7 CO₂-eq/kg SPC).

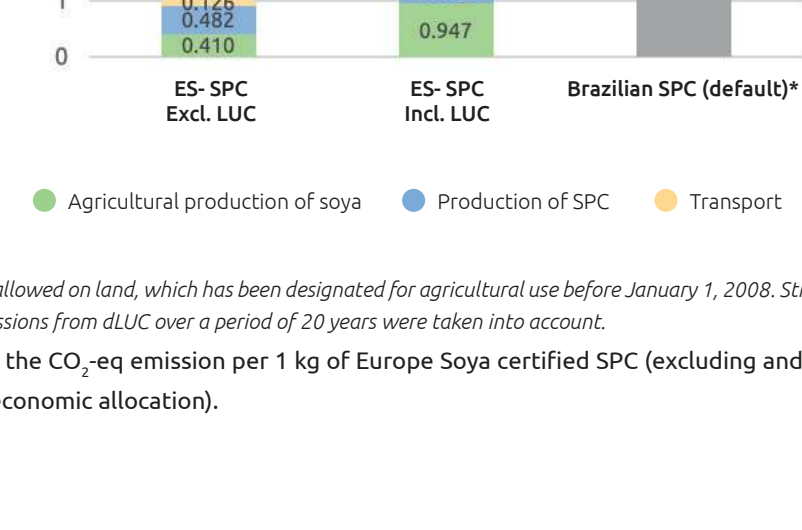


Figure 1: A comparison of the CO₂-eq emission per 1 kg of Europe Soya certified SPC (excluding and including Land Use Change) versus Brazilian default (economic allocation).

The results confirm that land use change is the biggest lever to cut down on CO₂-eq emissions. Additionally, the results show reduced transport emissions in Europe Soya certified scenario compared to Brazilian sourcing.

For the average Norwegian salmon feed, this means that the feed mix with Europe Soya certified SPC has a 41% lower CO₂-eq emissions than the feed with Brazilian default SPC.

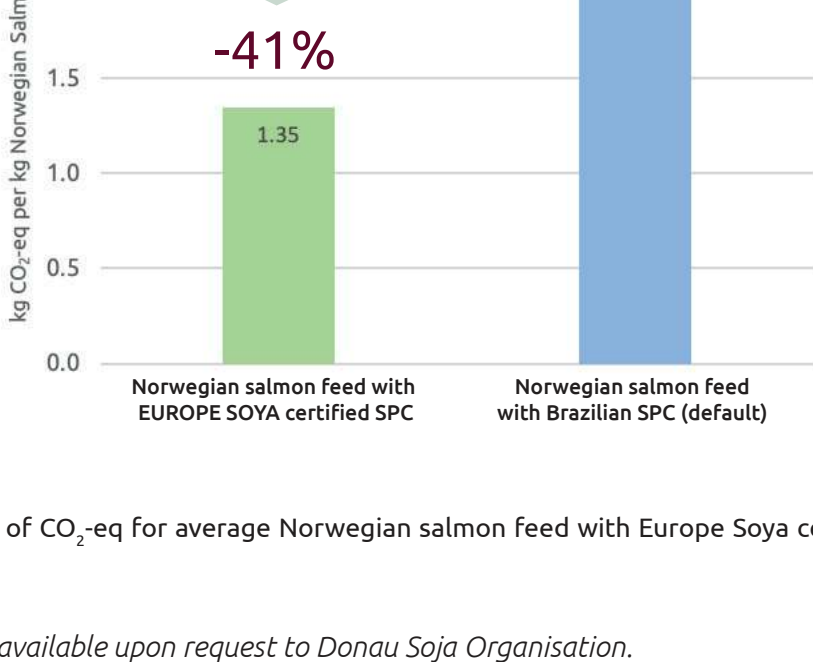


Figure 2: 41% mitigation of CO₂-eq for average Norwegian salmon feed with Europe Soya certified SPC vs. salmon feed with overseas SPC

Note: Whole research is available upon request to Donau Soja Organisation.

Europe Soya Standard guarantees

STRICT THREE STAGE INSPECTION SYSTEM Controlled, certified and verified	<ul style="list-style-type: none"> ✓ Self-monitoring system ✓ 3rd party certification -external, independent, accredited CBs ✓ DS integrity audits
EUROPEAN ORIGIN & TRACEABILITY ✓ HARD IP - from Europe IT supported Traceability System: Farmer declarations, Lot certificates, Certificates of Traceability, Isotope tests	SUSTAINABILITY ✓ No-deforestation and no-conversion of natural ecosystems (Cut-off date: 1 January 2008) ✓ Reduced use of pesticides (only EU substances allowed, no use of substances listed in Rotterdam or Stockholm Convention; no use of WHO 1a and 1b substance; no desiccation e.g. glyphosate, no aerial spraying) ✓ Production in line with social and labour rights, safe working conditions
NON GMO QUALITY ✓ NON-GMO Compliance with VLOG, Codex, Non-GM Danube Region standards	

Standard: www.donausoja.org/fileadmin/user_upload/Downloads/Europe_Soya_Guidelines/English/Europe_Soya_Guidelines.pdf

Donau Soja Organisation and Sodrugestvo group - driving sustainable change together!

Donau Soja Organisation

Donau Soja is an independent, not - for - profit, member - based organisation.

VISION

A Sustainable, Safe and European Protein Supply

MISSION

Donau Soja supports its partners and members in progressing change to address social, environmental and economic challenges in soya production and consumption. This will increase efficiency, fairness and sustainability in food and feed protein value chains in Europe.

STANDARDS: Europe Soya, Donau Soja, Non - GM Standards for the Danube region

www.donausoja.org

- 25 + countries
- 275 + Members
- 866 certified partners
- 10,400 + farmers
- 675,000 t soybeans DS/ES certified

Vienna (Austria) Novi Sad (Serbia) Kiev (Ukraine) Chisinau (Moldova)

Sodrugestvo group

Sodrugestvo Group is Donau Soja member and the biggest European soybean processor. The Group's production portfolio focuses on oilseeds processing into feeds, feed materials for productive animals, vegetable oils and products for the food industry.

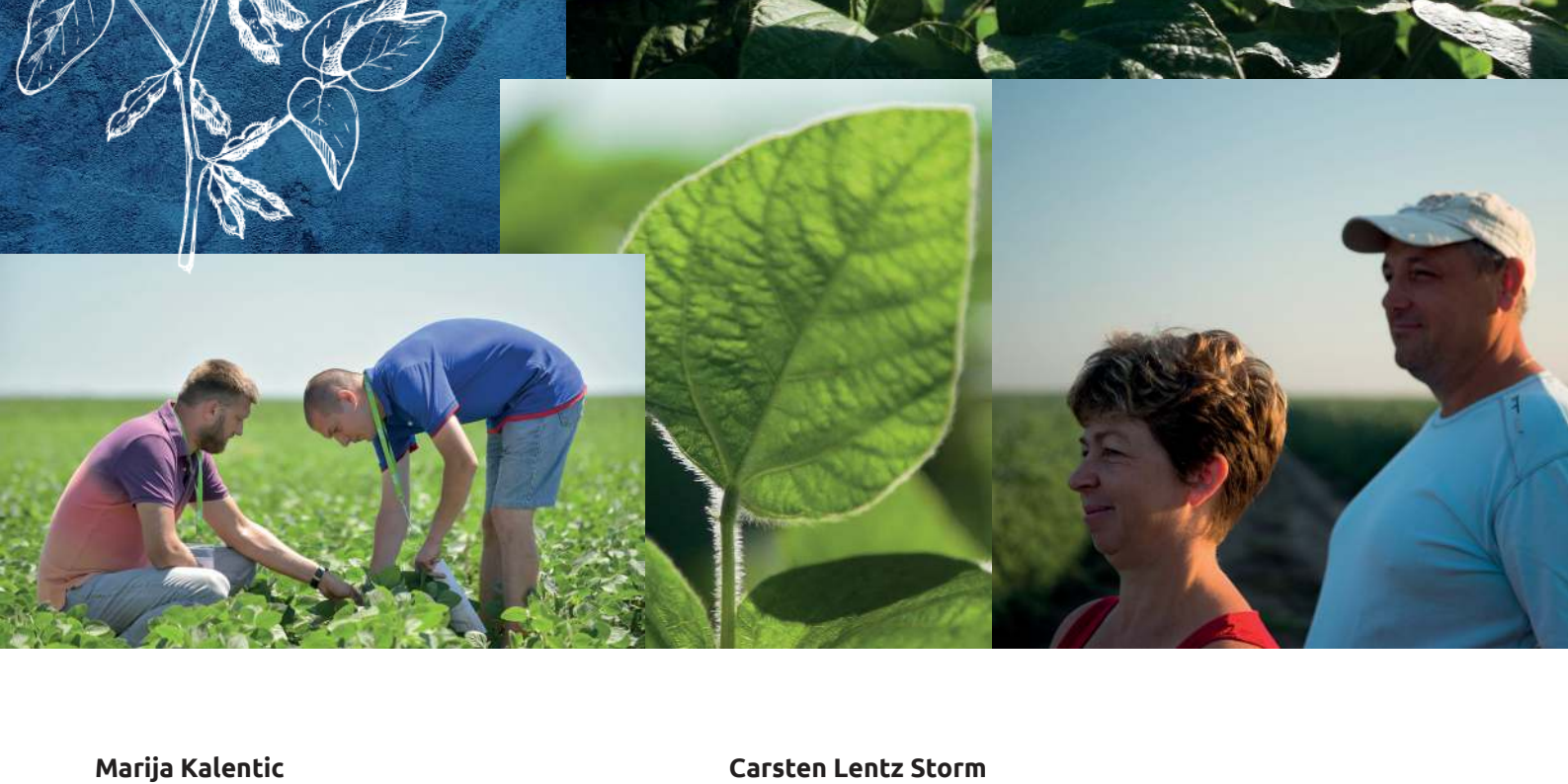
Europe Soya certified Soybean Protein Concentrate (SPC) produced by Sodrugestvo Group is a purified protein product with up to 65% crude protein, used directly in feed or for combined feed production in particular in aquaculture.

Sodrugestvo Group and Donau Soja built up a controlled chain of sustainable non - GM soybeans produced by European farmers to Sodrugestvo processing facilities and secured 150,000t of Europe Soya certified SPC available for European food and feed industry.

www.sodrugestvo.com



We work with our farmers daily to develop best practices in European soya production together



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