

Finland's Unique Approach to Climate Roadmaps for Carbon-Neutrality by 2035



Finland's Climate Roadmaps 2035 – A unique approach

- Finland is committed to achieving carbon neutrality by 2035
- Finnish business is strongly committed – we are part of the solution
- Climate roadmaps are our tool to achieve the ambitious goal
- 14 business sector specific roadmaps are integrated and interlinked

The process of preparing the roadmaps

INITIATIVE FROM THE GOVERNMENT

"In cooperation with industry operators, we will create sector-specific low-carbon roadmaps that will be brought in line with our new climate actions."
- Finnish Government Programme

PREPARING THE ROADMAPS

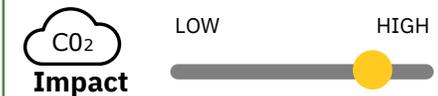
Fourteen **sectoral climate roadmaps were prepared in coordinated cooperation** between the industry and The Ministry of Economic Affairs and Employment

Continuous implementation of climate roadmaps

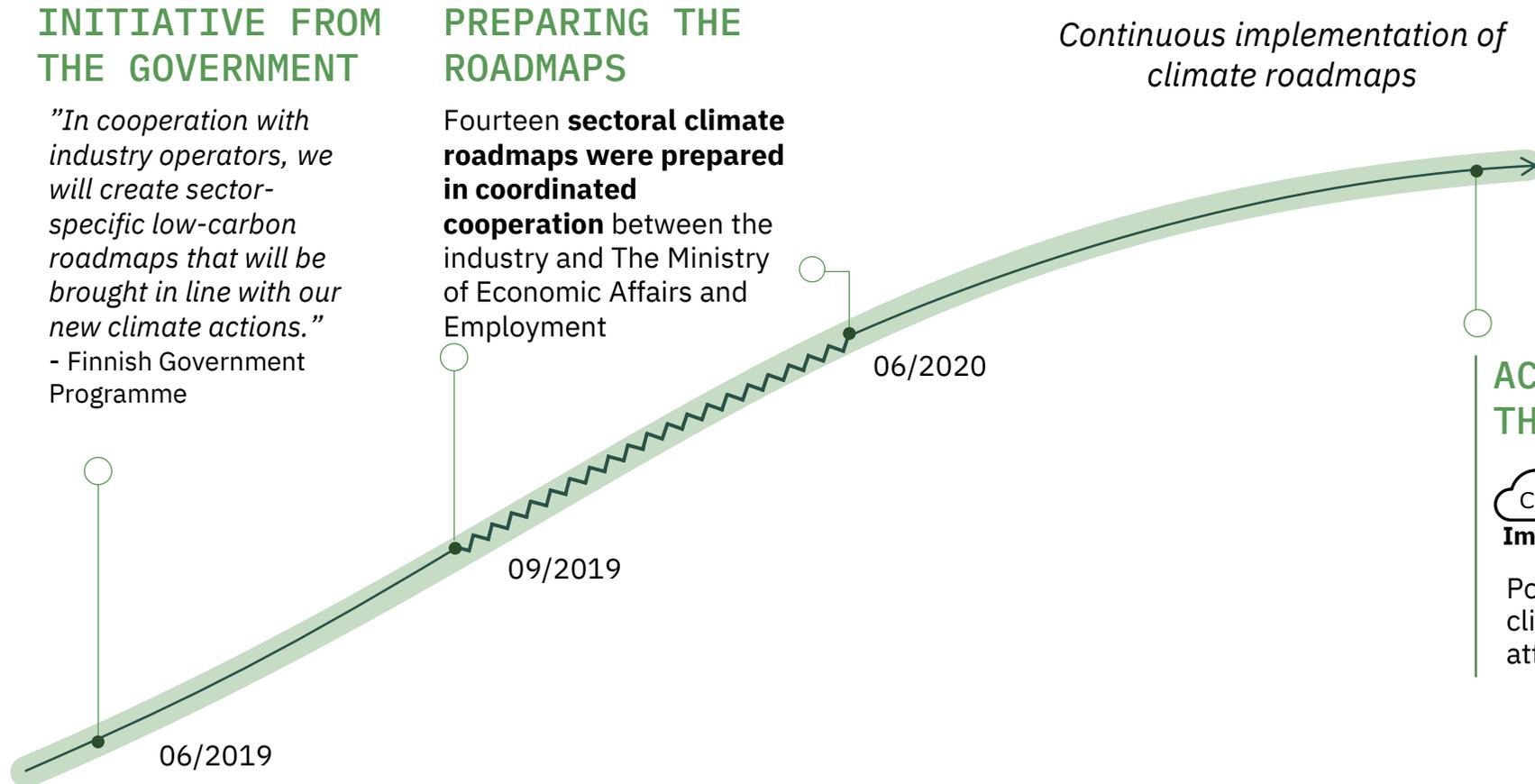
Handprint impact

> Finland offers solutions to the world

ACCELERATING THE ACTION



Positive effects from start-ups and climate technology to a general attitude of **getting things done**



