



DELIVERING THE EU GREEN DEAL

Progress towards targets

Annexes



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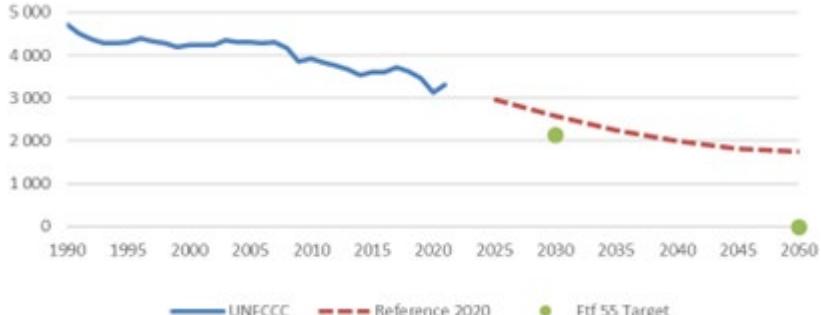
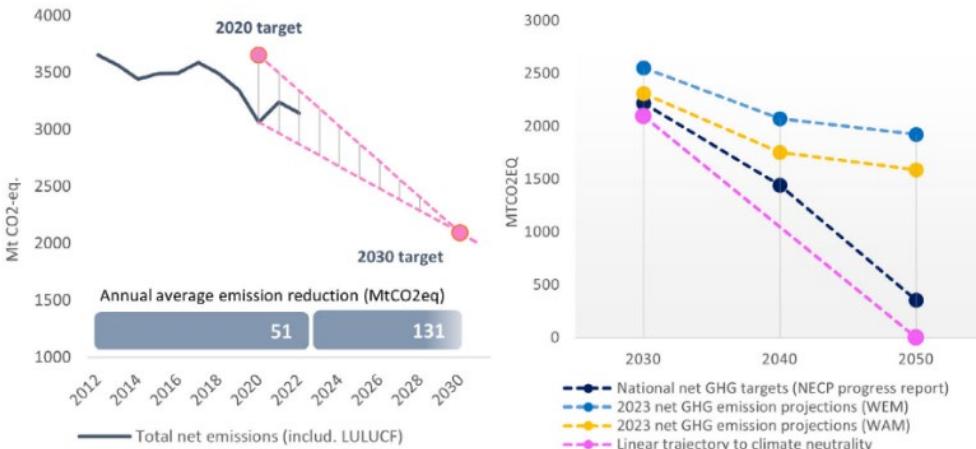
Annex 1. CLIMATE AMBITION

Targets from legal acts (binding)

Greenhouse gas emissions

**Reduce by at least 55% net GHG emissions compared to 1990 levels, by 2030
(Intermediate 2040 Climate Target) Climate neutrality by 2050**

Document	European Climate Law	
Assessment	 Progress needs to accelerate to reach the target value	<p>The at least 55% economy-wide net reduction objective is enshrined in the Climate Law as an overall ambition at the EU level. Specific legislation covering different sectors translates this into sectoral ambition levels which cumulatively achieve the -55% target. This corresponds to greenhouse gas reductions of 62% in the existing ETS compared to 2005, a 40% reduction in ESR, (this is now complemented by 42% reduction target compared to 2005 in the newly established ETS2). With the aim of ensuring strong emissions reduction in other sectors, the overall contribution of the LULUCF sector to EU's economy-wide target of - 55% by 2030 is limited to a maximum of - 225 MtCO2e/year. Achieving the LULUCF sector target of -310 MtCO2e in 2030 will elevate the total EU GHG emission reduction to approximately 57% compared to 1990. The total net EU greenhouse gases emissions, including LULUCF, were reduced by 32.5% between 1990 and 2022. GHG emission reductions need to double in the current decade compared to the previous decades.</p> <p>According to the Member States' own projections reported in 2023 under Article 18 of the Governance of the Energy Union Regulation, total EU emissions are expected to fall in 2030 by about 50% below the 1990 level when factoring in additional measures. This falls short of the at least 55% objective, but the Member States projections do not accurately capture the evolution driven by EU-wide instruments such as the ETS.</p> <p>Reaching the -55 % objective further depends on delivery of ESR, which is not fully on track, as well as the related functioning of ETS2. In addition, the -55% objective assumes that the LULUCF sink is at least -225 MtCO2e. The agreed LULUCF commitment of -310 MtCO2e could even achieve -57%. However, the current development of the LULUCF sink is opposite to the targets, including natural disturbances that are expected to further increase with the ongoing climate change. If this negative development continues, the risk of not reaching the sink of -225 MtCO2 cannot be ruled out.</p> <p>On the other hand, the implementation of the complete Fit for 55 legislative package is expected to reduce EU net greenhouse gas emissions by 57% by 2030, putting EU on track to exceed 2030 targets.</p> <p>On the way to climate neutrality by 2050, the Commission adopted a Communication in February 2024 that launches the process of setting the 2040 climate target for the EU, in compliance with Art. 4.3 of the Climate Law. While 2040 targets are not yet set, it is clear that much of the transition to 2050 has to be realised by 2040. Based on the recommended emission reductions of 90-95 % by 2040 compared to 1990, of the European Scientific Advisory Board on Climate Change advised, the Commission has recommended a net 90% GHG reduction target for 2040.</p> <p>Both 2040 and 2050 targets require a much deeper transformation of the energy system, through large scale deployment of climate-neutral technologies that require high investment efforts with some technologies not yet deployed at market scale.</p> <p>While some of the current instruments will keep delivering reductions well beyond 2030 (notably the EU ETS but also CO2 standards for vehicles, ReFuelEU Aviation, FuelEU Maritime and the Fluorinated gas (F-gas) Regulation), there will be a need to review, update and complete the legislative framework for the post –2030 period. This will include topics such as carbon capture, industrial carbon removals, and overall and sector specific emission reduction trajectories. In addition, larger emission reductions in difficult-to-abate sectors</p>

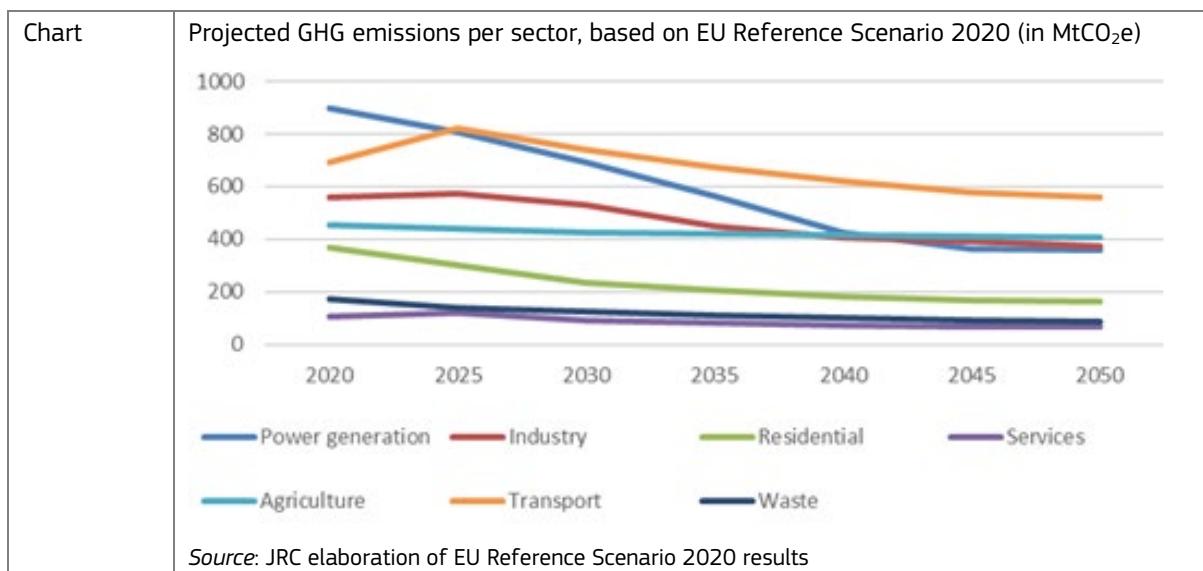
	like agriculture will be needed, along with a larger role for carbon removals, including utilising land as a carbon sink.
Indicator	Total domestic (EU27) GHG emissions, in MtCO ₂ e/y
Trend	EU27 GHG total net GHG emissions (domestic and internal aviation), 1990-2020  <p>Source: JRC elaboration of UNFCCC data and EU Reference Scenario 2020 results, Eurostat, EEA</p>
Charts	
Charts	EU GHG net emissions, targets and aggregated Member States' projections  <p>Source: Climate Action progress report 2023, European Commission</p>

EU ETS. The contribution of the sectors covered by the existing EU Emission trading System (EU ETS) with respect to the EU Climate ambition should be of **-62% compared to 2005** (increasing the linear emissions reduction factor from 2.2% per year up to 4.4%), by 2030

Document	Directive (EU) 2023/959	
Assessment		The pace of progress is sufficient to reach the target value
The decreasing trajectory of the number of CO ₂ emission allowances is expected to lead to -62% less CO ₂ emission in 2030 compared to 2005 levels. EU ETS emissions fell by 47% between 2005 and 2022. The most important driver for the decrease in EU ETS emissions has been the power sector, due to a substantial increase in renewable electricity production (primarily wind and solar) at the expense of both coal and gas. The system covers the electricity sector, large industry, and since 2012, aviation (initially intra-EEA, with an upcoming extension of scope). Since 1 January 2024, it has been expanded to include the maritime sector. The 2023 greenhouse gas emission projections reported by the Member States to the EEA result in a reduction of ETS emissions of 55% to 59% (with existing measures – with additional measures projection) in the ETS sectors in 2030. While these projections are short of the 62% target, it is important to note that, the ETS being an EU-wide market-based (cap and trade) instrument, this objective is not directly addressed by Member States specific policies and cannot be consistently and comprehensively covered by the individual Member States GHG emission projections.		

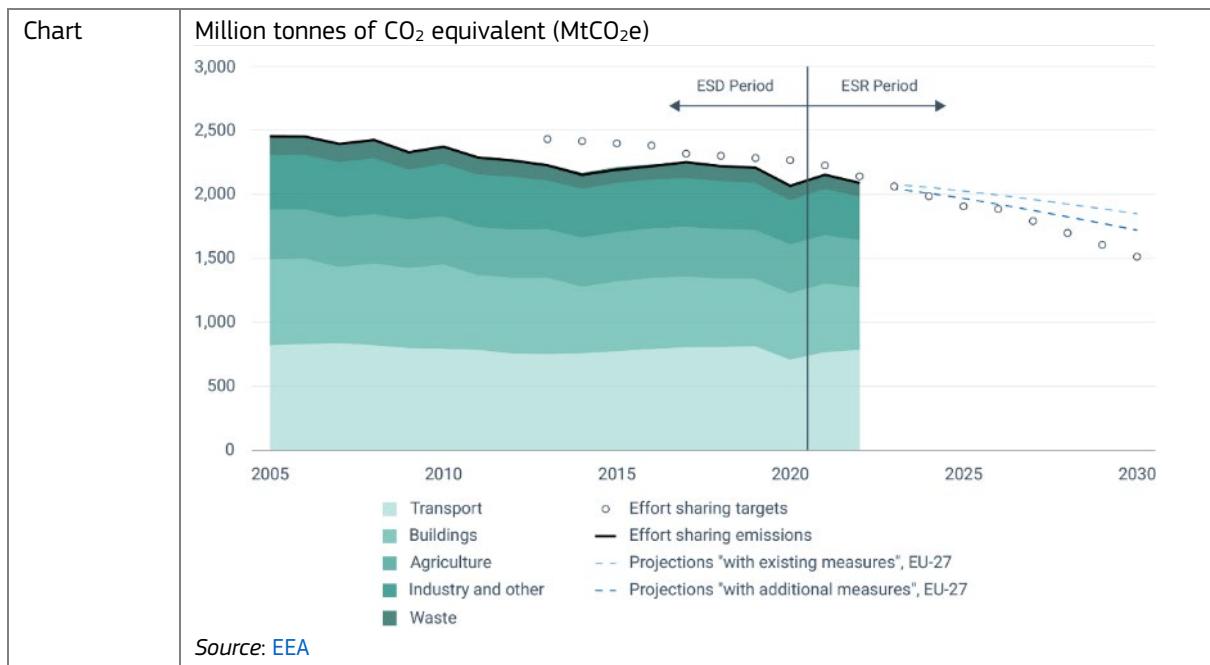
	Given that the ETS instrument is established and operational, and that the necessary technologies are both available and affordable, it is anticipated that the target can be achieved.
Indicator	Emitted GHG in the sectors covered by EU ETS, in MtCO ₂ e/y
Trend	<p>Historical GHG emission in EU27 from all stationary installations (therefore excluding aviation), 2005–2023 (in tCO₂e)</p> <p>Source: EEA (Note: Fit for 55 package amends the scope of the EU ETS adding maritime transport).</p>

ETS2. Contribution of the buildings and road transport sectors of 43% emission reductions by 2030 compared to 2005 and of the additional sectors, a combined cost-efficient contribution of 42% emission reductions by 2030 compared to 2005	
Document	Directive (EU) 2023/959
Assessment	? The target cannot be assessed due to lack of data <p>The ETS2 is a new EU-wide cap-and-trade economic instrument that covers the CO₂ emissions from the combustion of fuels in road transport, buildings, and other sectors (mainly smaller industries), excluding agriculture. Monitoring starts in 2025, with cap and trade applying from 2027. As such, it overlaps significantly with the ESR in terms of sectors covered, but important differences are that a) it is implemented at the EU level, rather than through Member State-specific policies, and b) it does not cover non-CO₂ emissions, many of which are from the hard-to-tackle agricultural sector.</p> <p>Between 2005 and 2022, the emissions covered by the ETS 2 fell by 16% according to own estimates of the JRC. However, since the ETS2 instrument is newly implemented and official reporting by Member States is not yet available, the progress cannot currently be evaluated.</p>
Indicator	GHG emissions reduction in buildings and road transport sectors



ESR. Increased national targets in line with an EU-wide **reduction of 40% in the ESR sectors** compared to 2005. Member States contribute to the overall EU reduction in 2030 with targets ranging from -10% to -50% below 2005 level (sectors: transport, buildings, agriculture and waste)

Document	Directive (EU) 2023/857
Assessment	<p>! Progress needs to accelerate to reach the target value</p> <p>The current (2022) reduction is 17% relative to 2005, far from the 40% reduction target set for 2030. Between 2013 and 2020, Member States met or overachieved their ESR obligations- with the largest reductions in the buildings and small industry sectors. Emissions are expected to continue decreasing in the coming decade due to –among others- source control legislation, such as improved building standards, building renovations, CO₂ standards for road vehicles and EU policies on phasing down hydrofluorocarbons (HFC) and other fluorinated gases. Progress in the transport and building sectors faces different challenges. While transport emissions are regulated by EU-wide CO₂ emission standards for vehicles (which have a relatively fast turnover rate), renovating the building stock is a more challenging effort, primarily driven by Member States' policies. Therefore, Member States' projections for building emissions significantly lag behind the expected cost-effective rate of reduction.</p> <p>Overall, EU emissions in the sectors covered by the ESR, according to 2023 Member States projections, are expected to fall by 27–32% (with existing and additional measures, respectively) by 2030 compared to 2005, i.e. 8 –13 percentage points below the 40% target for 2030, with only 6 Member States projected to (over-) achieve their targets.</p> <p>Absolute emissions in the agriculture sector have stagnated since 2010, while agricultural aggregate output has increased, decreasing emission intensity of EU agricultural products by 13%.</p> <p>Concerning emission reductions, current Member States' projections under the Governance Regulation foresee 2030 emissions with existing measures to be 373MtCO₂e (or -3% compared to 2021) and 359MtCO₂e (or -7 %) with additional measures. The 2030 'MIX (55 Euro/t CO₂e)' scenario, used to assess the Fit for 55 targets corresponds to a -7 % decline in the agricultural sector by 2030 compared to 2021, aligning with the Member States 'with additional measures' scenario. The current (2023–2027) CAP aims to contribute to climate mitigation, with Member State strategies outlined in their Strategic Plans. Estimates of the CAP 2023–2027 impact on emissions require detailed information on the implementation and effectiveness of farming practices from the CAP instruments, which are currently being evaluated.</p>
Indicator	Emitted GHG emissions in the sectors covered by ESR, in MtCO ₂ e



GHG Removals, Land Use Land Use Change and Forestry (LULUCF)

Achieve an **EU net greenhouse gas removal of 310 million tonnes CO₂ equivalent per year** for the land use, land use change and forestry (LULUCF) sector, by 2030, and Member State-specific targets for 2030 summing up to -42 MtCO₂e increase in LULUCF sink between 2016-2018 and 2030.

