

Hungary

Submitted on 21 September 2021¹

Summary of main findings

Metric	Value	Further information																								
Overall goal of the LTS	To outline the socioeconomic and technological pathways toward achieving the 2050 climate neutrality goal ²	<ul style="list-style-type: none"> • The goal includes all main greenhouse gases. • The goal covers all sectors, excluding international aviation and maritime. • Remaining emissions in 2050 compensated by natural and technical sinks. CCS and hydrogen technologies will gain ground after 2030. • The 2050 climate neutrality target cannot be reached without the utilization of nuclear energy. 																								
Scenarios presented in the LTS	<p>The LTS presents three main scenarios for GHG emissions up to 2050:</p> <ul style="list-style-type: none"> – Business-as-usual (BAU) scenario: emission trajectory follows current trends, assuming that all existing sectoral policy strategies and measures remain in effect, and that there will be no new interventions. – Late action (LA) climate neutrality scenario: This scenario aims to reduce emissions in the energy sector at a delayed and slower pace until 2045, and then with an increased effort until 2050. – Early action (EA) climate neutrality scenario: the EA approach envisages achieving climate neutrality by 2050 while considering the short and medium term benefits of job creation, GDP growth and the advantage of first mover. 																									
GHG reductions	<p>Modelling results:</p> <p>GHG emission reductions by 2050 compared to 1990 (including removals):</p> <p>-100%³</p> <p>(i.e. under both the LA and EA scenarios)</p> <p>Targets:</p> <p>The LTS includes indicative milestones for 2030 and 2040.</p>	<p>Emission projections by sectors⁴:</p> <table border="1"> <thead> <tr> <th>Mio.tCO₂ eq</th> <th>2030</th> <th>2050</th> </tr> </thead> <tbody> <tr> <td>Power</td> <td>(6 , 4)</td> <td>(4 , 2)</td> </tr> <tr> <td>Industry</td> <td>(8 , 8)</td> <td>(6 , 6)</td> </tr> <tr> <td>Transport</td> <td>(11 , 8)</td> <td>(12 , 2)</td> </tr> <tr> <td>Buildings</td> <td>(11 , 9)</td> <td>(11 , 0)</td> </tr> <tr> <td>Agriculture</td> <td>(7.4 , 6.4)</td> <td>(7.6 , 2.1)</td> </tr> <tr> <td>Waste</td> <td>(4.1 , 0.7)</td> <td>(5.2 , 0.5)</td> </tr> <tr> <td>LULUCF</td> <td>n.a.</td> <td>n.a.</td> </tr> </tbody> </table> <p><i>Notes: (1) Under the BAU and the EA scenarios, respectively. (2) Buildings includes emissions in services and residential. (3) Values based on different graphs in LTS, therefore sources of information of different sectors may not be fully aligned. (4) The LTS does not provide indication on emissions/removals for the LULUCF by 2050, but only the increase in net absorption compared to 1990 level (i.e. 71%).</i></p>	Mio.tCO ₂ eq	2030	2050	Power	(6 , 4)	(4 , 2)	Industry	(8 , 8)	(6 , 6)	Transport	(11 , 8)	(12 , 2)	Buildings	(11 , 9)	(11 , 0)	Agriculture	(7.4 , 6.4)	(7.6 , 2.1)	Waste	(4.1 , 0.7)	(5.2 , 0.5)	LULUCF	n.a.	n.a.
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Renewable Energy Sources	<p>Modelling results:</p> <p>Share of renewables in gross final energy consumption in 2050:</p> <p>Close to 90%</p> <p>(i.e. under the climate neutrality scenarios)</p>	<p>Main drivers and features:</p> <ul style="list-style-type: none"> • By 2030, RES penetration at least 21% and 27% under LA and EA scenario, respectively. • Uptake of biomass-based electricity generation. • More than 10 GW of renewable power capacity is needed to achieve climate neutrality by 2050. 																								