Business- driven and bottom-up

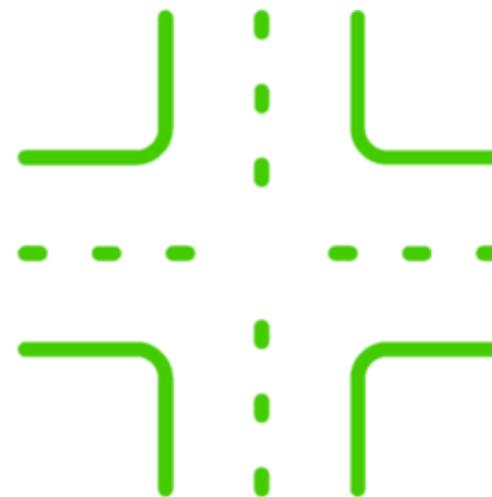
Finland's roadmap process enabled different business sectors to present their own solutions to help meet the top-down goals.

The world-first integrated climate roadmaps with all sectors working together

A unique methodology with government and business in coordinated cooperation – we call it “crossroads”

Government
Strong support to sectors via responsible ministry

Ambition
Joint high level of ambition and practical action



Sectors
Independent control over roadmaps – “each knows their own sector best”

Integration
Puzzling together key supply/demand by sector interaction

> **Government and sectors, ambition and expertise meeting in an integrated “crossroads” process**



