



veturi

program
for tackling
climate crisis

Novel Vegetable Oils

Geronimo Watson, Technical Development Manager
6-10-2022

CO-FUNDED BY BUSINESS FINLAND

NESTE

Neste strives to set global standards to novel oils cultivation methods

2 fold standards are the starting point to consider them “novel”

Novel Vegetable Oils



Additional biomass

NVOs are cultivated by following **low-ILUC** principle that avoids displacement of food production



Minimum environmental impact

In **NVO farming** we strive to **maximize GHG savings** and **carbon sequestration**

Novel vegetable oils strategic concepts

Objective

Fulfilling increasing demand for sustainable raw materials while not competing with food production and achieving carbon neutrality



**Annuals in marginal lands
or intermediate cropping**

Crops: Carinata, Camelina,
Rapeseed, Safflower, Canola



**Perennials in reforestation
or silvopasture**

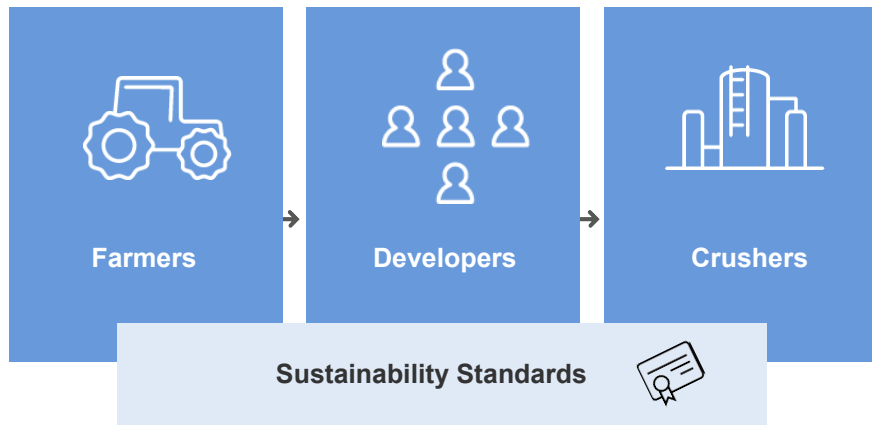
Trees: Macauba, Pongamia

Strategic pillars

NVO pilot concepts aim to set global standards adapted to local conditions

Sustainability, Profitability, Scalability are key criteria

Traceability from origin is key to ensure compliance



NVO pilots in different geographies are test-cases to prove global standards apply while also local conditions are considered

1. Cultivation in marginal lands

Spain



2. Perennials

India



3. Intermediate crops

Europe



4. Regenerative Soybean

US



Cultivation on marginal lands in Spain

NVO concepts target drought stricken rice growing area that results in unutilized fields



Former situation

Wet rice production and regular winter flooding.
Monoculture of rice



Current situation

Increasing number of droughts
leads to underutilized fields and
high salinity soils



NVO Proposal

Drought and salinity
adapted oil crops under
low input intensity farming
to produce feedstocks
with low carbon intensity

Three key sustainability advantages of NVOs



Improving habitat (pollinators)



An alternative of income
to rice farmers



Reduce soil salinity
and improve soil health

Intermediate crops in the EU

NVO concepts provide additional income for farmers as harvestable cover crops



Former situation

2010: 5.3 million ha of cover crops
2016: 7.4 million ha of cover crops



Current situation

Farmers are encouraged and sometimes mandated to have cover crops on their fields.



NVO Proposal

Identify cover crops that complete their cycle and allow for grain harvest.

Three key sustainability advantages of NVOs



Promote cover crop adoption



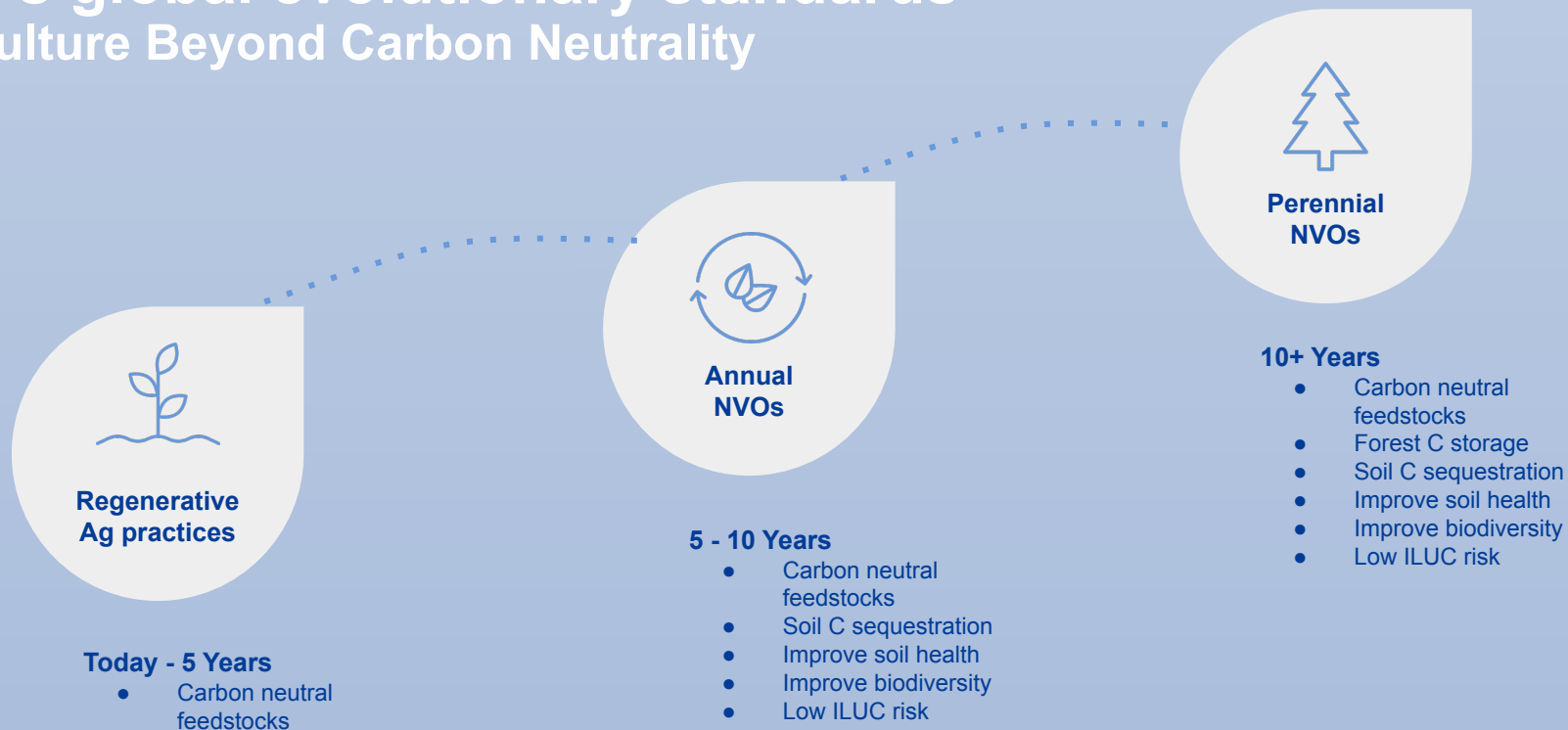
Additional profit to farmers



Low GHG feedstock

NVO's global evolutionary standards

Agriculture Beyond Carbon Neutrality



A central rectangular image showing a person from behind, walking away on a wooden pier that extends into a body of water. The person is wearing a grey long-sleeved shirt and dark pants. The background shows a calm sea and distant mountains under a soft, hazy sky. A bright green diagonal band cuts across the image from the bottom right towards the center.

Thank you

geronimo.watson@neste.com