

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

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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
- 15 business sector specific roadmaps are integrated and interlinked

Business- driven and bottom-up

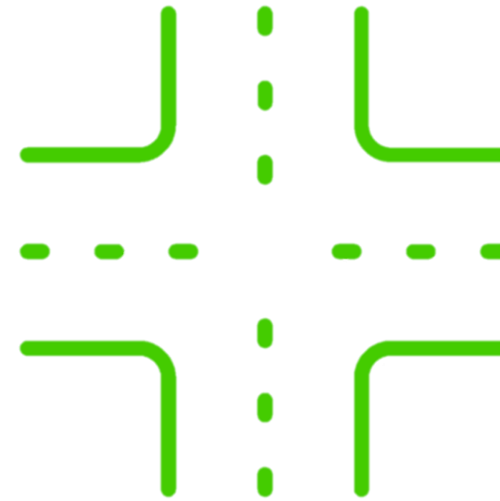
Finland's roadmap process enabled different business sectors to present their own solutions to help meet the top-down goals.

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



 **BIOENERGIA**

KEMIANTEOLLISUUS



 **Rakennusteollisuus**



 **Finnish Forest Industries**



palta

RAKLI



 **Technology Industries
of Finland**

**FINNISH
TEXTILE &
FASHION**

 **Climate
roadmaps
2035**



Summaries of Finland's
15 sectoral roadmaps:

www.Climate2035.fi →

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