Working from the same simple script towards carbon neutrality

1. DESCRIPTION

Description of the current situation

2. EMISSIONS

Mapping and categorisation of emission sources

3. MEASURES

Measures for reducing emission

4. SCENARIOS

Quantitative baseline and low-carbon scenario(s) with additional measures

5. PRECONDITIONS

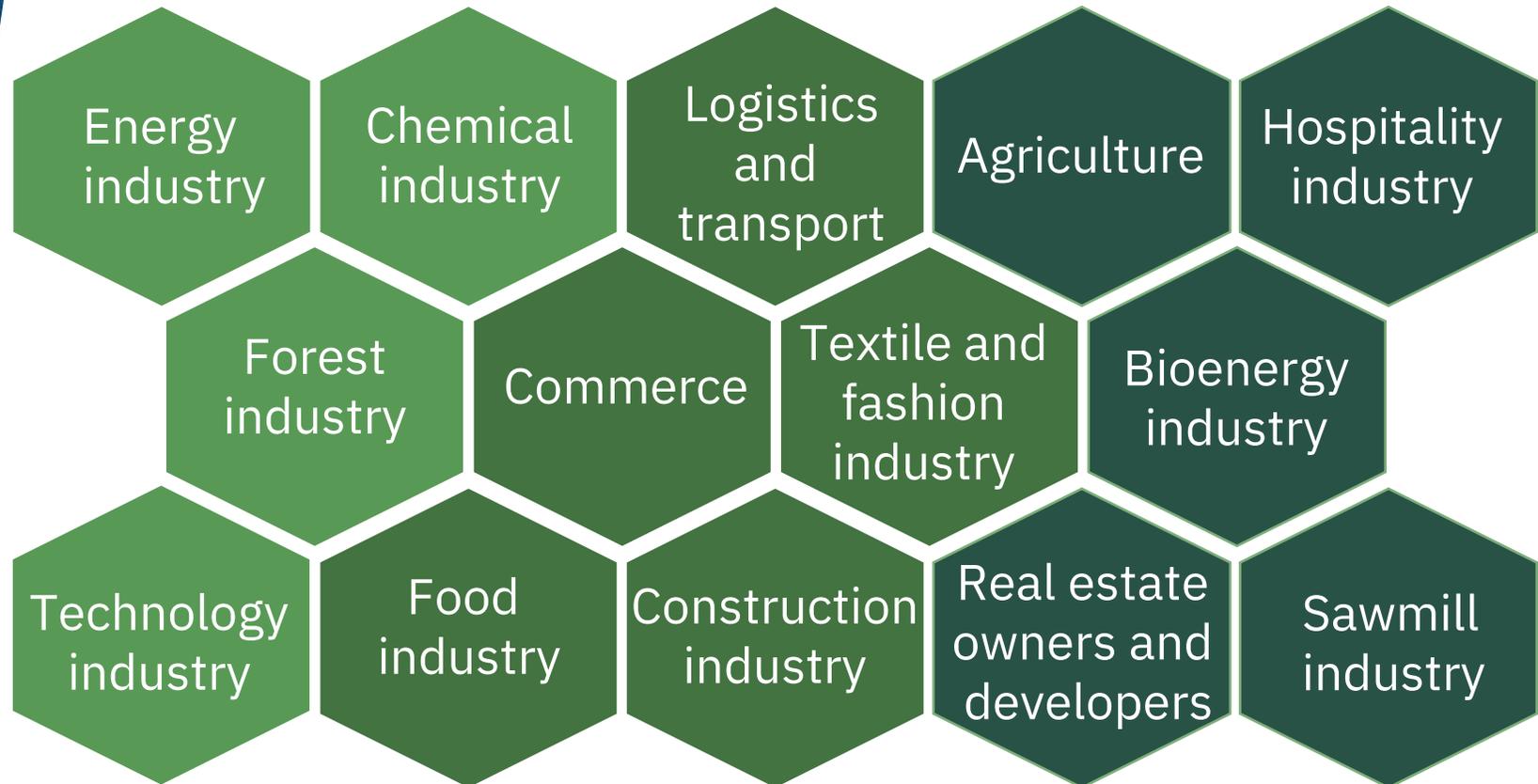
Preconditions for the scenarios

6. HANDPRINT

Carbon handprint assessment

Sectors with a climate roadmap

Joint benefit for climate, society and business



Preconditions for success

	PRECONDITION	WHY?	ACTION
	Decarbonisation of energy sector and secured availability of clean and affordable energy	<ul style="list-style-type: none"> • As a result of cross-sectoral electrification, emission reductions depend on the climate measures taken by the energy industry • Electricity demand may increase by up to 50% by 2050 	<ul style="list-style-type: none"> → Build clean energy production capacity → Expand the transmission network → Reform energy taxation → Develop flexible energy markets
	Favourable operating environment	<ul style="list-style-type: none"> • Ensure continuity of the business environment • Make low carbon alternatives more attractive than emission-intensive ones • Long-term financial viability of investments 	<ul style="list-style-type: none"> → Enact predictable and consistent climate and energy policies
	Market for zero-emission solutions	<ul style="list-style-type: none"> • Investment decisions are made based on market signals, demand for such solutions must be articulated without a delay 	<ul style="list-style-type: none"> → Utilise public procurement to create demand for zero-emission solutions → Apply green criteria for any procurement

Freedom of ideas leads to commitment

When industries are invited by the government to present a vision on how to achieve emissions reductions and what they would need to succeed, high commitment to self-stated goals is achieved

Examples of the effective and innovative solutions from Finnish climate roadmaps



DIGITAL SOLUTIONS



PUBLIC SUPPORT FOR INNOVATIONS



ALTERNATIVE RAW MATERIALS



NEW BUSINESS MODELS

EXAMPLES

- Improvements in energy efficiency
- Cyber security
- Improvement in total energy/data transmitted and in energy/bit

- Bioenergy with carbon capture and storage
- Zero-emission concrete
- Small modular reactors
- Chemical recycling

- Waste from e.g. plastic, agriculture, textile and battery industry
- Hydrogen and other synthetics
- Plant based alternatives, e.g. algae

- From one-off to Service-as-a-Solution
- Circular business models, e.g. leasing platforms
- “Jugaad”, sparse innovation
- Natural ecosystem services

What came out?

Our key learnings

A business-driven approach has significant abatement potential

1

If the investment environment is right, the sectors see that they can achieve the targets

Fellow passengers, no free-riders

2

The ambition level is so high that everybody must contribute. However, market potential for solutions follows across the borders

A stepwise progress instead of a continuous curve

3

Some steps and investments are larger than others. Work must be continuous, but impacts appear in steps

The conditions must be just right

4

An optimal, perfect business environment doesn't exist, but the conditions for investments must be as close to perfect as possible

The right timing is crucial

5

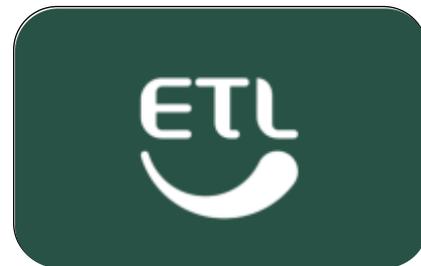
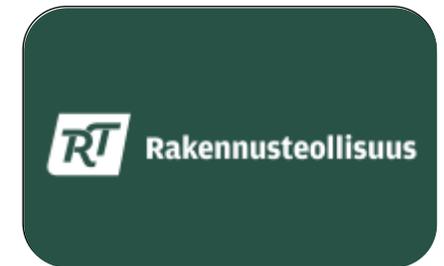
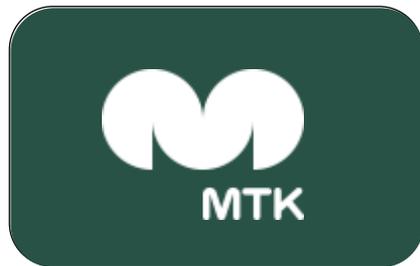
Investment cycles are often long, whereas targets have tight timelines. The timing of pilots and upscaling must go like clockwork

Sector-coupling offers great possibilities

6

Although sectoral integration was not a familiar concept at the start, all now realise that sectors will also increasingly converge and cross borders

Roadmap organisations





Summaries and contact information
for Finland's 14 sectoral roadmaps

www.Climate2035.fi →

Let's stay in touch!

In collaboration with:

