

# 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

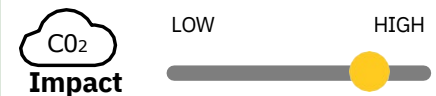
Fourteen **sectoral climate roadmaps were prepared in coordinated cooperation** between the industry and The Ministry of Economic Affairs and Employment

*Continuous implementation of climate roadmaps*

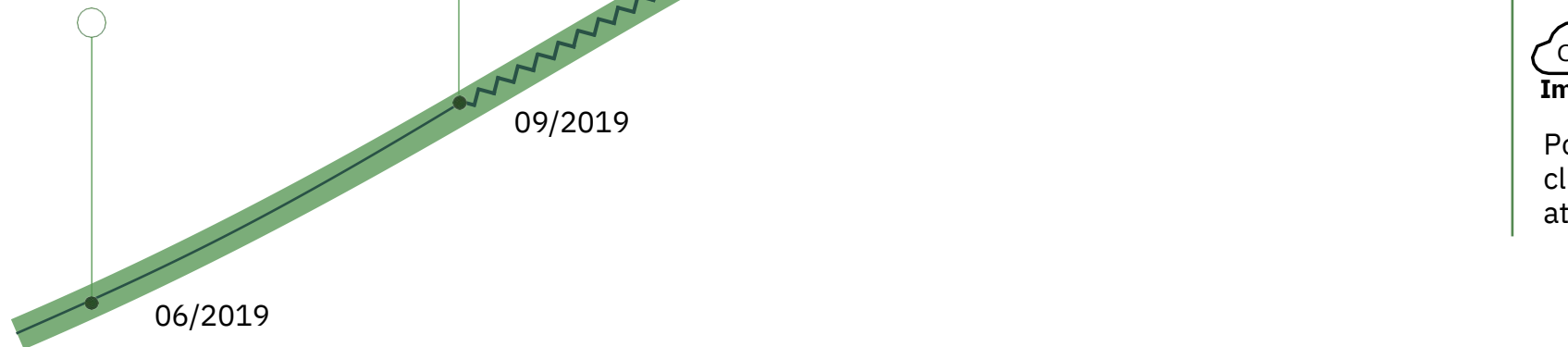
## Handprint impact

> 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

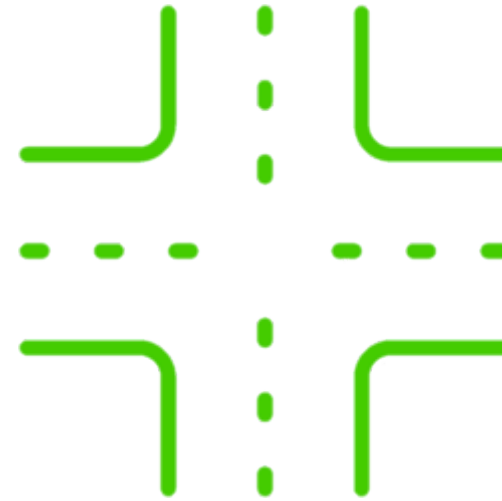
Finland's roadmap process enabled different business sectors to present their own solutions to help meet the top-down goals.

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



# 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

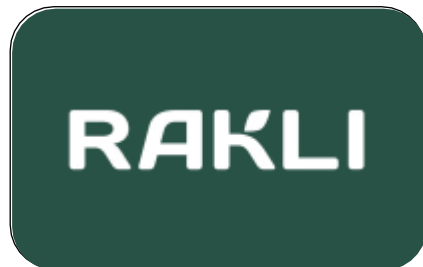
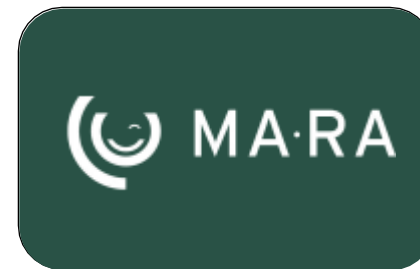
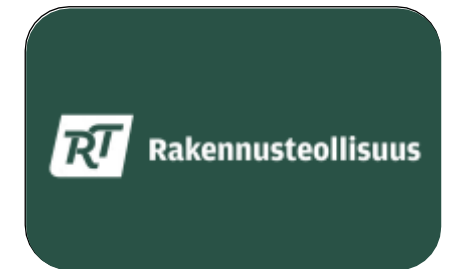
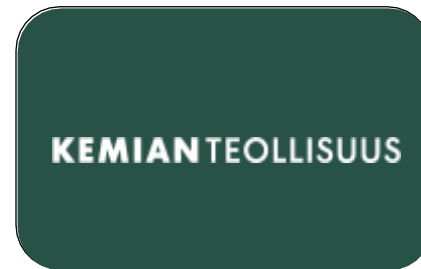
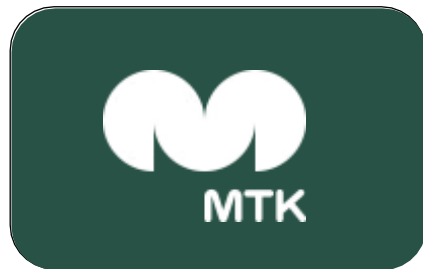
Investment cycles are often long, whereas targets have tight timelines. The timing of pilots and upscaling must go like clockwork

### **Sector-coupling offers great possibilities**

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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](http://www.Climate2035.fi) →

Let's stay in touch!

In collaboration with:

