# Valio's roadmap to carbon neutral milk chain by 2035

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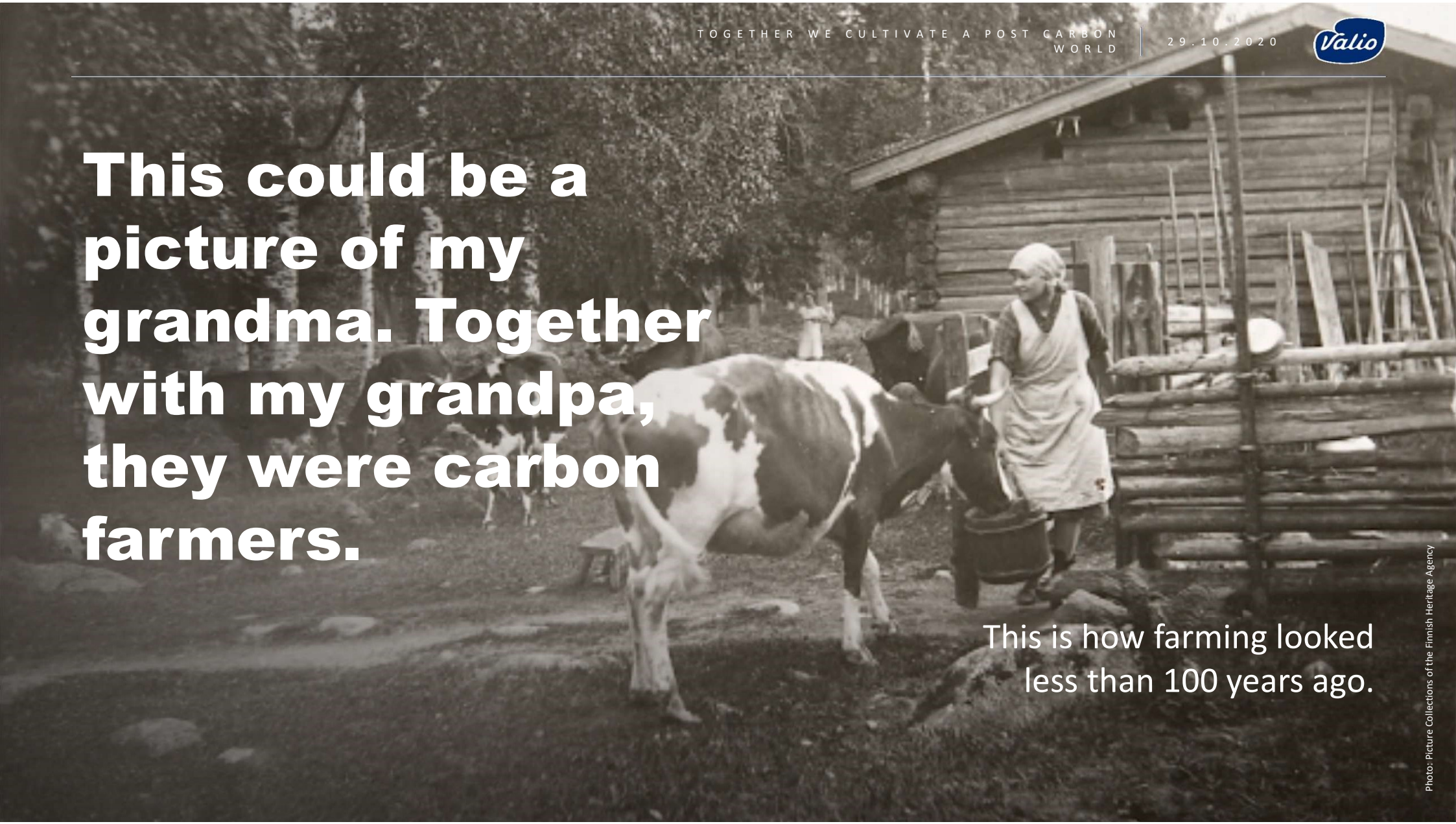
# THIS IS WHERE THE STORY BEGINS



# This could be a picture of my grandma. Together with my grandpa, they were carbon farmers.

This is how farming looked less than 100 years ago.

Photo: Picture Collections of the Finnish Heritage Agency

# Then the world changed

A lot of new people were born, new machines were invented, new knowledge was learned.

Things became more efficient. Less hunger and more food. So plenty of good things.

Photos: Picture Collections of the Finnish Heritage Agency

# THE PROBLEM

# Unfortunately, my grandparents's way to manage a dairy farm was partially forgotten.

Farming became less diverse and the use of pesticides went too far in some places. Harsh chemicals and big machines also came.

**Fortunately, this picture is not in Finland.**

# THE AWAKENING

It took one or two generations to realise what was happening.
Now the climate change and the narrowing biodiversity have really opened our eyes in ways we haven’t seen before.

# CAN WE FIND THE PERFECT BALANCE BETWEEN TECHNOLOGY AND THE FORGOTTEN BIOLOGY?

# Yes, we believe we can and we will! The solution is a healthy cow that eats grass.

And a human who understands everything that a cow is with her microbes in the rumen. And all about the green diverse grasslands and the healthy soils.

# Our goal is to cut milk's carbon footprint to zero by 2035.

It's an ambitious and challenging goal. But we believe it's possible to achieve.

# The solution starts with the cow eating grass or grass silage.

# A few examples of our work and a lot more to come:

Recycled fertiliser

Regenerative agriculture: Carbon binding and soil management

Bedding for animals

Biogas for vehicles

Food in natural packaging

Resource efficiency and cost savings

# WE WANT TO RENEW THE FOOD PRODUCTION ECOSYSTEM

1

**This is how we increase resource efficiency while reducing milk's carbon footprint.**

2

**When we do things smartly and efficiently, we also improve the livelihood of farms.**

3

**By creating new revenue streams for farms, we ensure continued food production in Finland.**

# WE HAVE A BIG TEAM

# 4,500 MILK PRODUCERS, 4,000 VALIO EMPLOYEES, AND OUR INTERNATIONAL PARTNER NETWORK

# VALIO CARBO® PLATFORM: WE CAN REACH OUR GOAL THROUGH COLLABORATION

Valio
PRO Agria
BUSINESS FINLAND
HELSINGIN YLIOPISTO
HELSINGFORS UNIVERSITET
UNIVERSITY OF HELSINKI
LUOMUS
LUONNONTIETEELLINEN KESKUSMUSEO
VTT
LAJI.FI
SUOMEN LAJITIETOKESKUS
FINLANDS ARTDATACENTER
FINNISH BIODIVERSITY INFO FACILITY
UNIVERSITY OF EASTERN FINLAND
e2 Tutkimus
avoin
fortum
MAA- JA KOTITALOUSNAISET
DEMOS HELSINKI
ExtraVerd
Luke
LUONNONVARAKESKUS
BSAG
Baltic Sea Action Group
SLU
biocode
ECOLOGICAL FOOD EXPERIENCE
YARA
Knowledge grows
ILMATIETEEN LAITOS
Gasum
korkia
ATRIA
TUOTTAJAT
A-REHU
HAMK HÄMEEN AMMATTIKORKEAKOULU
HÄME UNIVERSITY OF APPLIED SCIENCES
jamk.fi
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JAMK University of Applied Sciences

# PEOPLE AND SUCCESSES

# We are developing solutions for carbon binding

Valio milk producer **Petri Hovi** from Lappeenranta is measuring  the carbon flow on his fields.

Researcher **Aleksi Astaptsev** has developed an environmental calculator for farms that helps to reduce their carbon footprint.

In spring 2019, Valio started carbon farming training for Valio dairy farm entrepreneurs together with the **Baltic Sea Action Group**. To date, 250 farms have participated in the training, and the aim is to gradually train all farms.

# We are turning farm manure into energy

**The Uusitalo family in Kannus** has built a biogas plant next to the cowshed.
Finland will not reach the transportation emissions reduction targets without biogas.

**Petteri Tahvanainen from Valio** has been the catalyst behind Valio acquiring its first biogas-powered vehicles.

In 2017, Valio was the first in the world to patent a process to produce biogas, clean water and phosphorus and nitrogen fertilizer fractions from manure.

# We are developing sustainable farming practices for peat fields

Summer 2020: **Valio's Development Manager Tuuli Hakala and researchers from Finland's Natural Resources Institute at the Korpela farm in Kuhmo,** measuring peat field emissions.

**We are reducing emissions from peatlands drained from wetlands**
The biggest challenge in cutting milk's carbon footprint to zero is the bigger emissions of peatlands drained from wetlands compared to other fields. Peat fields produce about half of all climate emissions from Finnish agriculture, i.e. 6.3 million tonnes of $CO_2$-equivalent. Peat field emissions must be reduced significantly in order for us to achieve our carbon-neutral milk target.

# DOES ALL THIS REALLY MAKE A DIFFERENCE, SOME MIGHT ASK

## AFTER ALL, FINNISH MILK PRODUCTION IS JUST A DROP IN THE BUCKET

**Without a doubt, our work is helping Finland to achieve the 2035 climate targets.**

**Going forward, we want to revolutionise the entire food sector in Europe.**

**Valio was one of the first dairy companies in the world to announce its carbon neutrality goal.**

**And even if we say so ourselves, we haven't seen as ambitious of an action plan anywhere else.**

**Now we want to share what we've learned. Even to our competitors!**

TOGETHER WE CULTIVATE A post carbon WORLD

Valio
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post
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