



Towards a Low-carbon Finland

Helsinki November 20, 2009



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What foresight report?



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Why a foresight report?

- the Government Foresight Report on Long-term Climate and Energy Policy
 - analyses long-term policy challenges
 - sets targets up to 2050
 - outlines policies and measures
 - identifies areas for further research
- the foresight report is needed to
 - prepare for long-term challenges
 - create policy and investment security
 - position Finland as a forerunner





Preparing the report

- the Prime Minister's Office was in charge of drafting the report
- a ministerial working group lead by the Minister of Environment Paula Lehtomäki steered the work
- a separate expert group provided advice
- the government adopted the report on October 15, 2009





A participatory process

- stakeholders, experts and citizens were involved in providing input and evaluating proposals
- more than hundred experts participated in workshops
- 14 panel discussions were organised for stakeholders
- about 1,300 people provided their views on the internet





What does the report contain?



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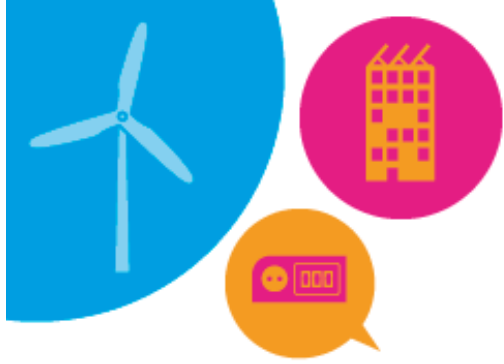




Towards a low-carbon Finland

- the foresight report maps out paths towards an affluent and low-carbon Finland
- a target is set to reduce Finland's emissions by at least 80% from 1990 levels to 2050
- the national target is part of a wider international effort in which
 - other industrialised countries take on comparable targets
 - emerging economies restrict their emissions





Targets for key sectors

- improve energy efficiency in the building stock so that the energy use is reduced by at least
 - 30% by 2030
 - 45% by 2040
 - 60% by 2050
- cut car fleet emissions from fossil fuels to
 - 80–90 g by 2030 (CO₂/km)
 - 50–60 g by 2040
 - 20–30 g by 2050





Policies and measures

For example

- revising building codes after 2012 to require passive houses
- requiring improving energy efficiency when renovating existing building stock
- reviewing and revising perverse incentives
- requiring all municipalities to draft their own climate strategies
- continuing the ecological tax reform

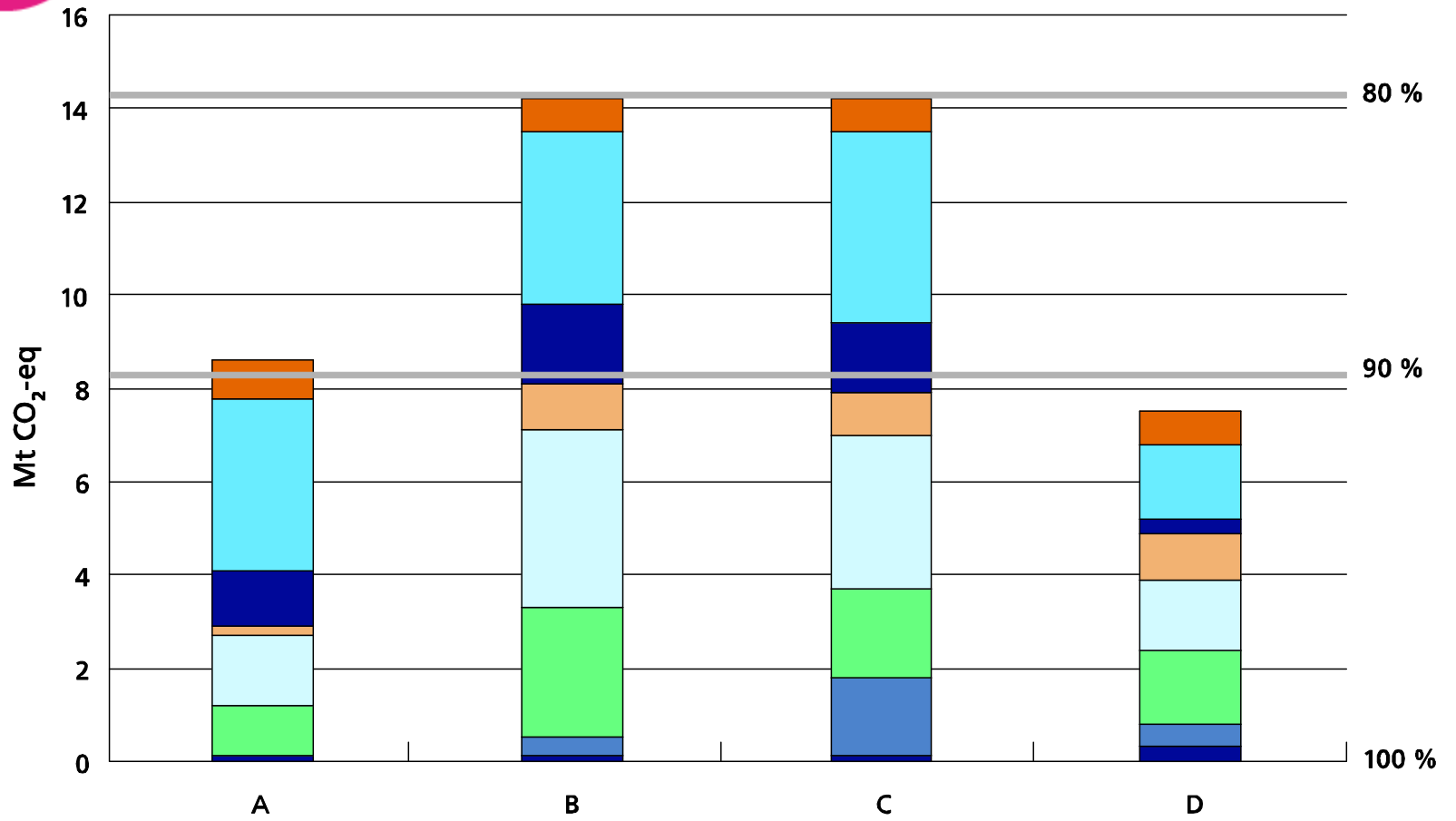




Many paths to the same goal

	A: Efficiency Revolution	B: Sustainable Daily Mile	C: Be Self-sufficient	D: Technology is the Key
Leading idea	Eco-efficiency	Local services	Self-sufficiency	Industrial
Average annual economic growth	1.7%	1.8%	1.2%	1.8%
The share of services	Increased clearly	Increased	Increased slightly	Similar to the present
Urban structure	Cohesive	Highly cohesive	Dispersed	Dispersed in urban areas
Passenger transport demand	Decreased	Decreased clearly	At the present level	Increased
Final energy consumption	Halved	Decreased by 1/4	Decreased by 1/3	At the present level
Share of renewables	1/1	2/3	4/5	3/5
Use of nuclear power	Ended	Increased	Decreased	Increased clearly





- Waste management
- Agriculture
- Industrial processes (incl. solvents)
- Other
- Industry (incl. oil refining and building)
- Transport
- Heating
- Energy generation





Electricity production (TWh)

	2007	A	B	C	D
Nuclear power	22.5	0	41.6	13.1	64.6
Hydropower	14.0	14.6	15.2	17.5	15.2
Wind power	0.2	22.9	18.6	20.3	22.1
CHP with renewable sources	9.2	17.4	4.0	16.6	27.2
CHP with other sources	17.4	0	0	1.3	7.3
Condensing power	14.5	8.4	0	5.0	8.5
Other	0	0.8	0	0.3	0
Imports (+) or exports (-)	12.6	4.8	0	0	-6.1
<i>Total</i>	<i>90.3</i>	<i>68.9</i>	<i>79.3</i>	<i>73.8</i>	<i>144.7</i>





What does the report mean?



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Finland should and will lead

- Finland is ready and willing to lead in climate protection
- all key countries will have to participate too
- Finland actively promotes linking climate to all international co-operation and foreign policy
- Finland can develop and commercialise low-carbon solutions and act as a living laboratory





Climate protection as an opportunity

- climate protection accelerates the growth in the markets for low- and no-carbon solutions
- leadership in climate protection and domestic markets improve the possibilities for Finnish business
- efficiency will improve the competitiveness of the economy and companies
- many low-carbon solutions improve the well-being of the people





Securing competitiveness

- Finland works actively to reach a comprehensive and ambitious international deal
- the risk of carbon leakage has to be minimised and the competitiveness of the Finnish industry secured
- industries will have to renew with technology leaps and radical innovations
- climate protection gives Finnish companies opportunities for selling new products and services





What does all this cost?

- mitigating climate change is cheaper than paying for its damages
- the costs of low-carbon pathways are difficult to estimate because
 - uncertainties multiply over long time periods
 - a lot depends on the path chosen
- tentative, qualitative estimates have been provided in the scenario appendix
- estimates have to be developed in the future





What the report is not about?

- the report does not predict the future, but provides foresight on possible futures
- the report does not override the climate and energy strategy, but complements and builds on it
- the report does not outline short-term policy in detail, but shows the direction of policy in the long term
- the report does not choose any of the four scenarios for implementation, but fuels debate and provides illustrative pathways



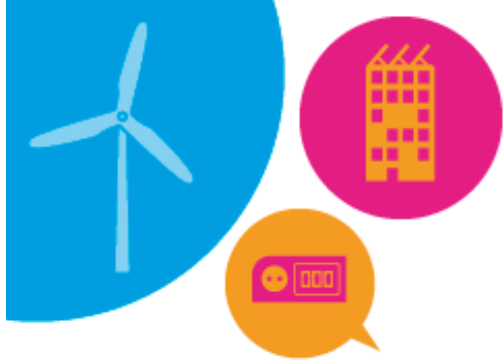


Implementation and communication



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Further work required

- cost impact analysis
- developing scenarios
 - carbon-neutral Finland?
 - risk scenarios
 - linking global developments to Finland
 - regional low-carbon scenarios
- the role of sinks and agriculture

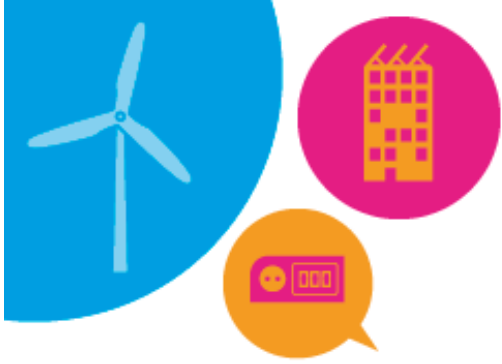




Implementation and communication

- government policies will be implemented through
 - decisions by the government and ministries
 - input to the next government programme
 - fuelling debate
 - mobilising stakeholders and citizens to the effort
- a series of Futures Forums will be organised around the country
- the parliament Committee of the Future will review the report
- the report will be presented in Copenhagen





Material in English

- press release
- summary
- Powerpoint presentation
- the full foresight report (next week)
- report graphs (next week)
- short summaries of background reports

www.vnk.fi/foresightreport





Thank you

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