

# Denmark

Submitted on 20 December 2019

## Summary of main findings

Metric	Value	Further information																								
<b>Overall goal of the LTS</b>	Net-zero emissions by 2050, at latest	<ul style="list-style-type: none"> <li>The goal does not specify whether it includes all main greenhouse gases<sup>1</sup>.</li> <li>The goal includes all sector with the exclusion of LULUCF. It does not specify whether it includes international navigation and aviation.</li> <li>Remaining emissions in 2050 can be compensated by natural sinks<sup>2</sup>.</li> <li>The LTS envisages a mechanism for setting milestone targets every five year with a ten-year perspective.</li> </ul>																								
<b>Scenarios presented in the LTS</b>	<ul style="list-style-type: none"> <li>The LTS is not supported by scenario modelling.               <ul style="list-style-type: none"> <li>Some projections up to 2040 have been developed on the basis of an 'existing and adopted measures' (WEM) policy scenario. It was originally published in August 2019<sup>3</sup> and a summary was included in Denmark's National Energy and Climate Plan (NECP).</li> </ul> </li> </ul>																									
<b>GHG reductions</b>	<p><b>Modelling results:</b></p> <p>GHG emission reductions by 2040 compared to 1990 (excluding removals):</p> <p>-49%</p> <p>(i.e. under the WEM scenario)</p> <p><b>Targets:</b></p> <p>No indicative milestones for 2040 and 2050.</p>	<p><b>Emission reductions by sectors:</b></p> <table border="1"> <thead> <tr> <th>% compared to 1990 GHG emissions</th> <th>2030</th> <th>2040</th> </tr> </thead> <tbody> <tr> <td><b>Power</b></td> <td>-53%</td> <td>-58%</td> </tr> <tr> <td><b>Industry</b></td> <td>-12%</td> <td>-9%</td> </tr> <tr> <td><b>Transport</b></td> <td>+19%</td> <td>+5%</td> </tr> <tr> <td><b>Buildings</b></td> <td>n.a.</td> <td>n.a.</td> </tr> <tr> <td><b>Agriculture</b></td> <td>-17%</td> <td>-15%</td> </tr> <tr> <td><b>Waste</b></td> <td>-52%</td> <td>-63%</td> </tr> <tr> <td><b>LULUCF</b></td> <td>-31%</td> <td>-25%</td> </tr> </tbody> </table> <p><i>Notes: (1) Under the WEM scenario. (2) No projections beyond 2040</i></p>	% compared to 1990 GHG emissions	2030	2040	<b>Power</b>	-53%	-58%	<b>Industry</b>	-12%	-9%	<b>Transport</b>	+19%	+5%	<b>Buildings</b>	n.a.	n.a.	<b>Agriculture</b>	-17%	-15%	<b>Waste</b>	-52%	-63%	<b>LULUCF</b>	-31%	-25%
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<b>Renewable Energy Sources</b>	<p><b>Modelling results:</b></p> <p>Share of renewables in gross final energy consumption in 2040:</p> <p>56%</p> <p>(i.e. under the WEM scenario)</p>	<p><b>Main drivers and features:</b></p> <ul style="list-style-type: none"> <li>By 2030, Denmark targets at least 55% of renewables energy in gross final consumption and a share in electricity above 100%.</li> <li>By 2030, 90% of district heating based on energy sources other than coal, oil or gas.</li> <li>Projection shows that while biomass continues to play a major role, the increase of renewables in the overall mix is almost entirely due to offshore wind, ambient heat for heat pumps and solar.</li> </ul>																								
<b>Energy Efficiency</b>	<p><b>Modelling results:</b></p> <p>FEC: 16 Mtoe in 2040 (i.e. 3.7% increase compared to 2005<sup>4</sup>)</p>	<p><b>Main drivers and features:</b></p> <ul style="list-style-type: none"> <li>From 2017-2040, only residential energy consumption is expected to fall, while remaining roughly stable for other sectors</li> <li>The largest increase in energy consumption is expected in the tertiary sector, particularly due to</li> </ul>																								

<sup>1</sup> The LTS refers to 'greenhouse gas emissions commitments consistent with the Paris Agreement'.

<sup>2</sup> The LTS does not provide the exact contribution of LULUCF in relation to the 2030 and 2050 targets. Projected emissions and removals for 2030 and beyond only reflect a scenario with existing measures (i.e. WEM scenario).

<sup>3</sup> <https://ens.dk/en/our-services/projections-and-models/denmarks-energy-and-climate-outlook>

<sup>4</sup> Calculation based on data in the LTS supplemented, as required, with data from other Member State reporting under the EU Regulation on Governance of the Energy Union and Climate Action.

Metric	Value	Further information
	PEC: 17.9 Mtoe in 2040 (i.e. a reduction of 7.7% compared to 2005 <sup>3</sup> ). (i.e. under the WEM scenario)	expected new electricity consumption by large data centres.
<b>Estimated investment needs</b>	n.a.	<ul style="list-style-type: none"> <li>To be included in future updates of the LTS.</li> </ul>
<b>Socio-economic impacts of transition</b>	n.a.	<ul style="list-style-type: none"> <li>To be included in future updates of the LTS.</li> </ul>
<b>Adaptation Policies and Measures</b>	Yes	<ul style="list-style-type: none"> <li>The LTS describes a number of policies and measures that have been introduced to date, including the National Adaptation Strategy (NAS) adopted in March 2008.</li> <li>The LTS states that a new climate action plan will include climate adaptation, including stronger coordination of coast protection efforts.</li> </ul>
<b>Public consultation</b>	No	<ul style="list-style-type: none"> <li>The LTS was not put forward for public consultation.</li> </ul>
<b>Legal status of the LTS and targets</b>	Yes	<ul style="list-style-type: none"> <li>The climate targets became legally binding with the new Climate Act adopted in June 2020. The act includes a legally binding target to reduce greenhouse gases by 70% by 2030 (relative to 1990 level) and climate neutrality by 2050. The act sets milestone targets based on a five-year cycle.</li> </ul>

### Overall completeness of the LTS

- The LTS defines a clear goal for Denmark, aiming to be net-zero emissions by 2050 at the latest, although it is not clearly specified if the target includes international aviation and maritime.
- In general, the strategy is not developed in detail, and projections have been completed only as far as 2040 under an existing-measure (WEM) scenario.
- The LTS includes few of the mandatory contents. Gaps in mandatory elements are:
  - Public consultation;
  - Energy sector's emission reductions;
  - Emissions reductions in buildings;
  - Estimated investment needs;
  - Socio-economic impact assessment.
- The LTS includes some of the non-mandatory contents (e.g. adaptation policies and measures, likely estimates on the share of renewable energy and energy consumption), but only up to 2040. There is no information on emissions and energy sources by transport type, industry's general overview of the policies, existing plans and measures, Agriculture and LULUCF sectors' emissions by source. Links to agricultural and rural development policies are also missing.