¹ On January 2020, Hungary submitted to the Commission a first draft of its national long-term strategy, based on the Second National Climate Change Strategy (NCCS-2) adopted in 2018, the National Energy and Climate Plan (NECP), the Climate Protection Act and the National Energy Strategy (NES) adopted in 2020. The current National Clean Development Strategy 2020-2050 (NCDS) was adopted by the government on 5 September 2021. It outlines the socioeconomic and technological pathways toward achieving the 2050 climate neutrality target.

² The 2050 climate neutrality target has been enshrined in law by Act no. XLIV of 2020 on Climate Protection.

³ The LTS does not indicate the separate contribution (i.e. removals) from the LULUCF sector.

⁴ Based on the cost-benefit analysis performed, the net benefit of the EA scenario exceeds the LA scenario. Therefore, the LTS's sectoral analysis focuses only on the comparison of the BAU and EA scenarios.

Metric	Value	Further information
Energy Efficiency	Modelling results: FEC: 30% - 37.4% (reduction compared to 2017 under the LA and EA scenario, respectively) PEC: n.a.	Main drivers and features: <ul style="list-style-type: none"> • Ensure energy efficiency by introducing an energy efficiency obligation scheme.⁵ • Each year, between 2021 and 2030, achieve final energy consumption savings of 0.8% over the 2016-2018 average. • The largest potential for energy savings is in the residential sector, mainly through renovations.
Estimated investment needs	€ 36,5 bn to € 68 bn ⁶ (additional investment needs compared to BAU for the period 2020-2050, under the LA and EA scenarios, respectively)	<ul style="list-style-type: none"> • The additional annual investment need accounts for 4.8% of the GDP in the EA scenario. • Significant investments will be needed to electrify the economy, mostly in transport and residential. • The LTS identifies both private and public financing mechanisms.
Socio-economic impacts of transition	GDP growth: 0.4 pps of GDP higher on average over 2020-2050 (i.e. 2.9% vs 2.5%) Employment: 183,000 new jobs by 2050 (EA vs BAU scenario)	<ul style="list-style-type: none"> • The cost-benefit analysis shows that the EA scenario brings considerably more economic and employment benefits than does the LA scenario. • Government revenues to increase by ~ € 31.7 million cumulatively between 2020 and 2050⁷. • The value of avoided costs and added benefits are observed to exceed the investment costs.
Adaptation Policies and Measures	Yes	<ul style="list-style-type: none"> • The LTS refers to the 2018 National Adaptation Strategy (NAS). The LTS includes a summary of the type of adaptation measures that should be taken in several sectors.
Public consultation	Yes	<ul style="list-style-type: none"> • The LTS refers to a wide stakeholder consultation process involving professional and civil society groups and organizations. A public online consultation was carried out in 2019. The LTS contains a summary of the feedback received.
Legal status of the LTS and targets	Yes	<ul style="list-style-type: none"> • The NCDS was adopted by the government on 5 September 2021. The 2050 climate neutrality target is enshrined in law by Act no. XLIV of 2020 on Climate Protection.

Overall completeness of the LTS

- The LTS defines a clear goal for Hungary, aiming to be climate neutral by 2050.
- In general, the strategy is developed in detail and projections have been completed up to 2050.
- The LTS includes most of the mandatory contents. Gaps in mandatory elements are:
 - a) Emission reductions and removals in LULUCF by 2050;
 - b) Emission reductions in buildings (partially, only in graph);
- The LTS includes most of the non-mandatory contents. There is little information on the expected emissions and energy sources by transport type and agriculture and LULUCF emissions by sources and by individual GHGs.

⁵ Under the scheme, obligors (e.g. service providers engaged in the retail sale of gas, electricity and motor fuels, commercial enterprises, universal service providers of gas and electricity) implement interventions that result in energy savings for end users.

⁶ 1 EUR = 350 HUF. Quoted investment needs represent discounted investment cost. Whereas 4.8% is annual investment needs.

⁷ 1 EUR = 350 HUF.