Document	Regulation (EU) 2023/839	
Assessment		The current trend runs counter to the desired direction or it is stagnant
	<p>The revised LULUCF regulation sets a target of removing 310 MtCO₂e by 2030. The long-term EU forest sink is developing away from this target and jeopardising the fulfilment of the overall LULUCF sector target for 2030. Furthermore, natural disturbances are expected to increase with ongoing climate change, with potentially a further reduction of the carbon sink, making the situation even more difficult.</p> <p>In 2020, the gap between the reported LULUCF emissions in 2016-2018 and the target of -310 MtCO₂e for 2030 was -42 MtCO₂e for the EU. 2024 shows that this gap has now widened: instead of -42 MtCO₂e, the EU needs to improve its LULUCF sink by -80 MtCO₂e between 2022 and 2030 to meet the targets. The LULUCF targets will be difficult to achieve unless substantial changes in forest management are implemented very soon.</p>	
Indicator	GHG net emissions and removals from LULUCF sector, in MtCO ₂ e/y	

Trend	<p>Trends of EU-27 net emissions and removals for LULUCF, Forest land + HWP, and other LULUCF categories (in MtCO₂e)</p> <p>Source: Korosuo et al., 2023. Note: Data as reported in the GHG inventories (GHGI 2020 and GHGI 2023), and a comparison between the trajectories needed to reach the agreed target of - 310 Mt CO₂e for the total LULUCF sector in 2030. The additional net removals initially needed for the - 310-target are assumed to be split equally between Forest land + harvested wood products (HWP) and other LULUCF categories, reflecting the modelling underpinning the Impact Assessment for the revised LULUCF regulation. The figure reflects the geographic scope of the EU-27 (as in the LULUCF regulation), excluding non-EU territories of France and Denmark.</p>																																				
Table	<p>Summary of GHG emissions targets</p> <table border="1"> <thead> <tr> <th>Policy</th><th>Target</th><th>Current level</th><th>2030</th><th>2050</th><th>GAP 2030</th></tr> </thead> <tbody> <tr> <td>Climate law</td><td>GHG emissions reduction vs. 1990</td><td><u>30.4% (2021)</u></td><td>55%</td><td>Neutrality</td><td>19.6%</td></tr> <tr> <td>EU ETS</td><td>GHG emissions reduction vs. 2005</td><td><u>38% (2022)</u></td><td>62%</td><td>-</td><td>24%</td></tr> <tr> <td>ETS 2</td><td>GHG emissions reduction vs. 2005</td><td>12% (2021) and 16% (2022)</td><td>42%</td><td>-</td><td>30%</td></tr> <tr> <td>ESR</td><td>GHG emissions reduction vs. 2005</td><td><u>13% (2021)</u></td><td>40%</td><td>-</td><td>27%</td></tr> <tr> <td>LULUCF</td><td>Net GHG emissions</td><td>-230 Mt CO₂ (2021)</td><td>-310 Mt CO₂</td><td>-</td><td>80Mt CO₂e</td></tr> </tbody> </table> <p>Source: JRC elaboration</p>	Policy	Target	Current level	2030	2050	GAP 2030	Climate law	GHG emissions reduction vs. 1990	<u>30.4% (2021)</u>	55%	Neutrality	19.6%	EU ETS	GHG emissions reduction vs. 2005	<u>38% (2022)</u>	62%	-	24%	ETS 2	GHG emissions reduction vs. 2005	12% (2021) and 16% (2022)	42%	-	30%	ESR	GHG emissions reduction vs. 2005	<u>13% (2021)</u>	40%	-	27%	LULUCF	Net GHG emissions	-230 Mt CO ₂ (2021)	-310 Mt CO ₂	-	80Mt CO ₂ e
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No debit rule. For the period from 2021 to 2025, each Member State shall ensure that **greenhouse gas emissions from the sector do not exceed greenhouse gas removals**, calculated as the sum of total emissions and total removals on its territory in all the land accounting categories. The accounting benchmark for the EU is ca. -229 MtCO₂e/year for 2021-2025

Document	Regulation (EU) 2023/839	
Assessment	!	Progress needs to accelerate to reach the target value

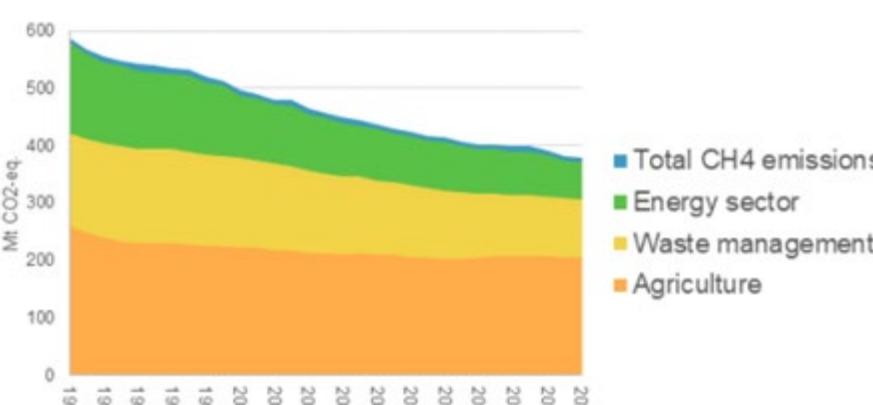
Assessing the distance to the target is difficult. Comparing purely the GHG reporting from countries for 2021 and 2022, to the accounting benchmark of -229 MtCO₂e determined by the delegated act, it looks like the EU is slightly exceeding the accounting benchmark. However, the recalculations of the inventories have increased the net sink historical time series reported by the Member States, and those recalculations will be considered in the accounting. Given the sharp decline of the forest sink driven by increasing harvest levels

	and natural disturbances, it is likely that the EU will face an overall accounting debit (i.e. not reaching the target) than a credit in the LULUCF sector as a whole.
Indicator	Emitted Mt CO ₂ e/y
Chart	<i>See the chart for the previous target, focusing on the trend</i>

MS specific targets. A budget for each Member State for the years 2026–2029, based on a linear trajectory between 2022 (as an average of 2021–2023) and 2030	
Document	Regulation (EU) 2023/839
Assessment	<p> The target cannot be assessed due to lack of data</p> <p>The reporting for years 2026–2029 will be done in GHG inventories during 2028–2031.</p>

Targets from Communications (non-binding)

Greenhouse gas emissions

Reduce methane emissions by 35 to 37% compared to 2005 levels, by 2030	
Document	An EU Strategy to reduce methane emissions
Assessment	<p> Progress needs to accelerate to reach the target value</p> <p>Methane emissions were 497.15 MtCO₂e in 2005 and decreased to 394.37 MtCO₂e in 2022, making a reduction of about 20.67%. However, acceleration is needed to reach at least a 35% reduction by 2030.</p> <p>The largest source of methane emissions in the EU is the agriculture sector, accounting for more than half of the total emissions, followed by the energy and waste sectors. Within agriculture, almost all methane emissions are from livestock: 80% of the total stems from enteric fermentation and 18% from manure management.</p> <p>Furthermore, the energy sector showed the highest decline in emissions, primarily due to the mitigation of fugitive emissions from fuels, including emissions from the extraction of solid fuels and those associated with oil and natural gas production and distribution.</p> <p>Most methane emissions from the waste sector come from solid waste disposal.</p>
Indicator	Emitted tons of methane
Trend	<p>Methane (CH₄) emission trends in EU27 (in MtCO₂e), 1990–2020</p>  <p>Source: visualisation taken from EU methane action plan and data from EEA.</p>

Annex 2. CLEAN, AFFORDABLE AND SECURE ENERGY

Targets from legal acts (binding)

Renewable energy in the power system

Member States shall collectively ensure that the share of energy from renewable sources in the Union's gross final consumption of energy in 2030 is at least 42.5%

Document	RED III (Directive (EU) 2023/2413)																																																																																																																																																																														
Assessment	! Progress needs to accelerate to reach the target value In 2022, renewable energy represented 23.0 % of energy consumed in the EU, up from 21.9% in 2021. This EU-level target has not been translated into binding national contributions. The target is to be achieved jointly by all Member States, building on their coordinated and combined action. According to the EC assessment of the draft NECPs, the current drafts would lead to a share of 38.6–39.3% of renewables in the energy mix by 2030. Reaching the 2030 target of 42.5% (and even more so the aspirational target of 45%) will require a much faster growth in the coming years.																																																																																																																																																																														
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Chart	<p>Shares and targets of renewables in gross final energy consumption, by country</p> <p>The chart displays the share of energy from renewable sources in 2011 (light blue bars), 2016 (medium blue bars), and 2021 (dark blue bars) for 27 EU countries. It also shows the 2030 target (current) as a horizontal green bar and the 2030 target (new) as a horizontal orange bar. The y-axis ranges from 0 to 70%. The chart shows significant variation between countries, with Sweden having the highest share in 2021 (around 62%) and Malta the lowest (around 12%). Most countries have a 2030 target set higher than their 2021 share.</p> <table border="1"> <thead> <tr> <th>Country</th> <th>Share 2011</th> <th>Share 2016</th> <th>Share 2021</th> <th>2030 target (current)</th> <th>2030 target (new)</th> </tr> </thead> <tbody> <tr><td>SE</td><td>~52</td><td>~62</td><td>~62</td><td>~65</td><td>~65</td></tr> <tr><td>FI</td><td>~35</td><td>~42</td><td>~42</td><td>~51</td><td>~51</td></tr> <tr><td>LV</td><td>~38</td><td>~38</td><td>~42</td><td>~54</td><td>~54</td></tr> <tr><td>EE</td><td>~35</td><td>~35</td><td>~38</td><td>~42</td><td>~42</td></tr> <tr><td>AT</td><td>~28</td><td>~28</td><td>~32</td><td>~45</td><td>~45</td></tr> <tr><td>DK</td><td>~25</td><td>~25</td><td>~32</td><td>~55</td><td>~55</td></tr> <tr><td>PT</td><td>~22</td><td>~22</td><td>~32</td><td>~46</td><td>~46</td></tr> <tr><td>HR</td><td>~25</td><td>~25</td><td>~28</td><td>~37</td><td>~37</td></tr> <tr><td>LT</td><td>~20</td><td>~20</td><td>~25</td><td>~45</td><td>~45</td></tr> <tr><td>SI</td><td>~20</td><td>~20</td><td>~25</td><td>~28</td><td>~28</td></tr> <tr><td>RO</td><td>~20</td><td>~20</td><td>~25</td><td>~32</td><td>~32</td></tr> <tr><td>EL</td><td>~15</td><td>~15</td><td>~22</td><td>~35</td><td>~35</td></tr> <tr><td>EU</td><td>~18</td><td>~18</td><td>~22</td><td>~42</td><td>~42</td></tr> <tr><td>ES</td><td>~18</td><td>~18</td><td>~22</td><td>~42</td><td>~42</td></tr> <tr><td>FR</td><td>~12</td><td>~12</td><td>~18</td><td>~33</td><td>~33</td></tr> <tr><td>DE</td><td>~12</td><td>~12</td><td>~18</td><td>~30</td><td>~30</td></tr> <tr><td>IT</td><td>~12</td><td>~12</td><td>~18</td><td>~30</td><td>~30</td></tr> <tr><td>CY</td><td>~10</td><td>~10</td><td>~18</td><td>~25</td><td>~25</td></tr> <tr><td>CZ</td><td>~10</td><td>~10</td><td>~18</td><td>~20</td><td>~20</td></tr> <tr><td>SK</td><td>~10</td><td>~10</td><td>~18</td><td>~20</td><td>~20</td></tr> <tr><td>BG</td><td>~8</td><td>~8</td><td>~12</td><td>~28</td><td>~28</td></tr> <tr><td>PL</td><td>~8</td><td>~8</td><td>~12</td><td>~22</td><td>~22</td></tr> <tr><td>HU</td><td>~7</td><td>~7</td><td>~12</td><td>~22</td><td>~22</td></tr> <tr><td>BE</td><td>~8</td><td>~8</td><td>~12</td><td>~18</td><td>~18</td></tr> <tr><td>NL</td><td>~8</td><td>~8</td><td>~12</td><td>~22</td><td>~22</td></tr> <tr><td>IE</td><td>~5</td><td>~5</td><td>~10</td><td>~18</td><td>~18</td></tr> <tr><td>MT</td><td>~3</td><td>~3</td><td>~8</td><td>~12</td><td>~12</td></tr> <tr><td>LU</td><td>~4</td><td>~4</td><td>~10</td><td>~25</td><td>~25</td></tr> </tbody> </table> <p>Source: JRC elaboration based on Eurostat dataset NRG_IND_REN. Note: the horizontal bars represent the commitments defined in the NECPs.</p>	Country	Share 2011	Share 2016	Share 2021	2030 target (current)	2030 target (new)	SE	~52	~62	~62	~65	~65	FI	~35	~42	~42	~51	~51	LV	~38	~38	~42	~54	~54	EE	~35	~35	~38	~42	~42	AT	~28	~28	~32	~45	~45	DK	~25	~25	~32	~55	~55	PT	~22	~22	~32	~46	~46	HR	~25	~25	~28	~37	~37	LT	~20	~20	~25	~45	~45	SI	~20	~20	~25	~28	~28	RO	~20	~20	~25	~32	~32	EL	~15	~15	~22	~35	~35	EU	~18	~18	~22	~42	~42	ES	~18	~18	~22	~42	~42	FR	~12	~12	~18	~33	~33	DE	~12	~12	~18	~30	~30	IT	~12	~12	~18	~30	~30	CY	~10	~10	~18	~25	~25	CZ	~10	~10	~18	~20	~20	SK	~10	~10	~18	~20	~20	BG	~8	~8	~12	~28	~28	PL	~8	~8	~12	~22	~22	HU	~7	~7	~12	~22	~22	BE	~8	~8	~12	~18	~18	NL	~8	~8	~12	~22	~22	IE	~5	~5	~10	~18	~18	MT	~3	~3	~8	~12	~12	LU	~4	~4	~10	~25	~25
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The **amount of renewable fuels and renewable electricity supplied to the transport sector** leads to a: (i) share of renewable energy within the final consumption of energy in the transport sector of **at least 29% by 2030**; or (ii) **GHG intensity reduction of at least 14.5% by 2030**, compared to the baseline set out in Article 27(1), in accordance with an indicative trajectory set by the Member State

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Assessment	! Progress needs to accelerate to reach the target value <p>The share of energy from renewable sources used in transport in the EU reached 9.6% in 2022, up from 9.1% in 2021. Acceleration is needed to reach the 2030 target.</p> <p>Following a sharp 13.5% drop in transport related GHG emissions between 2019 and 2020, due to the COVID-19 pandemic, according to European Environment Agency (EEA) data, they surged upwards (by 8.6%) between 2020 and 2021 from 720.2 to 782.1 Mt (million tonnes) and the EEA forecasts a further 2.7% increase for 2022, which would restore emission levels to above the 800-Mtonne threshold (803.2 Mt in 2022).</p> <p>CO₂ emissions account for almost all transport related GHG emissions (98.9% in 2021) and far outstrip those of nitrous oxide (N₂O) (0.9% in CO₂ equivalent units) and methane (0.2% in CO₂ equivalent units).</p>																																																																																																																																																																														
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By 2022, achieve 18% of the total **increase in the share of energy from renewable sources** between that Member State's binding 2020 national target, and its contribution to the **2030 target of the share of energy from renewable sources in gross final consumption of energy**. Achieve 43% by 2025, 65% by 2027.

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Assessment	✓ The pace of progress is sufficient to reach the target value Two Member States (Malta and Sweden) have already reached their 2030 target. 18 Member States have achieved the 2022 target of 18%. However, in 2021, 10 Member States experienced a decline in their share respect their 2020 value. This occurred as well for seven Member States in 2022; nevertheless, two of them have still met their 2022 targets despite the decrease. The EU jointly has reached the 2022 sub-target.																																																																																																																				
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Chart	Share and targets of energy from renewable energy sources, by country <table border="1"> <caption>Data extracted from the chart</caption> <thead> <tr> <th>Country</th> <th>Share 2022</th> <th>2030 target</th> <th>2022 target</th> </tr> </thead> <tbody> <tr><td>SE</td><td>~65</td><td>-</td><td>-</td></tr> <tr><td>FI</td><td>~52</td><td>-</td><td>-</td></tr> <tr><td>LV</td><td>~43</td><td>-</td><td>-</td></tr> <tr><td>DK</td><td>~41</td><td>-</td><td>-</td></tr> <tr><td>EE</td><td>~39</td><td>-</td><td>-</td></tr> <tr><td>PT</td><td>~34</td><td>-</td><td>-</td></tr> <tr><td>AT</td><td>~34</td><td>-</td><td>-</td></tr> <tr><td>LT</td><td>~30</td><td>-</td><td>-</td></tr> <tr><td>HR</td><td>~28</td><td>-</td><td>-</td></tr> <tr><td>RO</td><td>~27</td><td>-</td><td>-</td></tr> <tr><td>EL</td><td>~22</td><td>-</td><td>-</td></tr> <tr><td>SI</td><td>~23</td><td>-</td><td>-</td></tr> <tr><td>EU 27</td><td>~23</td><td>-</td><td>-</td></tr> <tr><td>ES</td><td>~22</td><td>-</td><td>-</td></tr> <tr><td>DE</td><td>~21</td><td>-</td><td>-</td></tr> <tr><td>FR</td><td>~21</td><td>-</td><td>-</td></tr> <tr><td>CY</td><td>~19</td><td>-</td><td>-</td></tr> <tr><td>BG</td><td>~18</td><td>-</td><td>-</td></tr> <tr><td>IT</td><td>~19</td><td>-</td><td>-</td></tr> <tr><td>CZ</td><td>~15</td><td>-</td><td>-</td></tr> <tr><td>SK</td><td>~15</td><td>-</td><td>-</td></tr> <tr><td>PL</td><td>~16</td><td>-</td><td>-</td></tr> <tr><td>HU</td><td>~14</td><td>-</td><td>-</td></tr> <tr><td>NL</td><td>~14</td><td>-</td><td>-</td></tr> <tr><td>LU</td><td>~13</td><td>-</td><td>-</td></tr> <tr><td>BE</td><td>~14</td><td>-</td><td>-</td></tr> <tr><td>MT</td><td>~11</td><td>-</td><td>-</td></tr> <tr><td>IE</td><td>~13</td><td>-</td><td>-</td></tr> </tbody> </table>	Country	Share 2022	2030 target	2022 target	SE	~65	-	-	FI	~52	-	-	LV	~43	-	-	DK	~41	-	-	EE	~39	-	-	PT	~34	-	-	AT	~34	-	-	LT	~30	-	-	HR	~28	-	-	RO	~27	-	-	EL	~22	-	-	SI	~23	-	-	EU 27	~23	-	-	ES	~22	-	-	DE	~21	-	-	FR	~21	-	-	CY	~19	-	-	BG	~18	-	-	IT	~19	-	-	CZ	~15	-	-	SK	~15	-	-	PL	~16	-	-	HU	~14	-	-	NL	~14	-	-	LU	~13	-	-	BE	~14	-	-	MT	~11	-	-	IE	~13	-	-
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Source: JRC elaboration based on Eurostat dataset [NRG_IND_REN](#). Note: the yellow horizontal bars represent the 2022 target and the green bars represent the 2030 targets as defined in the NECPs. The purple bar indicates the EU 2030 target.

Member States shall endeavour to increase the share of renewable sources in the amount of energy sources used for final energy and non-energy purposes in the industry sector by an indicative increase of at least 1.6 percentage points as an annual average calculated for the periods 2021 to 2025 and 2026 to 2030 [Indicative target]

Document	RED III (Directive (EU) 2023/2413)
Assessment	! Progress needs to accelerate to reach the target value A 1.6 percentage point annual increase leads to a 26% share of renewables by 2030. The share of renewables in 2022 was 10.7%, an increase from 9.7% in 2020. In absolute values, this is an increase from 23.3 Mtoe in 2021 to 24.1 Mtoe in 2022 Acceleration is needed to reach the 2030 target.
Indicator	Share of renewable sources in the industry sector

Chart	<p>Share of renewable sources in the amount of energy sources used for final energy and non-energy purposes in the industry sector, by country, values for 2020 and 2022</p> <table border="1"> <thead> <tr> <th>Country</th> <th>Share 2020</th> <th>Share 2022</th> </tr> </thead> <tbody> <tr><td>LV</td><td>~48%</td><td>~53%</td></tr> <tr><td>SE</td><td>~42%</td><td>~43%</td></tr> <tr><td>FI</td><td>~38%</td><td>~37%</td></tr> <tr><td>PT</td><td>~23%</td><td>~23%</td></tr> <tr><td>AT</td><td>~17%</td><td>~18%</td></tr> <tr><td>CY</td><td>~17%</td><td>~17%</td></tr> <tr><td>LT</td><td>~13%</td><td>~13%</td></tr> <tr><td>ES</td><td>~11%</td><td>~12%</td></tr> <tr><td>EU</td><td>~10%</td><td>~10%</td></tr> <tr><td>PL</td><td>~12%</td><td>~11%</td></tr> <tr><td>SK</td><td>~10%</td><td>~10%</td></tr> <tr><td>DK</td><td>~10%</td><td>~10%</td></tr> <tr><td>BG</td><td>~10%</td><td>~10%</td></tr> <tr><td>IE</td><td>~9%</td><td>~9%</td></tr> <tr><td>CZ</td><td>~9%</td><td>~9%</td></tr> <tr><td>BE</td><td>~7%</td><td>~7%</td></tr> <tr><td>HU</td><td>~7%</td><td>~7%</td></tr> <tr><td>DE</td><td>~6%</td><td>~6%</td></tr> <tr><td>SI</td><td>~6%</td><td>~6%</td></tr> <tr><td>FR</td><td>~6%</td><td>~6%</td></tr> <tr><td>EE</td><td>~5%</td><td>~5%</td></tr> <tr><td>EL</td><td>~5%</td><td>~5%</td></tr> <tr><td>RO</td><td>~4%</td><td>~4%</td></tr> <tr><td>HR</td><td>~3%</td><td>~3%</td></tr> <tr><td>LU</td><td>~2%</td><td>~2%</td></tr> <tr><td>IT</td><td>~2%</td><td>~2%</td></tr> <tr><td>NL</td><td>~2%</td><td>~2%</td></tr> <tr><td>MT</td><td>~2%</td><td>~2%</td></tr> </tbody> </table> <p>Source: JRC elaboration based on Eurostat dataset NRG_BAL_S. Note: The green horizontal bar indicates the EU 2030 target.</p>	Country	Share 2020	Share 2022	LV	~48%	~53%	SE	~42%	~43%	FI	~38%	~37%	PT	~23%	~23%	AT	~17%	~18%	CY	~17%	~17%	LT	~13%	~13%	ES	~11%	~12%	EU	~10%	~10%	PL	~12%	~11%	SK	~10%	~10%	DK	~10%	~10%	BG	~10%	~10%	IE	~9%	~9%	CZ	~9%	~9%	BE	~7%	~7%	HU	~7%	~7%	DE	~6%	~6%	SI	~6%	~6%	FR	~6%	~6%	EE	~5%	~5%	EL	~5%	~5%	RO	~4%	~4%	HR	~3%	~3%	LU	~2%	~2%	IT	~2%	~2%	NL	~2%	~2%	MT	~2%	~2%																					
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Member States shall set an indicative target for innovative renewable energy technology of at least 5% of newly installed renewable energy capacity by 2030

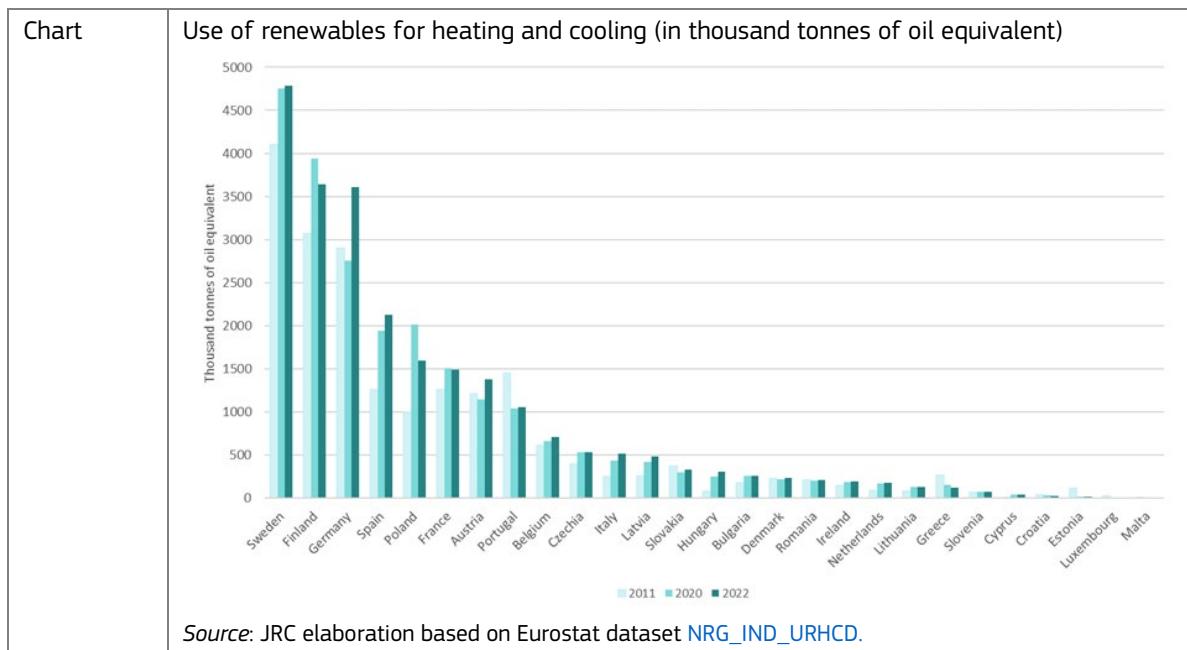
Document	RED III (Directive (EU) 2023/2413)
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>Innovative technologies are defined as those that improve in at least one way comparable state-of-the-art renewable energy technologies or make exploitable a largely untapped renewable energy resource, involving a clear degree of risk, in technological, market or financial terms, which is higher than the risk generally associated with comparable non-innovative technologies or activities. According to the Association of European Renewable Energy Research Centers (EUREC), the EU's industry is ready, in the right circumstances, to</p>

	deploy innovative renewable energy technologies to a level likely to exceed 5%, including innovative technologies such as advanced photovoltaics, floating photovoltaics, concentrated solar power and solar thermal.
Indicator	Share of newly installed renewable energy capacity

Energy Efficiency

Each Member State shall increase the share of renewable energy in the heating and cooling sector by at least 0.8 percentage points as an annual average calculated for the period 2021 to 2025 and by at least 1.1 percentage points as an annual average calculated for the period 2026 to 2030, starting from the share of renewable energy in the sector in 2020

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	<p>Energy for heating and cooling makes up around half of the EU's total gross final energy consumption. The annual average increases would lead to a target of 32.48% share by 2030. In 2022, the share of energy from renewables in heating and cooling continued to rise, with the EU average standing at 24.8%, up 1.8 percentage points from 2021 (23.0%). However, the 2022 value is still below the expected annual average.</p> <p>In absolute terms, the gross final consumption of renewable energy for heating and cooling purposes in the EU has gradually increased over time, mostly due to the contribution of biomass and heat pumps. However, a major push is required to meet the 2030 target.</p> <p>Sweden led the way when it came to renewables in heating and cooling, with a 69.3% share, followed by Estonia (65.4%). Both countries use mostly biomass and heat pumps. They are followed by Latvia (61.0%), which relies mostly on biomass.</p>																																																																																																																				
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Chart	<p>Share of renewable energy in the heating and cooling sector, by country</p> <table border="1"> <thead> <tr> <th>Country</th> <th>Share 2021</th> <th>Share 2022</th> <th>EU 2030 target</th> </tr> </thead> <tbody> <tr><td>SE</td><td>~69%</td><td>~69%</td><td>-</td></tr> <tr><td>EE</td><td>~65%</td><td>~65%</td><td>-</td></tr> <tr><td>LV</td><td>~60%</td><td>~60%</td><td>-</td></tr> <tr><td>FI</td><td>~58%</td><td>~58%</td><td>-</td></tr> <tr><td>LT</td><td>~52%</td><td>~52%</td><td>-</td></tr> <tr><td>DK</td><td>~50%</td><td>~50%</td><td>-</td></tr> <tr><td>PT</td><td>~46%</td><td>~46%</td><td>-</td></tr> <tr><td>CY</td><td>~42%</td><td>~42%</td><td>-</td></tr> <tr><td>MT</td><td>~38%</td><td>~38%</td><td>-</td></tr> <tr><td>HR</td><td>~38%</td><td>~38%</td><td>-</td></tr> <tr><td>SI</td><td>~35%</td><td>~35%</td><td>-</td></tr> <tr><td>BG</td><td>~32%</td><td>~32%</td><td>-</td></tr> <tr><td>EL</td><td>~31%</td><td>~31%</td><td>-</td></tr> <tr><td>AT</td><td>~30%</td><td>~30%</td><td>-</td></tr> <tr><td>FR</td><td>~25%</td><td>~25%</td><td>-</td></tr> <tr><td>RO</td><td>~25%</td><td>~25%</td><td>-</td></tr> <tr><td>CZ</td><td>~25%</td><td>~25%</td><td>-</td></tr> <tr><td>EU</td><td>~25%</td><td>~25%</td><td>~32.48%</td></tr> <tr><td>PL</td><td>~22%</td><td>~22%</td><td>-</td></tr> <tr><td>IT</td><td>~20%</td><td>~20%</td><td>-</td></tr> <tr><td>HU</td><td>~18%</td><td>~18%</td><td>-</td></tr> <tr><td>ES</td><td>~18%</td><td>~18%</td><td>-</td></tr> <tr><td>SK</td><td>~20%</td><td>~20%</td><td>-</td></tr> <tr><td>DE</td><td>~16%</td><td>~16%</td><td>-</td></tr> <tr><td>LU</td><td>~14%</td><td>~14%</td><td>-</td></tr> <tr><td>BE</td><td>~12%</td><td>~12%</td><td>-</td></tr> <tr><td>NL</td><td>~10%</td><td>~10%</td><td>-</td></tr> <tr><td>IE</td><td>~8%</td><td>~8%</td><td>-</td></tr> </tbody> </table> <p>Source: JRC elaboration based on Eurostat dataset NRG_IND_URHCD.</p>	Country	Share 2021	Share 2022	EU 2030 target	SE	~69%	~69%	-	EE	~65%	~65%	-	LV	~60%	~60%	-	FI	~58%	~58%	-	LT	~52%	~52%	-	DK	~50%	~50%	-	PT	~46%	~46%	-	CY	~42%	~42%	-	MT	~38%	~38%	-	HR	~38%	~38%	-	SI	~35%	~35%	-	BG	~32%	~32%	-	EL	~31%	~31%	-	AT	~30%	~30%	-	FR	~25%	~25%	-	RO	~25%	~25%	-	CZ	~25%	~25%	-	EU	~25%	~25%	~32.48%	PL	~22%	~22%	-	IT	~20%	~20%	-	HU	~18%	~18%	-	ES	~18%	~18%	-	SK	~20%	~20%	-	DE	~16%	~16%	-	LU	~14%	~14%	-	BE	~12%	~12%	-	NL	~10%	~10%	-	IE	~8%	~8%	-
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Member States shall ensure that the total final energy consumption of all public bodies combined is reduced by at least 1.9% each year, when compared to 2021

Document	Directive (EU) 2023/1791	
Assessment	?	The target cannot be assessed due to lack of data 14 Member States reported data on public buildings in their national energy and climate progress reports (NECPRs). Missing data prevent drawing general conclusions or calculating aggregated data at the EU level. In terms of final energy, the short-term evolution indicates a general increase with some exceptions, such as the residential sector in Greece and Ireland. The first reporting deadline for the EED is at the end of 2024.

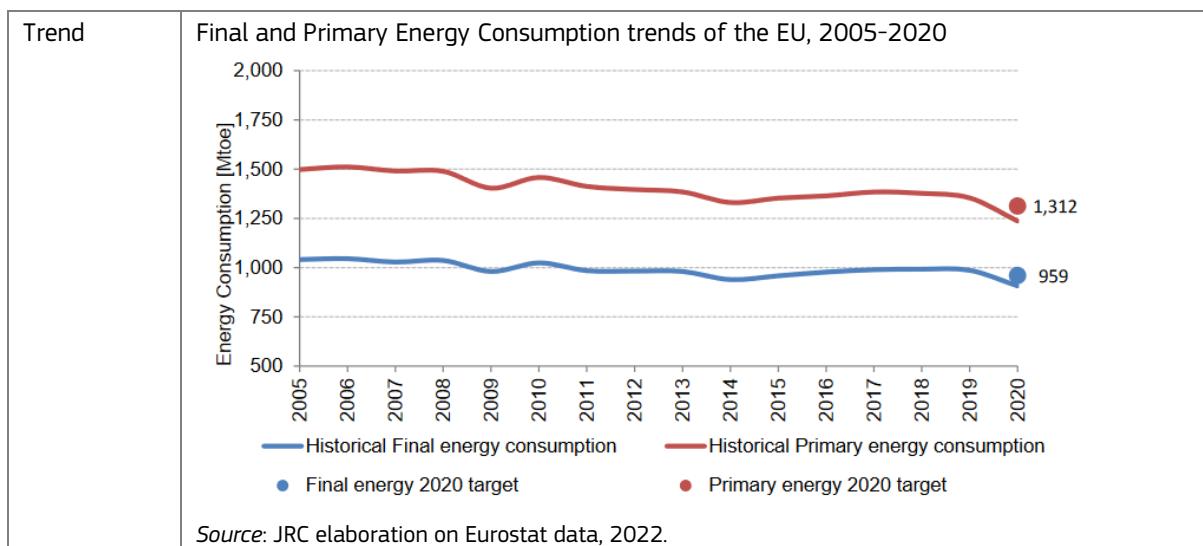
Member States shall collectively ensure a reduction of energy consumption of at least 11.7% in 2030 compared to the projections of the 2020 EU Reference Scenario so that the Union's final energy consumption amounts to no more than 763 Mtoe

Document	Directive (EU) 2023/1791	
Assessment	!	Progress needs to accelerate to reach the target value Final energy consumption reached 940 Mtoe in 2022, a 2.8% decrease compared with 2021. According to the EC assessment of the NECPs, the current Member States drafts pledges would lead to 5.8% energy efficiency improvements in 2030, compared to the target of 11.7%. Therefore, acceleration is needed to reach the 2030 target.
Indicator	Energy consumption	

Chart	<p>EU Final energy consumption (FEC) 1990-2021 versus EU 2020 and 2030 targets</p> <p>Source: JRC elaboration on Eurostat data, 2022.</p>
Trend over time	<p>Final and Primary Energy Consumption trends of the EU up to 2020</p> <p>Source: JRC elaboration on Eurostat data, 2022.</p>

Member States shall make efforts to collectively contribute to the indicative Union primary energy consumption target amounting to no more than 992.5 Mtoe in 2030

Document	Directive (EU) 2023/1791
Assessment	<p>! Progress needs to accelerate to reach the target value</p> <p>In 2022, primary energy consumption in the EU reached 1257 Mtoe, a 4.1% decrease compared with 2021, moving closer to the 2030 target. Following the decline registered in 2020 due to the impact of the pandemic across sectors, EU primary energy consumption increased again in 2021. The year 2022 shows better results than in 2019, before the pandemic, when primary energy consumption was at 1354 Mtoe and 36.5% away from the target. The 1257 Mtoe registered for primary energy consumption in 2022 was the second lowest level since 1990 (the first year for which data are available), and the lowest was in 2020 (1236 Mtoe). According to the EC assessment of the NECPs, the current drafts would lead to a gap of 75 Mtoe from the 2030 target.</p>
Indicator	Primary energy consumption



Member States are required to achieve cumulative end-use energy savings from 2021 to 2030, equivalent to new annual savings of at least 0.8% of final energy consumption in 2021–2023, at least 1.3% in 2024–2025, 1.5% in 2026–2027 and 1.9% in 2028–2030

Document	Directive (EU) 2023/1791
Assessment	! Progress needs to accelerate to reach the target value <p>The directive requires EU countries to set indicative national energy efficiency targets based on final energy consumption contributions to meet the Union's target. This requirement is cumulative, meaning that Member States must sustain the annual savings achieved in one year over the following years, until the end of the obligation period in 2030. Member States can spread the savings over the obligation period, as long as they achieve the required cumulative amount of savings at the end of the period. The progressive increase is equivalent to a flat rate of 1.49% over 2024–2030, which is almost a doubling of the current ambition level.</p>
Indicator	Cumulative end-use energy savings in final energy consumption

Each Member State shall ensure that at least 3% of the total floor area of heated and/or cooled buildings (of buildings which have a total useful floor area of over 250 m² and are not nearly-zero energy buildings) that are owned by public bodies is renovated each year to be transformed into at least nearly zero-energy buildings or zero-emission buildings in accordance with Article 9 of Directive 2010/31/EU

Document	Directive (EU) 2023/1791
Assessment	! Progress needs to accelerate to reach the target value <p>According to SWD(2023)646, several Member States did not reach their annual targets. Member States will have to step up their efforts to be able to meet the savings requirement in 2030.</p>
Indicator	Renovation rate of the total floor area of heated and/or cooled buildings owned by public bodies

Member States shall ensure that the average primary energy use of the entire residential building stock decreases by at least 16% compared to 2020 by 2030; and by at least 20-22% compared to 2020 by 2035

Document	Directive (EU) 2024/1275
Assessment	 Progress needs to accelerate to reach the target value EU residential consumption in 2022 was 242 Mtoe (reduced by -2.1% on average in EU Member States compared to 2020). Strong acceleration is needed to meet the 2030 target.

Member states will have to renovate 16% of worst-performing non-residential buildings by 2030 and, by 2033, the worst-performing 26% through minimum energy performance requirements

Document	Directive (EU) 2024/1275
Assessment	 The target cannot be assessed due to lack of data Member States use different approaches to define their worst performing stock, such as energy class, age, energy consumption, as resulted by the analysis of the last long term building renovation strategies. In their NECPRs, a total of 6 countries defined worst performance according the primary or final energy consumption in kWh/m ² , while no information was found in 12 other countries.

The national measures will have to ensure that at least 55% of the decrease of the average primary energy use is achieved through the renovation of the worst-performing buildings

Document	Directive (EU) 2024/1275
Assessment	 The target cannot be assessed due to lack of data Member States use different approaches to define their worst performing stock, such as energy class, age, energy consumption, as resulted by the analysis of the last long term building renovation strategies. In the NECPR, a total of 6 countries defined worst performance according the primary or final energy consumption in kWh/m ² , while no information was found in 12 other countries. The fields on worst performing buildings have generally a lower completeness in the NECPRs.

Indicative target of at least a 49% share of energy from renewable sources in the building sector in the Union's final energy consumption in buildings in 2030

Document	RED III (Directive (EU) 2023/2413)
Assessment	 The target cannot be assessed due to lack of data No data available for buildings, only for the heating and cooling sector. From this data, the most reported fuels and technologies in 2021 per country are: biomass (21 countries), heat pumps (19), solar thermal systems (17), geothermal systems (12) and other decentralised renewable sources (8).

By 31 December 2025, each Member State shall agree to establish a framework for cooperation on joint projects with one or more other Member States for the production of renewable energy, subject to the following: by 31 December 2030, Member States shall endeavour to agree on establishing at least two joint projects; by 31 December 2033, Member States with an annual electricity consumption of more than 100 TWh shall endeavour to agree on establishing a third joint project

Document	RED III (Directive (EU) 2023/2413)
Assessment	 Progress needs to accelerate to reach the target value <p>Joint projects allow for a cost-efficient deployment of renewable energy across Europe and contribute to market integration. Despite its potential, cooperation between Member States has been very limited, thus leading to suboptimal results in terms of efficiency in increasing renewable energy. There are a few projects under consideration and being planned, as well as some permitting and under construction. However, these are in localised areas across the EU and not homogeneously distributed between Member States.</p>

Energy Infrastructure

A target of 15% electricity interconnection for 2030	
Document	RED III (Directive (EU) 2023/2413)
Assessment	 Progress needs to accelerate to reach the target value <p>In 2021, 16 countries reported being on track to reach that target by 2030, or have already reached the target, but more interconnections are needed in some regions. Specifically, eight Member States have already met or are exceeding the EU target. Others commit in their draft NECPs to develop interconnections with neighbouring countries by investing in new transmission capacities and interconnectors, especially in regions that are historically dependent on a single supplier and now aim to improve diversification. Moreover, some Member States (e.g. EE, FI, IT and PT) plan to diversify their energy mix by carrying out joint hydrogen infrastructure projects.</p> <p>Overall, Member States have made good efforts to increase cross-border capacity and the completion of various Projects of Common Interest should further improve the interconnectivity levels. Some Member States (CZ, IT, PT RO, SI, SE) are reporting delays in the completion of the projects in particular due to permitting issues. Still further efforts are required to meet the 2030 objectives, especially in terms of timely delivery of the planned cross-border projects.</p>

Renewable Hydrogen

Member States shall ensure that the contribution of renewable fuels of non-biological origin used for final energy and non-energy purposes shall be at least 42% of the hydrogen used for final energy and non-energy purposes in industry by 2030, and 60% by 2035

Document	RED III (Directive (EU) 2023/2413)
Assessment	 The current trend runs counter to the desired direction or it is stagnant <p>The use of renewable hydrogen in Europe was negligible up to 2023, including also in industrial processes.</p>

Energy neutrality in wastewater

Reach energy neutrality in the wastewater treatment sector by 2045	
Document	Directive concerning urban wastewater treatment (recast)
Assessment	✓ The pace of progress is sufficient to reach the target value <p>There is a considerable potential for reducing fossil fuel-based energy use and GHG emissions in wastewater treatment, and market incentives are increasingly attractive for investments in this direction. Member states should be required to ensure that the total annual energy used by all urban wastewater treatment plants on their territory treating a load of 10 000 population equivalent¹ and above does not exceed the production of energy from renewable sources¹.</p>
Indicator	Reduction of GHG emissions in wastewater treatment

Targets from Communications (non-binding)

Renewable energy in the power system

By 2030, the share of renewable energy in the electricity mix should double to 55–60%, and projections show a share of around 84% by 2050. The remaining gap should be covered by other low-carbon options																																																																																																																																																																															
Document	An EU Strategy for Energy System Integration																																																																																																																																																																														
Assessment	✓ The pace of progress is sufficient to reach the target value <p>In 2022, 39% of electricity was generated by renewables (38% in 2021), and in May 2022 wind and solar surpassed fossil fuels for the first time in EU electricity generation. The EU is on track to meet the lower end of the target for 2030 if the current acceleration rate is maintained.</p>																																																																																																																																																																														
Indicator	Share of renewable energy in the electricity mix																																																																																																																																																																														
Chart	<p>Shares and targets of renewables in electricity, by country</p> <p>The chart displays the share of renewable energy in electricity for 28 EU member states. It compares the actual shares in 2011 (light blue bars), 2016 (medium blue bars), and 2021 (dark blue bars) against the 2030 targets (green horizontal bars). The y-axis ranges from 0 to 100%. Most countries have achieved or exceeded their 2030 targets by 2021. The EU average share in 2021 is approximately 45%.</p> <table border="1"> <caption>Estimated data from the chart</caption> <thead> <tr> <th>Country</th> <th>Share 2011</th> <th>Share 2016</th> <th>Share 2021</th> <th>2030 Target (Current)</th> <th>2030 Target (New)</th> </tr> </thead> <tbody> <tr><td>AT</td><td>65</td><td>70</td><td>75</td><td>85</td><td>100</td></tr> <tr><td>SE</td><td>68</td><td>72</td><td>78</td><td>82</td><td>100</td></tr> <tr><td>DK</td><td>55</td><td>58</td><td>62</td><td>65</td><td>80</td></tr> <tr><td>PT</td><td>52</td><td>55</td><td>58</td><td>62</td><td>80</td></tr> <tr><td>HR</td><td>48</td><td>50</td><td>52</td><td>62</td><td>65</td></tr> <tr><td>LV</td><td>45</td><td>48</td><td>50</td><td>60</td><td>65</td></tr> <tr><td>ES</td><td>35</td><td>38</td><td>42</td><td>75</td><td>75</td></tr> <tr><td>DE</td><td>32</td><td>35</td><td>38</td><td>62</td><td>65</td></tr> <tr><td>RO</td><td>28</td><td>30</td><td>32</td><td>50</td><td>55</td></tr> <tr><td>FI</td><td>30</td><td>32</td><td>35</td><td>55</td><td>55</td></tr> <tr><td>EU</td><td>20</td><td>22</td><td>25</td><td>38</td><td>38</td></tr> <tr><td>IE</td><td>25</td><td>30</td><td>35</td><td>70</td><td>70</td></tr> <tr><td>IT</td><td>28</td><td>30</td><td>32</td><td>60</td><td>60</td></tr> <tr><td>EL</td><td>22</td><td>25</td><td>28</td><td>62</td><td>62</td></tr> <tr><td>SI</td><td>18</td><td>20</td><td>25</td><td>45</td><td>45</td></tr> <tr><td>NL</td><td>25</td><td>28</td><td>30</td><td>72</td><td>72</td></tr> <tr><td>EE</td><td>15</td><td>18</td><td>20</td><td>40</td><td>40</td></tr> <tr><td>BE</td><td>12</td><td>15</td><td>20</td><td>25</td><td>25</td></tr> <tr><td>FR</td><td>10</td><td>12</td><td>15</td><td>25</td><td>25</td></tr> <tr><td>SK</td><td>15</td><td>18</td><td>22</td><td>38</td><td>38</td></tr> <tr><td>LT</td><td>12</td><td>15</td><td>20</td><td>45</td><td>45</td></tr> <tr><td>BG</td><td>8</td><td>10</td><td>15</td><td>30</td><td>30</td></tr> <tr><td>PL</td><td>10</td><td>12</td><td>15</td><td>35</td><td>35</td></tr> <tr><td>CY</td><td>12</td><td>15</td><td>18</td><td>30</td><td>30</td></tr> <tr><td>CZ</td><td>5</td><td>8</td><td>12</td><td>18</td><td>18</td></tr> <tr><td>LU</td><td>5</td><td>8</td><td>10</td><td>32</td><td>32</td></tr> <tr><td>HU</td><td>5</td><td>7</td><td>10</td><td>22</td><td>22</td></tr> <tr><td>MT</td><td>5</td><td>7</td><td>10</td><td>10</td><td>10</td></tr> </tbody> </table> <p>Source: JRC elaboration based on Eurostat dataset NRG_IND_REN. Note: the horizontal bars represent the commitments defined in the NECPs.</p>	Country	Share 2011	Share 2016	Share 2021	2030 Target (Current)	2030 Target (New)	AT	65	70	75	85	100	SE	68	72	78	82	100	DK	55	58	62	65	80	PT	52	55	58	62	80	HR	48	50	52	62	65	LV	45	48	50	60	65	ES	35	38	42	75	75	DE	32	35	38	62	65	RO	28	30	32	50	55	FI	30	32	35	55	55	EU	20	22	25	38	38	IE	25	30	35	70	70	IT	28	30	32	60	60	EL	22	25	28	62	62	SI	18	20	25	45	45	NL	25	28	30	72	72	EE	15	18	20	40	40	BE	12	15	20	25	25	FR	10	12	15	25	25	SK	15	18	22	38	38	LT	12	15	20	45	45	BG	8	10	15	30	30	PL	10	12	15	35	35	CY	12	15	18	30	30	CZ	5	8	12	18	18	LU	5	8	10	32	32	HU	5	7	10	22	22	MT	5	7	10	10	10
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¹ A number expressing the ratio of the sum of the pollution load in wastewater to the individual pollution load in household sewage produced by one person at the same time.

Energy Efficiency

Reduce buildings' final energy consumption by 14% compared to 2015

Document	Stepping up Europe's 2030 climate ambition Communication
Assessment	 Progress needs to accelerate to reach the target value <p>The reference value for 2015 is 374.5 Mtoe. The final energy consumption (FEC) increased in 2021 to 391.2, value obtained from adding FEC from service and residential buildings (129.4 and 261.8 Mtoe). In 2022, the FEC decreased to 364.1 Mtoe, with 121.6 Mtoe coming from service buildings and 242.4 from residential buildings. Consumptions decreased by 2.8% in the 2015–2022 period.</p>
Indicator	Buildings' final energy consumption

At least double the annual energy renovation rate of residential and non-residential buildings by 2030 and to foster deep energy renovations

Document	A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives
Assessment	 Progress needs to accelerate to reach the target value <p>The weighted annual energy renovation rate in the EU is about 1%, rate should double to 2% to achieve the target. For residential buildings, the annual weighted energy renovation rate was estimated close to 1% within the EU (0.4-1.2% depending on the Member State), for the 2012-2016 period. As of 2021, the annual rate of deep renovation is only 0.2% for residential buildings and 0.3% for non-residential buildings. Data on renovation rates in the NECPR are highly incomplete, with only seven Member States reporting in this field in 2023.</p>
Indicator	Renovation rate

Doubling the current deployment rate of individual heat pumps, resulting in a cumulative 10 million units by 2027 and 30 million units by 2030

Document	RePowerEU: Joint European Action for more affordable, secure and sustainable energy
Assessment	 The pace of progress is sufficient to reach the target value <p>The deployment rate was 2.2 million heat pumps in 2021 and 3 million in 2022. There are nearly 20 million heat pumps installed in the EU as of 2022. The current rate is enough to reach the 2030 target.</p>
Indicator	Deployment rate of individual heat pumps

Reduce buildings' energy consumption for heating and cooling by 18% compared to 2015 levels by 2030

Document	A Renovation Wave for Europe - greening our buildings, creating jobs, improving lives
Assessment	 Progress needs to accelerate to reach the target value <p>The reference value for 2015 is 234 Mtoe. In 2021, FEC for space heating and cooling buildings was 247.2 Mtoe, obtained from adding FEC for space heating residential + FEC for air conditioning residential (only electricity) + FEC for space heating services + FEC for air conditioning = 170.72 + 1.01 + 64.9 + 10.6 = 247.2 Mtoe. Consumptions increased by 5.6% (2015–2021), instead of reducing.</p>

	<p>Data for 2022 has not been published yet, however an estimate can be provided based on the 2015-2021 average share of services FEC for space heating and air conditioning to total services FEC (56%).</p> <p>2022 FEC for space heating and cooling buildings = FEC for space heating residential + FEC for air conditioning residential (only electricity) + FEC for space heating and air conditioning services = $159.4 + 1.1 + 68.0 = 228$ Mtoe. Consumptions expected to decrease by 1.3% (2015-2022).</p>																																			
Indicator	Emitted CO ₂ equivalent																																			
Chart	<p>Greenhouse gas emissions from energy use in buildings in Europe, in million tonnes of CO₂ equivalent (MtCO₂e)</p> <table border="1"> <caption>Estimated data for Figure 1: Greenhouse gas emissions from energy use in buildings in Europe (MtCO₂e)</caption> <thead> <tr> <th>Year</th> <th>Emissions from electricity and heat used in buildings</th> <th>Emissions from fossil fuel used in buildings</th> <th>Projection with existing measures (WEM)</th> <th>Projections with additional measures (WAM)</th> </tr> </thead> <tbody> <tr> <td>2005</td> <td>~750</td> <td>~550</td> <td>-</td> <td>-</td> </tr> <tr> <td>2010</td> <td>~650</td> <td>~500</td> <td>~50</td> <td>~50</td> </tr> <tr> <td>2015</td> <td>~550</td> <td>~450</td> <td>~100</td> <td>~100</td> </tr> <tr> <td>2020</td> <td>~450</td> <td>~400</td> <td>~150</td> <td>~150</td> </tr> <tr> <td>2025</td> <td>~350</td> <td>~300</td> <td>~200</td> <td>~200</td> </tr> <tr> <td>2030</td> <td>~250</td> <td>~200</td> <td>~250</td> <td>~250</td> </tr> </tbody> </table> <p>Source: EEA.</p>	Year	Emissions from electricity and heat used in buildings	Emissions from fossil fuel used in buildings	Projection with existing measures (WEM)	Projections with additional measures (WAM)	2005	~750	~550	-	-	2010	~650	~500	~50	~50	2015	~550	~450	~100	~100	2020	~450	~400	~150	~150	2025	~350	~300	~200	~200	2030	~250	~200	~250	~250
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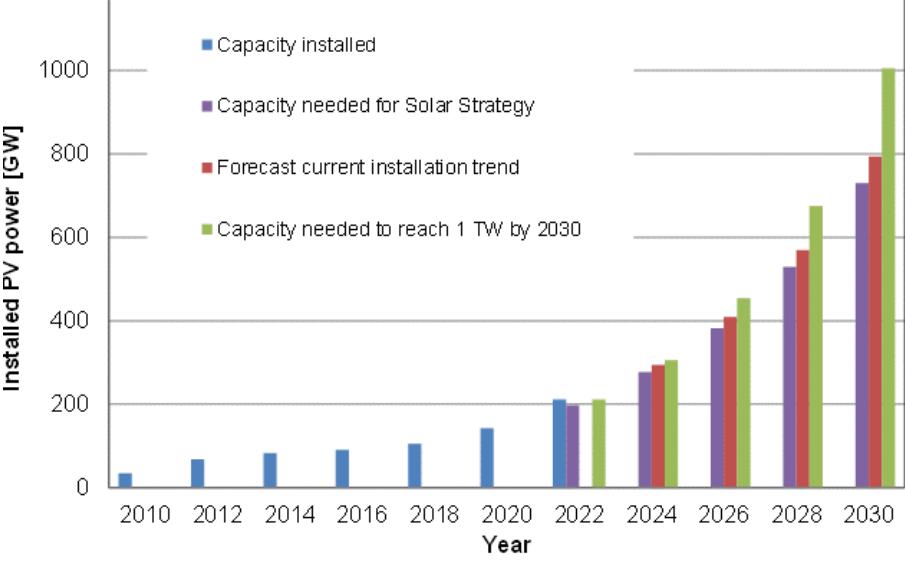
Reduce buildings' greenhouse gas emissions by 60%, by 2030 (compared to 2015), and reach climate neutrality by 2050.	
Document	Renovation Wave
Assessment	<p>! Progress needs to accelerate to reach the target value</p> <p>In 2015 buildings direct GHG emissions were 541 MtCO₂e, therefore the target value for 2030 is 216 MtCO₂e.</p> <p>European Climate Neutrality Observatory data shows past progress of 5 MtCO₂e between 2016 and 2021. To meet the target, the required annual change between 2021 and 2030 needs to be 7.5 times faster than the past rate of progress.</p> <p>Overall, buildings are responsible for about 40% of the EU's total energy consumption, and for 36% of its greenhouse gas emissions from energy (including indirect emissions). Buildings related emissions belonging to fossil fuelled district heating, electric heating and electricity use of heat pumps are covered by EU ETS, while the rest is covered by the ESR.</p>
Indicator	Buildings' energy consumption for heating and cooling

Solar Energy

Set up at least one renewables-based energy community in every municipality with a population higher than 10 000 by 2025.

Document	EU Solar Energy Strategy
Assessment	! Progress needs to accelerate to reach the target value
	For the 2010–2021 period, energy communities in the EU were still a niche in most national energy markets, with an estimated 9250 energy communities currently in operation across the EU and highly unbalanced distribution among Member States. More than half of these are located in Germany and almost 1000 are in the Netherlands. To date, however, a systematic and cross-country database on citizen-led initiatives and projects is lacking.
Indicator	Number of renewables-based energy communities

Bring online over 320 GW of solar photovoltaic by 2025 and almost 600 GW by 2030.

Document	EU Solar Energy Strategy																																																												
Assessment	✓ The pace of progress is sufficient to reach the target value																																																												
	The EU solar generation capacity keeps increasing and reached, according to SolarPower Europe, an estimated 260 GW in 2023, 224 GWac (ac: alternating current) according to JRC estimates. Compared to 177 GWac (ac: alternating current) in 2022. Based on the latest data, the 2025 target could be achieved.																																																												
Indicator	Solar photovoltaic capacity																																																												
Chart	Actual and projected photovoltaic installations from 2010 to 2030 in the EU  <table border="1"> <caption>Data extracted from the chart</caption> <thead> <tr> <th>Year</th> <th>Capacity installed (GW)</th> <th>Capacity needed for Solar Strategy (GW)</th> <th>Forecast current installation trend (GW)</th> <th>Capacity needed to reach 1 TW by 2030 (GW)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>~20</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2012</td><td>~60</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2014</td><td>~80</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2016</td><td>~100</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2018</td><td>~120</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2020</td><td>~150</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2022</td><td>~200</td><td>~200</td><td>~200</td><td>~200</td></tr> <tr><td>2024</td><td>~280</td><td>~280</td><td>~280</td><td>~280</td></tr> <tr><td>2026</td><td>~400</td><td>~400</td><td>~400</td><td>~400</td></tr> <tr><td>2028</td><td>~550</td><td>~550</td><td>~550</td><td>~550</td></tr> <tr><td>2030</td><td>~750</td><td>~750</td><td>~750</td><td>1000</td></tr> </tbody> </table>	Year	Capacity installed (GW)	Capacity needed for Solar Strategy (GW)	Forecast current installation trend (GW)	Capacity needed to reach 1 TW by 2030 (GW)	2010	~20	-	-	-	2012	~60	-	-	-	2014	~80	-	-	-	2016	~100	-	-	-	2018	~120	-	-	-	2020	~150	-	-	-	2022	~200	~200	~200	~200	2024	~280	~280	~280	~280	2026	~400	~400	~400	~400	2028	~550	~550	~550	~550	2030	~750	~750	~750	1000
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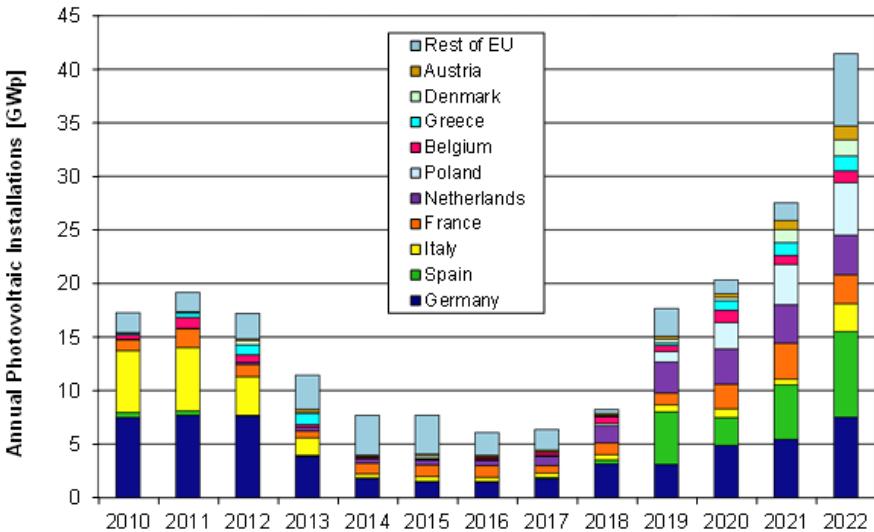
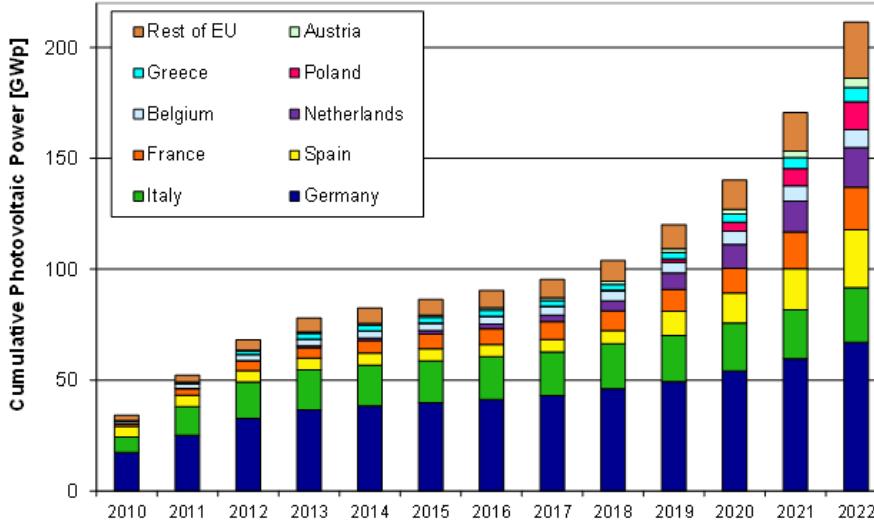
Source: JRC elaboration, updated from [PV Status Report 2019](#).

Energy demand to be covered by solar heat and geothermal should at least triple (rate is currently at 1.5%)

Document	EU Solar Energy Strategy
Assessment	! Progress needs to accelerate to reach the target value
	Share should be 4.5% by 2030. In 2021, the relative size of solar thermal in overall heat consumption was 0.687 TWh (0.1%), over the total of 651 TWh.

	According to EurObserv'ER , there was a 10% growth in 2022, while the required annual rate growth is 12% to reach the target.
Indicator	Rate of solar heat and geothermal

Over this decade, the EU will need to install, on average, approximately 45 GW per year of solar photovoltaic to reach the share of 45% of energy coming from renewables set out in the RePowerEU Plan.

Document	EU Solar Energy Strategy																																																																																																																																																										
Assessment	 The pace of progress is sufficient to reach the target value The installations in 2023 are estimated at 56 GWp (about 47 GWac) growing from 41 GWp (about 34 GWac) in 2022. At this current rate, the target is met.																																																																																																																																																										
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Trend	<p>Annual PV capacity additions in the EU, 2010-2022</p>  <p>The chart shows the annual photovoltaic capacity additions in the EU from 2010 to 2022. The total capacity grows from approximately 17 GWp in 2010 to over 40 GWp in 2022. The contributions from individual countries are stacked, with Germany being the largest single source throughout the period.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Germany</th> <th>Spain</th> <th>Italy</th> <th>France</th> <th>Netherlands</th> <th>Belgium</th> <th>Greece</th> <th>Denmark</th> <th>Austria</th> <th>Rest of EU</th> </tr> </thead> <tbody> <tr><td>2010</td><td>7.0</td><td>0.5</td><td>7.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2011</td><td>7.5</td><td>0.5</td><td>7.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2012</td><td>7.5</td><td>0.5</td><td>7.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2013</td><td>4.5</td><td>1.5</td><td>2.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2014</td><td>3.5</td><td>1.5</td><td>2.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2015</td><td>2.5</td><td>2.5</td><td>2.5</td><td>1.5</td><td>1.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2016</td><td>2.5</td><td>2.5</td><td>2.5</td><td>1.5</td><td>1.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2017</td><td>2.5</td><td>2.5</td><td>2.5</td><td>1.5</td><td>1.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2018</td><td>2.5</td><td>2.5</td><td>2.5</td><td>1.5</td><td>1.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2019</td><td>2.5</td><td>2.5</td><td>2.5</td><td>1.5</td><td>1.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2020</td><td>2.5</td><td>2.5</td><td>2.5</td><td>1.5</td><td>1.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2021</td><td>2.5</td><td>2.5</td><td>2.5</td><td>1.5</td><td>1.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> <tr><td>2022</td><td>2.5</td><td>2.5</td><td>2.5</td><td>1.5</td><td>1.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>0.5</td><td>1.5</td></tr> </tbody> </table> <p>Source: JRC elaboration, updated from PV Status Report 2019.</p>	Year	Germany	Spain	Italy	France	Netherlands	Belgium	Greece	Denmark	Austria	Rest of EU	2010	7.0	0.5	7.5	0.5	0.5	0.5	0.5	0.5	0.5	1.5	2011	7.5	0.5	7.5	0.5	0.5	0.5	0.5	0.5	0.5	1.5	2012	7.5	0.5	7.5	0.5	0.5	0.5	0.5	0.5	0.5	1.5	2013	4.5	1.5	2.5	0.5	0.5	0.5	0.5	0.5	0.5	1.5	2014	3.5	1.5	2.5	0.5	0.5	0.5	0.5	0.5	0.5	1.5	2015	2.5	2.5	2.5	1.5	1.5	0.5	0.5	0.5	0.5	1.5	2016	2.5	2.5	2.5	1.5	1.5	0.5	0.5	0.5	0.5	1.5	2017	2.5	2.5	2.5	1.5	1.5	0.5	0.5	0.5	0.5	1.5	2018	2.5	2.5	2.5	1.5	1.5	0.5	0.5	0.5	0.5	1.5	2019	2.5	2.5	2.5	1.5	1.5	0.5	0.5	0.5	0.5	1.5	2020	2.5	2.5	2.5	1.5	1.5	0.5	0.5	0.5	0.5	1.5	2021	2.5	2.5	2.5	1.5	1.5	0.5	0.5	0.5	0.5	1.5	2022	2.5	2.5	2.5	1.5	1.5	0.5	0.5	0.5	0.5	1.5
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2017	85	40	40	40	40	40	40	40	40																																																																																																																																																		
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2019	105	50	50	50	50	50	50	50	50																																																																																																																																																		
2020	115	55	55	55	55	55	55	55	55																																																																																																																																																		
2021	125	60	60	60	60	60	60	60	60																																																																																																																																																		
2022	135	65	65	65	65	65	65	65	65																																																																																																																																																		

Offshore Wind and Ocean Energy

Cumulative EU offshore goals of installed capacity: 60 GW by 2030 and 300 GW by 2050																																																																																																																																																											
Document	An EU Offshore Renewable Energy Strategy																																																																																																																																																										
Assessment	! Progress needs to accelerate to reach the target value <p>In 2023, the cumulative installed capacity for wind offshore was on the order of 19 GW (it was 16.2 GW in 2022). Annual installation rate grew from 1.2 GW/year to around 3GW/year. A substantial increase is required in annual installations to reach 60 GW by 2030 (about twice the increase rate). Additionally, Member States have agreed to a new more ambitious non-binding target of reaching 111 GW by 2030 and 317 GW by 2050.</p>																																																																																																																																																										
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The strategy sets targets for an installed capacity of at least 1 GW of ocean energy by 2030 and 40 GW by 2050	
Document	An EU Offshore Renewable Energy Strategy
Assessment	! Progress needs to accelerate to reach the target value <p>In 2023, the EU Member States installed in the order of 700 kW of ocean energy (compared to 100 kW in 2022) and the cumulative ocean energy capacity in European sea basins is 43.8 MW. While there has been a positive increase in installations in the last year, the rate of annual installed capacity should still grow substantially to reach the 2030 target. Strong acceleration is needed.</p>
Indicator	Installed capacity of ocean energy

Chart	<p>Cumulative renewable ocean energy capacity in European sea basins (2023)</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Capacity (GW)</th> <th>Load Factor (%)</th> <th>LCOE (€/MWh)</th> </tr> </thead> <tbody> <tr> <td>WAVE</td> <td>13.3 MW</td> <td>~10%</td> <td>160-750</td> </tr> <tr> <td>TIDAL</td> <td>30.5 MW</td> <td>~10%</td> <td>110-480</td> </tr> <tr> <td>FLOATING WIND</td> <td>207 MW</td> <td>~50%</td> <td>145-350</td> </tr> <tr> <td>BOTTOM-FIXED WIND</td> <td>32.6 GW</td> <td>~50%</td> <td>60-232</td> </tr> </tbody> </table> <p>Source: JRC elaboration from 4COffshore, BNEF, IRENA, Ocean Energy Europe, included in The EU Blue Economy Report 2024.</p>	Category	Capacity (GW)	Load Factor (%)	LCOE (€/MWh)	WAVE	13.3 MW	~10%	160-750	TIDAL	30.5 MW	~10%	110-480	FLOATING WIND	207 MW	~50%	145-350	BOTTOM-FIXED WIND	32.6 GW	~50%	60-232																																																																																																																																																				
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Renewable Hydrogen

REPowerEU sets a target of 10 million tonnes of domestic renewable hydrogen production and 10 million tonnes of renewable hydrogen imports by 2030.

Document	REPowerEU Plan
Assessment	 Progress needs to accelerate to reach the target value European production capacity is not yet officially monitored, but there are estimates of production of around 23kTH ₂ /year, which is very far away from the target of 10 MtH ₂ /year. Imports are currently non-existent.
Indicator	Amount of domestic renewable hydrogen production and renewable hydrogen imports

Around 30% of EU primary steel production is expected to be decarbonised on the basis of renewable hydrogen.

Document	REPowerEU Plan
Assessment	 Progress needs to accelerate to reach the target value The use of renewable hydrogen in Europe is negligible at the moment. This also includes industrial processes. Several initiatives at the European level such as Projects of Common Interest (PCIs), Important Projects of Common European Interest (IPCEIs), and the Hydrogen Bank, are expected to kick-start production of renewable hydrogen at scale. Several of the financed initiatives are targeting the production of green steel and currently Europe has the highest number of projects aimed at using renewable hydrogen for the production of steel.
Indicator	

In the first phase, from 2020 up to 2024, the strategic objective is to install at least 6 GW of renewable hydrogen electrolysers in the EU. In the second phase, from 2025 up to 2030, the strategic objective is to install at least 40 GW of renewable hydrogen electrolysers.

Document	A hydrogen strategy for a climate-neutral Europe
Assessment	 Progress needs to accelerate to reach the target value Initiatives are ongoing and deployment of electrolysers is increasing, but it is unlikely that the target of deploying 6 GW of hydrogen generation capacity will be reached by the end of 2024.

Non quantifiable targets

Solar Energy

Ensure that energy poor and vulnerable consumers have access to solar energy, e.g. through social housing installations, energy communities, or financing support for individual installations

Document	EU Solar Energy Strategy
Assessment	 The target cannot be assessed due to lack of data
	No specific solar data available.

Fisheries and Aquaculture

The fisheries sector must follow the two mutually reinforcing paths of reducing energy intensity, on the one hand, and switching to renewable and low-carbon energy sources, on the other.

Document	Communication on Energy Transition of the EU Fisheries and Aquaculture sector
Assessment	 Progress needs to accelerate to reach the target value <p>Fishers and aquaculture operators began reducing their energy intensity between 2009 and 2014, but their progress has stagnated in recent years, highlighting the urgent need for an accelerated energy transition. This energy transition is an integral part of the implementation of the common fisheries policy and is fully aligned with the Commission strategic guidelines for more sustainable and competitive aquaculture (the Aquaculture guidelines). By reducing greenhouse gas emissions, the sector can lessen its impact on marine ecosystems, pollution, and climate change.</p> <p>Renewable and low-carbon fuels and energy sources will be alternatives for fishing vessels. Depending on fleet characteristics, alternatives like electricity, ammonia, renewable hydrogen, and sustainable biofuels (including algae biofuels) should be explored. Small-scale fishing and aquaculture vessels could benefit from electrification, supported by solar panels and other renewable power sources. Where feasible, existing engines can be retrofitted, while in some cases, acquiring new low-carbon (hybrid) engines or vessels will be necessary. The sector will benefit from abundant recharging and refuelling infrastructure in ports.</p>

Annex 3. CIRCULAR ECONOMY

Targets from legal acts (binding)

Batteries

Producers of starting, lighting and ignition batteries, industrial batteries and electric vehicle batteries or, where appointed in accordance with Article 57(1), producer responsibility organisations, shall take back, free of charge and without an obligation on the end- user to buy a new battery, nor to have bought the battery from them, and shall ensure that all waste SLI batteries, waste industrial batteries and waste electric vehicle batteries regardless of their nature, chemical composition, condition, brand, or origin of the respective category that they have made available on the market for the first time in the territory of that Member State **are collected separately**.

Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 The target cannot be assessed due to lack of data Currently, there is no official monitoring system in place and therefore it is not possible to assess if the target will be reached.

Producers of portable batteries or, where appointed in accordance with Article 57(1), producer responsibility organisations, shall attain, and maintain durably, at least the **following collection targets for waste portable batteries**:

- **45% by 31 December 2023;**
- **63% by 31 December 2027;**
- **73% by 31 December 2030.**

Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 The target cannot be assessed due to lack of data The calculation methodology is under development and these targets will be updated accordingly, whilst maintaining the same level of ambition. Currently, there is no robust data to assess the distance to the targets (e.g. due to new types of batteries entering in the markets, longer lifetime of batteries, new applications). Assuming the ambition of the targets, attention might be paid in the implementation phase at Member State level.

Producers of LMT batteries or, where appointed in accordance with Article 57(1), producer responsibility organisations, shall attain, and maintain durably, at least the following **collection targets of waste LMT batteries**:

- **51% by 31 December 2028;**
- **61% by 31 December 2031.**

Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 The target cannot be assessed due to lack of data The calculation methodology is under development and these targets will be updated accordingly, whilst maintaining the same level of ambition. Considering that LMT batteries represent a new market and collection systems need to be adapted, currently it is not possible to assess whether these ambitious targets are reachable or not.

For industrial batteries with a capacity greater than 2kWh, except those with exclusively external storage, electric vehicle batteries and SLI batteries that contain cobalt, lead, lithium or nickel in active materials, the **minimum recycled content** percentage for each battery model per year and per manufacturing plant shall be:

From 18 August 2031, 16% cobalt; 85% lead; 6% lithium; and 6% nickel;

From 18 August 2036, 26% cobalt; 85% lead; 12% lithium; and 15% nickel.

Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 The target cannot be assessed due to lack of data The assessment methodology is under development. Therefore, it is not possible to assess whether all producers will be able to reach these targets. JRC internal calculations show that these targets are in principle feasible, although significant changes in the industrial production systems are needed.

Any natural or legal person that places on the market products incorporating portable batteries shall ensure that those **batteries are readily removable and replaceable by the end-user at any time during the lifetime of the product**. That obligation shall only apply to entire batteries and not to individual cells or other parts included in such batteries.

Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 The target cannot be assessed due to lack of data This target is ambitious with a very wide coverage of products, many of which are expected to be re-designed in order to be compliant. However, high uncertainty on distance to target lies with existence of derogations and the challenge to establish them at product-specific level. The Delegated Acts expected to specify derogations are not yet in place. Verification and procedures to accept/reject derogation applications will also need to be defined in the Delegated Acts.

Recycling shall achieve at least the following targets for **recycling efficiency**:

No later than **31 December 2025**

- 75% by average weight of **lead-acid** batteries;
- 80% by average weight of **nickel-cadmium** batteries
- 50% by average weight of **other waste** batteries

No later than **31 December 2030**

- 80% by average weight of **lead-acid** batteries;

Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 The pace of progress is sufficient to reach the target value Based on current draft guidance for calculation and verification rules for recycling efficiency, the targets for lead-acid, nickel-cadmium and other waste batteries are feasible. Since, for lead-acid batteries, the battery chemistry and related recycling technologies are fully mature and efficient. For both nickel-cadmium and other waste batteries, it will be important to monitor the performances due to the evolving market for these chemistries.

Recycling shall achieve at least the following targets for **recycling efficiency**:

No later than **31 December 2025**, 65% by average weight of **lithium-based** batteries;

No later than **31 December 2030**, 70% by average weight of **lithium-based** batteries.

Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 Progress needs to accelerate to reach the target value The 2025 target for lithium-based batteries is in principle feasible, however due to the increasing diversity of lithium-based batteries on the market, it is important to closely monitor the performance towards the target. Furthermore, there are some improvement opportunities when data is available, recycling systems are established and when the target is revised by 2027.

All recycling shall achieve at least the following targets for **recovery of materials**:

No later than **31 December 2027**, 90% for cobalt, copper, lead, nickel;

No later than **31 December 2031**, 95% for cobalt, copper, lead, nickel;

Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 The pace of progress is sufficient to reach the target value Based on the current draft guidance for the calculation and verification rules for material recovery, the targets for cobalt, copper, lead and nickel are feasible.

All recycling shall achieve at least the following targets for **recovery of materials**, 50% for **lithium**, no later than **31 December 2027**; and 80% for **lithium** no later than **31 December 2031**.

Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 Progress needs to accelerate to reach the target value Based on the current draft guidance for the calculation and verification rules, the target for lithium is in principle feasible. Significant investments in lithium recycling systems are required.

Critical Raw Materials

Disclaimer: In order to construct reliable annual trends for monitoring purposes, a methodology and systematic EU-level knowledge system has to be established for each material (which products, which trade codes, which 'contents', which production data, how to aggregate in the supply chain etc.). This can build on the EC's Raw Materials Information System with interactions on related policy support developments from across the EC services.

By 2030, Union extraction capacity should be able of extracting the ores, minerals or concentrates needed to produce at least 10% of the Union's annual consumption of strategic raw materials, to the extent possible in light of the Union's reserves.

Document	Regulation (EU) 2024/1252 establishing a framework for ensuring a secure and sustainable supply of critical raw materials
Assessment	 Progress needs to accelerate to reach the target value The historical time trends (2011-2022) for EU self-sufficiency at extraction phase for the 16 strategic materials can be extracted based on data from Eurostat , DG GROW 2020 report and DG GROW 2023 report. Results show that:

	<ul style="list-style-type: none"> - In 2022, cobalt, copper, lithium and nickel were above the benchmark of 10%, while their trends have been stably above the benchmark (i.e. copper and nickel) or increased slightly in the period 2011-2022 (i.e. cobalt and lithium)². - For bismuth, boron, gallium, germanium, magnesium, natural graphite, titanium, platinum group metals, heavy rare earth elements and light rare earth elements, the EU's self-sufficiency has always been below 2%. - Between 2016 and 2022, the EU's self-sufficiency for manganese was below the benchmark, with values ranging from 4 to 10% in the time frame 2016-2022. 																																																																																											
Indicator	EU self-sufficiency at extraction phase																																																																																											
Chart	<p>Percentage of self-sufficiency in EU extraction for strategic raw materials, 2011-2022</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Cobalt (%)</th> <th>Copper (%)</th> <th>Lithium (%)</th> <th>Manganese (%)</th> <th>Nickel (%)</th> <th>Benchmark (%)</th> </tr> </thead> <tbody> <tr><td>2011</td><td>5</td><td>58</td><td>16</td><td>5</td><td>72</td><td>10</td></tr> <tr><td>2012</td><td>10</td><td>57</td><td>12</td><td>10</td><td>71</td><td>10</td></tr> <tr><td>2013</td><td>19</td><td>59</td><td>14</td><td>10</td><td>70</td><td>10</td></tr> <tr><td>2014</td><td>14</td><td>55</td><td>10</td><td>4</td><td>68</td><td>10</td></tr> <tr><td>2015</td><td>16</td><td>58</td><td>10</td><td>5</td><td>69</td><td>10</td></tr> <tr><td>2016</td><td>14</td><td>62</td><td>14</td><td>5</td><td>71</td><td>10</td></tr> <tr><td>2017</td><td>8</td><td>61</td><td>20</td><td>5</td><td>69</td><td>10</td></tr> <tr><td>2018</td><td>4</td><td>62</td><td>30</td><td>4</td><td>68</td><td>10</td></tr> <tr><td>2019</td><td>6</td><td>59</td><td>25</td><td>5</td><td>67</td><td>10</td></tr> <tr><td>2020</td><td>3</td><td>52</td><td>20</td><td>3</td><td>66</td><td>10</td></tr> <tr><td>2021</td><td>5</td><td>53</td><td>20</td><td>5</td><td>65</td><td>10</td></tr> <tr><td>2022</td><td>3</td><td>52</td><td>20</td><td>3</td><td>64</td><td>10</td></tr> </tbody> </table>	Year	Cobalt (%)	Copper (%)	Lithium (%)	Manganese (%)	Nickel (%)	Benchmark (%)	2011	5	58	16	5	72	10	2012	10	57	12	10	71	10	2013	19	59	14	10	70	10	2014	14	55	10	4	68	10	2015	16	58	10	5	69	10	2016	14	62	14	5	71	10	2017	8	61	20	5	69	10	2018	4	62	30	4	68	10	2019	6	59	25	5	67	10	2020	3	52	20	3	66	10	2021	5	53	20	5	65	10	2022	3	52	20	3	64	10
Year	Cobalt (%)	Copper (%)	Lithium (%)	Manganese (%)	Nickel (%)	Benchmark (%)																																																																																						
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Source: JRC elaboration based on data from [ESTAT](#) and [EC \(2020\)](#), [EC \(2023\)](#). Note: 10 materials having self-sufficiency below 2% for the entire timeframe are not displayed in the graph. The data used to assess the historical trends is retrieved from Eurostat ([self-sufficiency: EoL-RIR](#)). Data gaps have been filled retrieving data from the criticality assessment studies 2020 and 2023 (EC 2020, 2023). In both cases, self-sufficiency is calculated as: Self-sufficiency = 1 - (net) Import Reliance, where Import Reliance (IR) is defined in the EU Critical Raw Materials methodology as: Net imports / (Net imports + Domestic Production). In the case of data from EC studies, only two data points were available, i.e. an average of the years 2012-2016 (from EC 2020) and an average of the years 2016-2020 (from EC 2023). The intermediate values have been obtained through linear interpolation.

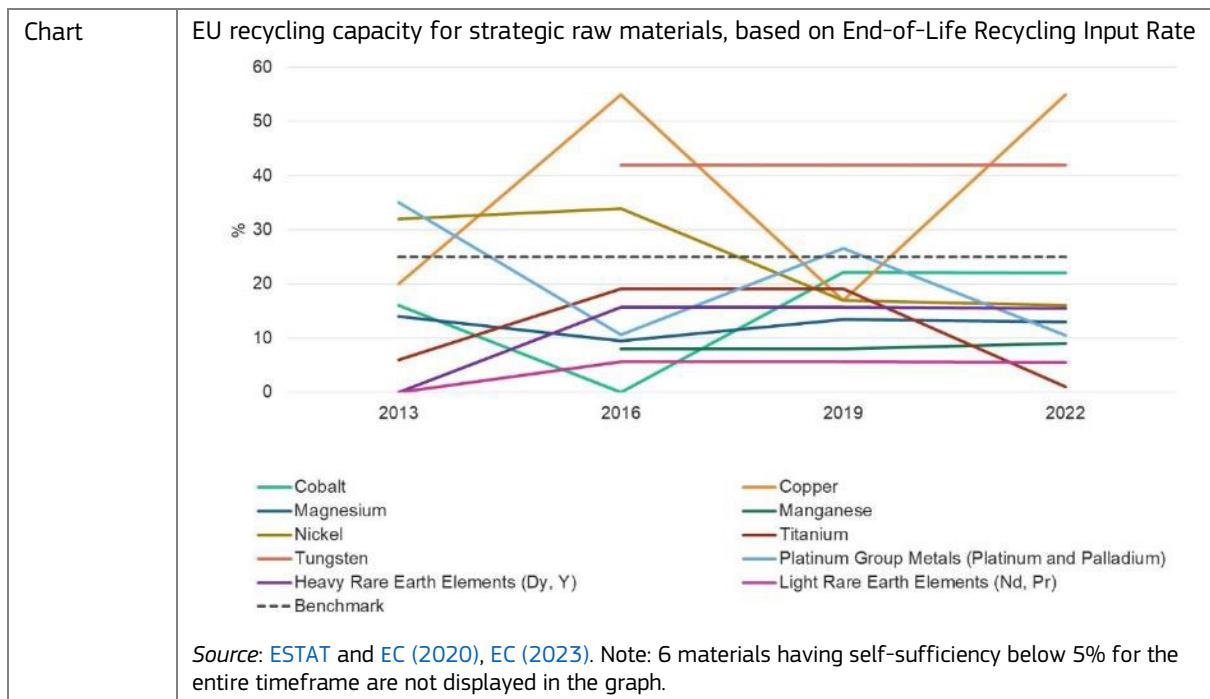
By 2030, Union processing capacity, including for all intermediate processing steps, should be able of producing at least 40% of the Union's annual consumption of strategic raw materials.	
Document	Regulation (EU) 2024/1252 establishing a framework for ensuring a secure and sustainable supply of critical raw materials
Assessment	! Progress needs to accelerate to reach the target value
The historical time trends (2011-2022) for the EU self-sufficiency at processing phase for the 16 strategic materials can be extracted based on data materials can be extracted based on data from ESTAT , EC (2020) and EC (2023) . Results show that: <ul style="list-style-type: none"> - The EU's self-sufficiency for copper, cobalt and germanium was above the benchmark in 2022. For copper, this value has been stably above 80% in the period 2011-2022. For cobalt and germanium, the trend was fluctuating and more unstable, but increasing in between 2018 and 2022. 	

² Due to high volatility on the data for tungsten (only two date points available from EC studies), this material is not included in the analysis.

	<ul style="list-style-type: none"> - The EU's self-sufficiency was below the benchmark in 2022 for bismuth, boron, gallium, PGM, with gallium showing a drastic decrease from 2011 (100%) to 2022 (2%). - The EU has no self-sufficiency to process lithium, magnesium, natural graphite, titanium, HREE, LREE, while there is no sufficient data available for tungsten, nickel and manganese. 																																																																																
Indicator	EU self-sufficiency at processing phase																																																																																
Chart	<p>Self-sufficiency in EU processing stage for strategic raw materials, 2011-2022</p> <table border="1"> <caption>Data extracted from the chart (approximate values)</caption> <thead> <tr> <th>Material</th> <th>2011</th> <th>2012</th> <th>2013</th> <th>2014</th> <th>2015</th> <th>2016</th> <th>2017</th> <th>2018</th> <th>2022</th> </tr> </thead> <tbody> <tr> <td>Bismuth</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td>Copper</td> <td>85</td> <td>90</td> <td>90</td> <td>85</td> <td>80</td> <td>80</td> <td>80</td> <td>80</td> <td>80</td> </tr> <tr> <td>Gallium</td> <td>100</td> <td>100</td> <td>100</td> <td>85</td> <td>60</td> <td>30</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td>Cobalt</td> <td>25</td> <td>30</td> <td>35</td> <td>30</td> <td>30</td> <td>30</td> <td>25</td> <td>10</td> <td>100</td> </tr> <tr> <td>Germanium</td> <td>40</td> <td>55</td> <td>50</td> <td>100</td> <td>75</td> <td>5</td> <td>0</td> <td>0</td> <td>60</td> </tr> <tr> <td>Boron/Borates</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>35</td> </tr> <tr> <td>Platinum Group Metals (Platinum)</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> </tbody> </table>	Material	2011	2012	2013	2014	2015	2016	2017	2018	2022	Bismuth	10	10	10	10	10	10	10	10	10	Copper	85	90	90	85	80	80	80	80	80	Gallium	100	100	100	85	60	30	10	10	10	Cobalt	25	30	35	30	30	30	25	10	100	Germanium	40	55	50	100	75	5	0	0	60	Boron/Borates	0	0	0	0	0	0	0	0	35	Platinum Group Metals (Platinum)	0	0	0	0	0	0	0	0	0
Material	2011	2012	2013	2014	2015	2016	2017	2018	2022																																																																								
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Source: ESTAT and EC (2020), EC (2023). Note: 6 materials having 0% self-sufficiency for the entire timeframe are not displayed in the graph. The data used to assess the historical trends is retrieved from Eurostat ([self-sufficiency; EoL-RIR](#)). Data gaps have been filled retrieving data from the criticality assessment studies 2020 and 2023 (EC 2020, 2023). In both cases, self-sufficiency is calculated as: Self-sufficiency = 1 - (net) Import Reliance, where Import Reliance (IR) is defined in the EU Critical Raw Materials methodology as: Net imports / (Net imports + Domestic Production). In the case of data from EC studies, only two data points were available, i.e. an average of the years 2012-2016 (from EC 2020) and an average of the years 2016-2020 (from EC 2023). The intermediate values have been obtained through linear interpolation.

<p>By 2030, Union recycling capacity, including for all intermediate recycling steps, should be able of producing at least 25% of the Union's annual consumption of strategic raw materials and should be able of recycling significantly increasing amounts of each strategic raw material from waste.</p>	
Document	Regulation (EU) 2024/1252 establishing a framework for ensuring a secure and sustainable supply of critical raw materials
Assessment	<p>! Progress needs to accelerate to reach the target value</p> <p>The historical trends of the recycling capacity for strategic materials can be assessed looking at the evolution of the End-of-Life Recycling Input Rate (EoL-RIR) of strategic materials over time.</p> <p>Out of 16 strategic materials, the recycling capacity:</p> <ul style="list-style-type: none"> • was above the 25% benchmark in 2022 for two materials (copper and tungsten), • Was between 22% and 5% in 2022 for eight materials (cobalt, magnesium, manganese, nickel, titanium, PGM, LREE, HREE). (For rare earth elements (REE), trends are based on average values between 2 materials only: Neodymium, Praseodymium (LREE) and Yttrium, Dysprosium (HREE).) • was below 5% for six materials ((bismuth, boron, gallium, germanium, lithium, natural graphite))
Indicator	End-of-Life Recycling Input Rate (EoL-RIR)



Diversify the Union's imports of strategic raw materials with a view to ensuring that, by 2030, the Union's annual consumption of each strategic raw material at any relevant stage of processing can rely on imports from several third countries or from overseas countries or territories (OCTs) and that no third country accounts for **more than 65 % of the Union's annual consumption of such a strategic raw material**.

Document	Regulation (EU) 2024/1252 establishing a framework for ensuring a secure and sustainable supply of critical raw materials			
Assessment	!	Progress needs to accelerate to reach the target value		
	Half of the 16 strategic raw materials have values above the 65% target, therefore there is a low diversification of sourcing countries. These include bismuth, gallium, lithium, magnesium, platinum group metals, and both heavy and light rare earth elements.			
Table	Diversification of supply of strategic raw materials			
	Main EU supplier - extraction stage	Main EU supplier - processing stage	Materials below the benchmark	
Bismuth		65% China		
Boron/Borates	99% Turkey			
Cobalt	63% DRC		x	
Copper	19% Poland		x	
Gallium		71% China		
Germanium		45 % China	x	
Lithium		79 % Chile		
Magnesium		97% China		
Manganese	41% South Africa		x	
Natural Graphite	40% China		x	
Nickel	38% Finland		x	
Titanium metal		36% Kazakhstan	x	

	Tungsten		32% China	x
	Platinum Group Metals		Iridium 93% South Africa Platinum 71% South Africa Rhodium 81% South Africa Ruthenium 94%	
	Heavy Rare Earth Elements (Dy, Tb, Gd, Ce)		100% China	
	Light Rare Earth Elements (Nd, Pr, Sm)		85% China	
<i>Source: EC 2023.</i>				

Industrial Strategy

By 2030, manufacturing capacity in the Union of the strategic net-zero technologies listed in the Annex approaches or reaches a benchmark of **at least 40% of the Union's annual deployment needs.**

Document	Regulation (EU) 2024/1735 (Net Zero Industry Act)	
Assessment	?	The target cannot be assessed due to lack of data
	Data is currently not available to assess this target.	

Targets from Proposals (non-binding)

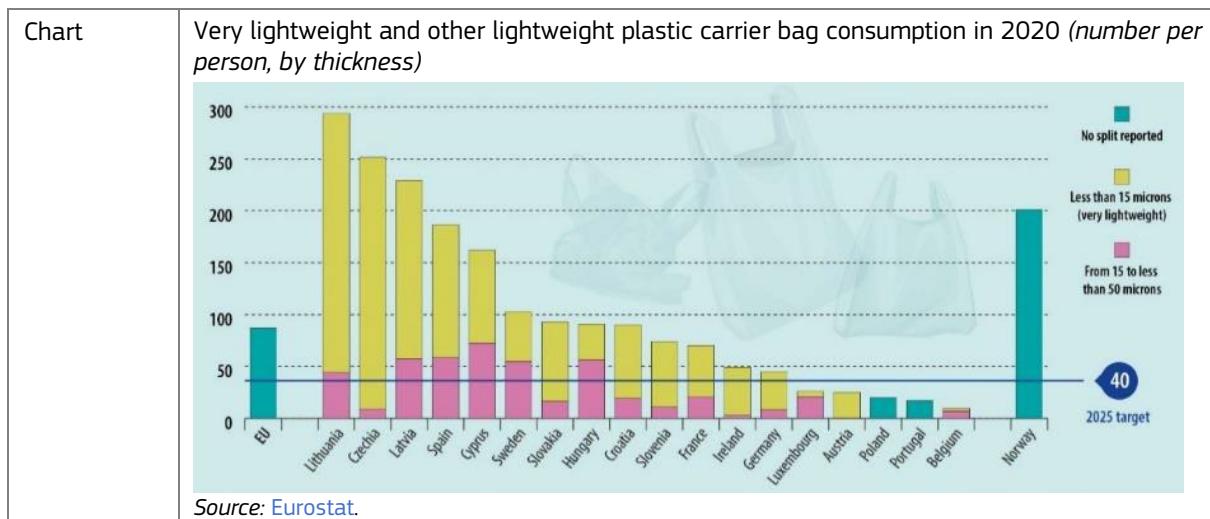
Plastic and other packaging

All packaging shall be recyclable

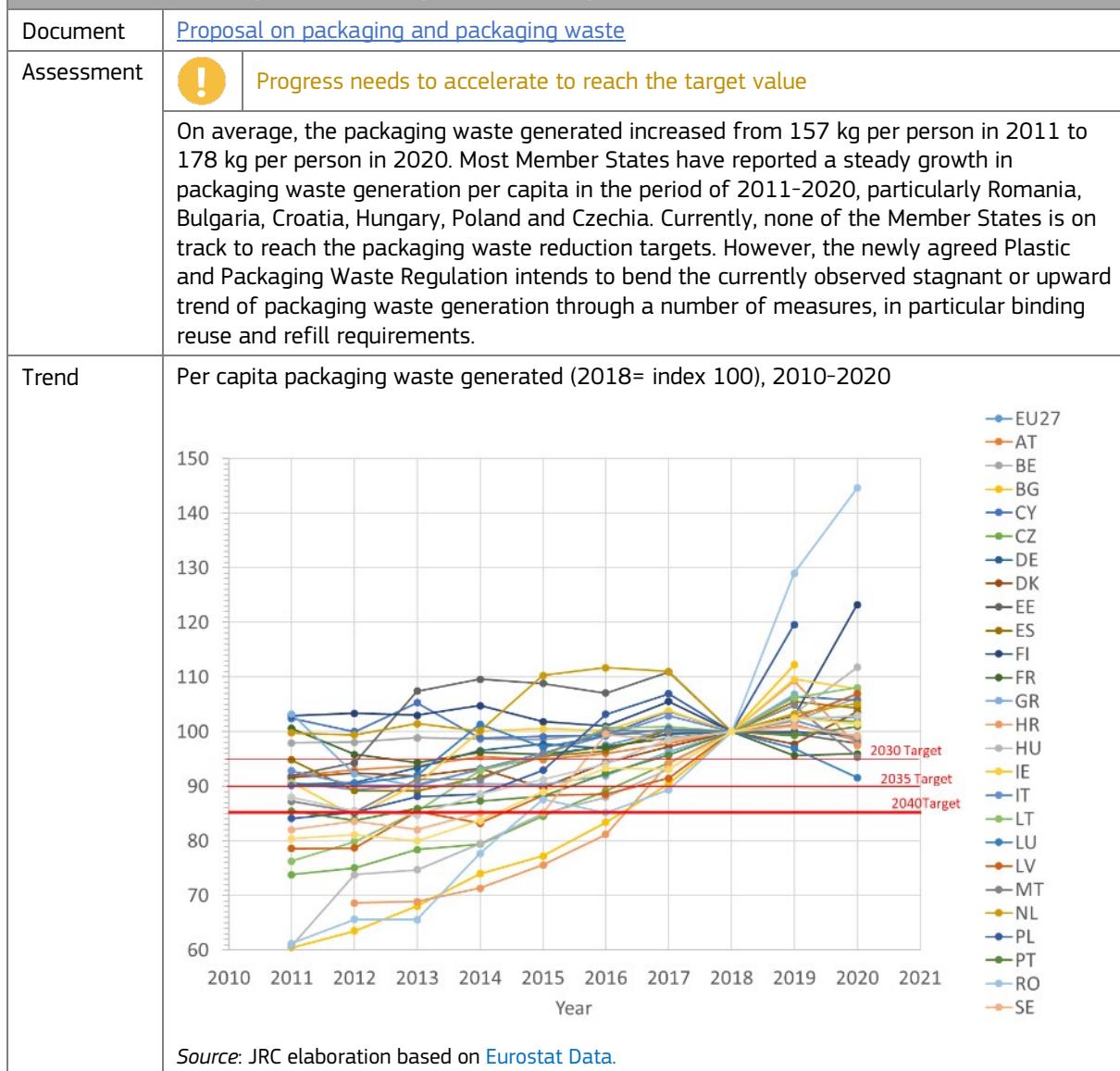
Document	Proposal on packaging and packaging waste	
Assessment	?	The target cannot be assessed due to lack of data
	Criteria and assessment methodology under development	

Member States shall take measures to achieve a sustained reduction in the consumption of lightweight plastic carrier bags on their territory. A sustained reduction is achieved if the annual consumption **does not exceed 40 lightweight plastic carrier bags per person**, or the equivalent target in weight, by **31 December 2025**, and subsequently by 31 December in each year thereafter.

Document	Proposal on packaging and packaging waste	
Assessment	?	The pace of progress is sufficient to reach the target value
	Data are only available for 18 Member States, 12 Member States have already achieved the 2025 target. The six other Member States that have not yet met the target have indicated a clear drop from 2018 plastic bag consumption values, suggesting that these Member States are on track to reach the 2025 target. Currently, data are not available for the following nine Member States: Bulgaria, Denmark, Estonia, Greece, Italy, Malta, Netherlands, Romania and Finland.	



Each Member State shall reduce the packaging waste generated per capita, as compared to the packaging waste generated per capita in 2018 as reported to the Commission in accordance with Decision 2005/270/EC by **5% by 2030; 10% by 2035; 15% by 2040**



Member States shall take the necessary measures to attain the recycling targets of **65% by weight of all packaging waste** generated by 31 December 2025; and of **70% by weight of all packaging waste** generated by **31 December 2030**.

Document	Proposal on packaging and packaging waste																																										
Assessment	<p>! Progress needs to accelerate to reach the target value</p> <p>For all packaging, at EU level³, the 2025 recycling rate target is feasible. However, 10 Member States are at risk of missing the 2025 target, including Bulgaria, Croatia, Cyprus, Greece, Hungary, Lithuania, Malta, Poland, Romania and Slovakia.</p>																																										
Trend	<p>Percentage of packaging recycled, 2011-2021 and targets (light-blue=all packaging)</p> <table border="1"> <caption>Data extracted from the chart</caption> <thead> <tr> <th>Category</th> <th>2010</th> <th>2015</th> <th>2020</th> <th>2025 Targets</th> <th>2030 Targets</th> </tr> </thead> <tbody> <tr> <td>All Packaging</td> <td>~65%</td> <td>~72%</td> <td>~74%</td> <td>~70%</td> <td>~75%</td> </tr> <tr> <td>Plastic packaging</td> <td>~35%</td> <td>~40%</td> <td>~38%</td> <td>~50%</td> <td>~55%</td> </tr> <tr> <td>Wooden packaging</td> <td>~35%</td> <td>~40%</td> <td>~32%</td> <td>~25%</td> <td>~30%</td> </tr> <tr> <td>Metallic packaging</td> <td>~75%</td> <td>~78%</td> <td>~78%</td> <td>~75%</td> <td>~85%</td> </tr> <tr> <td>Glass packaging</td> <td>~65%</td> <td>~68%</td> <td>~65%</td> <td>~65%</td> <td>~70%</td> </tr> <tr> <td>Paper and cardboard packaging</td> <td>~82%</td> <td>~84%</td> <td>~83%</td> <td>~75%</td> <td>~85%</td> </tr> </tbody> </table> <p>Source: JRC elaboration based on Eurostat Data.</p>	Category	2010	2015	2020	2025 Targets	2030 Targets	All Packaging	~65%	~72%	~74%	~70%	~75%	Plastic packaging	~35%	~40%	~38%	~50%	~55%	Wooden packaging	~35%	~40%	~32%	~25%	~30%	Metallic packaging	~75%	~78%	~78%	~75%	~85%	Glass packaging	~65%	~68%	~65%	~65%	~70%	Paper and cardboard packaging	~82%	~84%	~83%	~75%	~85%
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Paper and cardboard packaging	~82%	~84%	~83%	~75%	~85%																																						

Member States shall take the necessary measures to attain a recycling target of **50% of plastic by weight of plastic contained in packaging waste** generated by **31 December 2025**; and of **55% by weight of plastic in packaging waste** generated by **31 December 2030**.

Document	Proposal on packaging and packaging waste
Assessment	<p>! Progress needs to accelerate to reach the target value</p> <p>Plastic is the most critical packaging category for which the targets are clearly above current levels of recycling. 19 Member States are at risk of missing the 2025 target, including Austria, Bulgaria, Croatia, Cyprus, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia and Spain.</p>

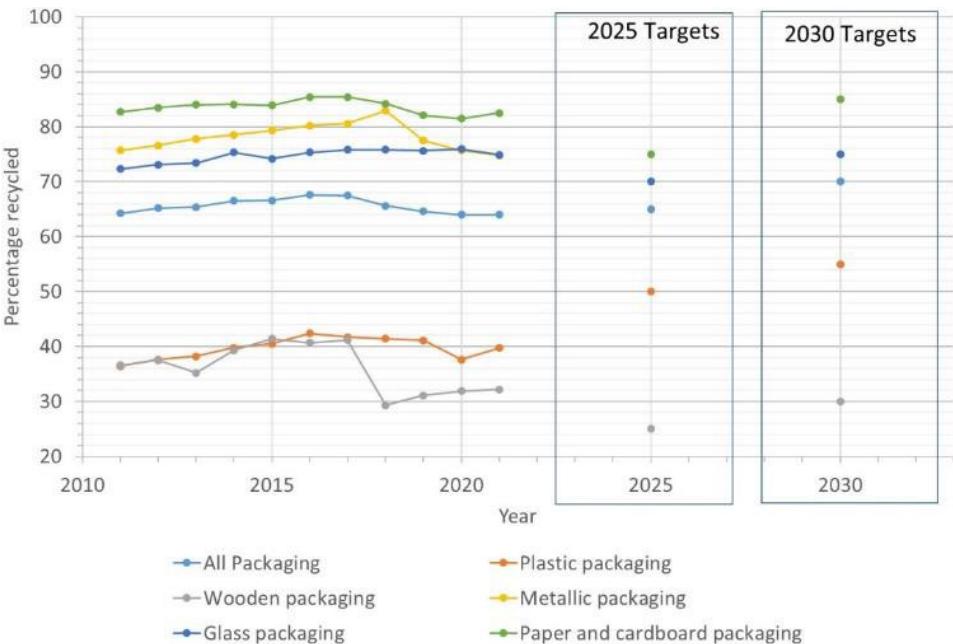
³ EU-level, based on a weighted average between Member State population and recycling rate percentage.

Trend	<p>Percentage of packaging recycled, 2011-2021 and targets (orange=plastic)</p> <table border="1"> <thead> <tr> <th>Year</th><th>All Packaging</th><th>Plastic packaging</th><th>Wooden packaging</th><th>Metallic packaging</th><th>Glass packaging</th><th>Paper and cardboard packaging</th></tr> </thead> <tbody> <tr><td>2010</td><td>72</td><td>36</td><td>64</td><td>75</td><td>63</td><td>83</td></tr> <tr><td>2011</td><td>73</td><td>37</td><td>65</td><td>76</td><td>64</td><td>84</td></tr> <tr><td>2012</td><td>73</td><td>37</td><td>65</td><td>76</td><td>64</td><td>84</td></tr> <tr><td>2013</td><td>74</td><td>38</td><td>66</td><td>77</td><td>65</td><td>85</td></tr> <tr><td>2014</td><td>75</td><td>39</td><td>67</td><td>78</td><td>66</td><td>85</td></tr> <tr><td>2015</td><td>74</td><td>40</td><td>68</td><td>79</td><td>67</td><td>85</td></tr> <tr><td>2016</td><td>75</td><td>41</td><td>69</td><td>80</td><td>68</td><td>86</td></tr> <tr><td>2017</td><td>75</td><td>41</td><td>70</td><td>80</td><td>69</td><td>86</td></tr> <tr><td>2018</td><td>75</td><td>41</td><td>71</td><td>81</td><td>70</td><td>86</td></tr> <tr><td>2019</td><td>75</td><td>41</td><td>72</td><td>81</td><td>69</td><td>85</td></tr> <tr><td>2020</td><td>75</td><td>38</td><td>68</td><td>78</td><td>65</td><td>83</td></tr> <tr><td>2021</td><td>75</td><td>40</td><td>69</td><td>79</td><td>65</td><td>84</td></tr> <tr><td>2025 Targets</td><td>70</td><td>50</td><td>25</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>2030 Targets</td><td>70</td><td>55</td><td>30</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table> <p>Source: JRC elaboration based on Eurostat Data.</p>	Year	All Packaging	Plastic packaging	Wooden packaging	Metallic packaging	Glass packaging	Paper and cardboard packaging	2010	72	36	64	75	63	83	2011	73	37	65	76	64	84	2012	73	37	65	76	64	84	2013	74	38	66	77	65	85	2014	75	39	67	78	66	85	2015	74	40	68	79	67	85	2016	75	41	69	80	68	86	2017	75	41	70	80	69	86	2018	75	41	71	81	70	86	2019	75	41	72	81	69	85	2020	75	38	68	78	65	83	2021	75	40	69	79	65	84	2025 Targets	70	50	25	-	-	-	2030 Targets	70	55	30	-	-	-
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⁴ EU-level, based on a weighted average between Member State population and recycling rate percentage.

Member States shall take the necessary measures to attain a recycling target of **70% of ferrous metals by weight of ferrous metals contained in packaging waste** generated by **31 December 2025** and of **80% by 31 December 2030**

Document	Proposal on packaging and packaging waste																																																																								
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>Considering the high recycling rates for metallic packaging, at EU level⁵, the 2025 and 2030 recycling targets seem achievable. However, 5 Member States are at risk of missing the 2025 target, including Croatia, Denmark, Malta, Portugal and Romania.</p>																																																																								
Chart	<p>Percentage of packaging recycled, 2011-2021 and targets (yellow=metal)</p>  <table border="1"> <thead> <tr> <th>Year</th> <th>All Packaging (%)</th> <th>Plastic packaging (%)</th> <th>Wooden packaging (%)</th> <th>Glass packaging (%)</th> <th>Paper and cardboard packaging (%)</th> </tr> </thead> <tbody> <tr><td>2011</td><td>64</td><td>75</td><td>36</td><td>72</td><td>83</td></tr> <tr><td>2012</td><td>65</td><td>76</td><td>37</td><td>73</td><td>84</td></tr> <tr><td>2013</td><td>66</td><td>77</td><td>35</td><td>74</td><td>84</td></tr> <tr><td>2014</td><td>67</td><td>78</td><td>39</td><td>75</td><td>85</td></tr> <tr><td>2015</td><td>68</td><td>40</td><td>41</td><td>76</td><td>85</td></tr> <tr><td>2016</td><td>69</td><td>42</td><td>41</td><td>76</td><td>86</td></tr> <tr><td>2017</td><td>69</td><td>42</td><td>28</td><td>76</td><td>86</td></tr> <tr><td>2018</td><td>68</td><td>42</td><td>31</td><td>76</td><td>85</td></tr> <tr><td>2019</td><td>67</td><td>42</td><td>32</td><td>76</td><td>84</td></tr> <tr><td>2020</td><td>66</td><td>38</td><td>32</td><td>76</td><td>82</td></tr> <tr><td>2021</td><td>66</td><td>40</td><td>32</td><td>76</td><td>83</td></tr> </tbody> </table> <p>Source: JRC elaboration based on Eurostat Data.</p>	Year	All Packaging (%)	Plastic packaging (%)	Wooden packaging (%)	Glass packaging (%)	Paper and cardboard packaging (%)	2011	64	75	36	72	83	2012	65	76	37	73	84	2013	66	77	35	74	84	2014	67	78	39	75	85	2015	68	40	41	76	85	2016	69	42	41	76	86	2017	69	42	28	76	86	2018	68	42	31	76	85	2019	67	42	32	76	84	2020	66	38	32	76	82	2021	66	40	32	76	83
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Member States shall take the necessary measures to attain a **recycling target of 50% of aluminium by weight of aluminium contained in packaging waste** generated by **31 December 2025** and of **60% by 31 December 2030**

Document	Proposal on packaging and packaging waste
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>Similarly for aluminium, the high recycling rates registered for metallic packaging suggest that both recycling targets are achievable, at least at EU level⁶. Nonetheless, 9 Member States are at risk of missing the 2025 target, including Croatia, Cyprus, Czechia, Greece, Malta, Portugal, Romania, Slovakia and Spain.</p>

⁵ EU-level, based on a weighted average between Member State population and recycling rate percentage.

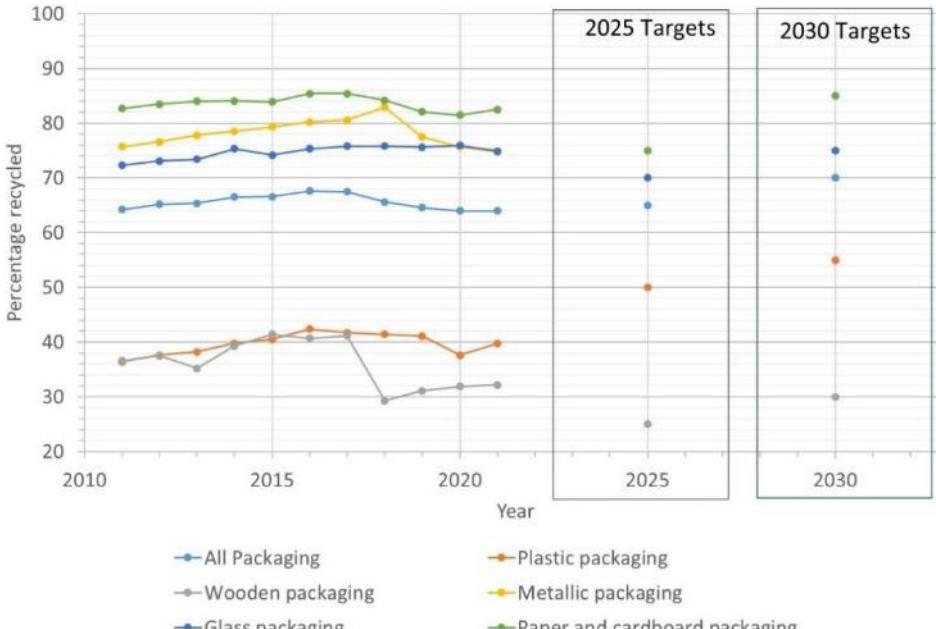
⁶ EU-level, based on a weighted average between Member State population and recycling rate percentage.

Trend	<p>Percentage of packaging recycled, 2011-2021 and targets (yellow=metal)</p> <p>Source: JRC elaboration based on Eurostat Data.</p>
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Member States shall take the necessary measures to attain a recycling target of 70% of glass by weight of glass contained in packaging waste generated by 31 December 2025 and of 75% by 31 December 2030	
Document	Proposal on packaging and packaging waste
Assessment	✓ The pace of progress is sufficient to reach the target value For glass packaging, at least at EU level ⁷ , the recycling rate targets are very feasible or have already been achieved. Several Member States are at risk of missing the 2025 target, including Bulgaria, Croatia, Cyprus, Greece, Hungary, Lithuania, Malta, Poland, Portugal and Romania.
Chart	<p>Percentage of packaging recycled, 2011-2021 and targets (blue=glass)</p> <p>Source: JRC elaboration based on Eurostat Data.</p>

⁷ EU-level, based on a weighted average between Member State population and recycling rate percentage.

Member States shall take the necessary measures to attain a recycling target of **75% of paper and cardboard by weight of paper and cardboard contained in packaging waste** generated by **31 December 2025** and of **85% by 31 December 2030**

Document	Proposal on packaging and packaging waste
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>For paper and cardboard packaging, at least at EU level¹, the recycling rate targets are very feasible or have already been achieved. Nonetheless, Croatia, Malta, Slovakia and Spain are at risk of missing the 2025 target.</p>
Chart	<p>Percentage of packaging recycled, 2011-2021 and targets (green=paper)</p>  <p>Source: JRC elaboration based on Eurostat Data.</p>

The plastic part in packaging shall contain the following minimum percentage of recycled content recovered from post-consumer plastic waste, per unit of packaging:

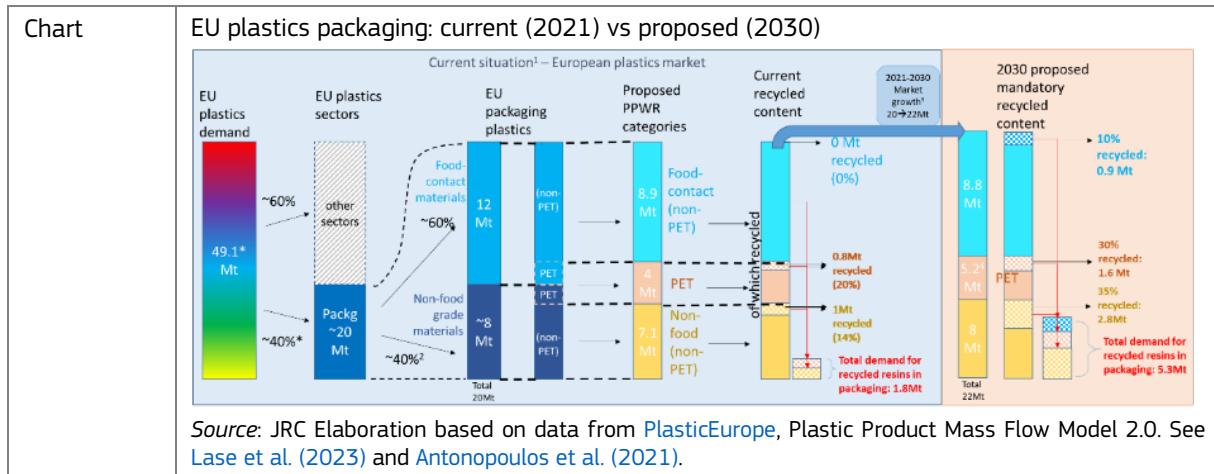
From 1 January 2030

- i. 30% for contact sensitive packaging made from polyethylene terephthalate (PET) as major component;
- ii. 10% for contact sensitive made from plastic materials other than PET, except single use plastic bottles;
- iii. 30% for single use plastic beverage bottles;
- iv. 35% for other plastic packaging

From 1 January 2040

- v. 50% for contact sensitive plastic packaging, except single use plastic beverage bottles;
- vi. 65% for single use plastic beverage bottles;
- vii. 65% for other plastic packaging

Document	Proposal on packaging and packaging waste
Assessment	<p> Progress needs to accelerate to reach the target value</p> <p>Currently, there are no official statistics on the recycled content in plastic packaging, due to the lack of EU guidelines on calculating and reporting recycled content. As of 2022, there is no recycled content in food-contact (non-PET) plastic packaging, 20% in PET packaging and 14% for other plastic packaging. These recycled content rates are still far away from the 2030 targets of 10%, 30% and 35% for each plastic packaging category, respectively.</p>



Food waste

Reduce the generation of food waste in processing and manufacturing by 10% in comparison to the amount generated in 2020.

Document	Proposal amending Directive 2008/98/EC on waste	
Assessment	!	Progress needs to accelerate to reach the target value

Data for these targets is only available for 2020 and 2021 in Eurostat, therefore it is still early to define a clear trend. However, based on the analysis performed in the impact assessment of the Proposal for a Directive amending Directive 2008/98/EC on waste, it is possible to estimate that the target is feasible, but progress needs to accelerate to reach the target value.

Reduce the generation of food waste per capita, jointly in retail and other distribution of food, in restaurants and food services and in households, by 30% in comparison to the amount generated in 2020.

Document	Proposal amending Directive 2008/98/EC on waste	
Assessment	!	Progress needs to accelerate to reach the target value

Data for these targets is only available for 2020 and 2021 in Eurostat, therefore it is still early to define a clear trend. However, based on the analysis performed in the impact assessment of the Proposal for a Directive amending Directive 2008/98/EC on waste, it is possible to estimate that the target is feasible, but progress needs to accelerate to reach the target value.

Vehicles circularity

Each vehicle belonging to a vehicle type that is type-approved as of [the first day of the month following 72 months after the date of entry into force of this Regulation] under Regulation (EU) 2018/858 shall be constructed so that it is:

- (a) reusable or recyclable to a minimum of 85 % by mass;
- (b) reusable or recoverable to a minimum of 95 % by mass.

Document	Proposal for a Regulation on circularity requirements for vehicle design and on management of end-of-life vehicles	
Assessment	?	The target cannot be assessed due to lack of data

	Feasibility of the target depends on the calculation method and related data. As stated in the impact assessment study, while substantial progress has been made since 2000 to reach the 85% recycling/re-use target set out in ELV Directive, a large share of materials, in particular Automotive Shredder Residues (ASR) is sent to landfills or incinerated (i.e. not valorised).
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The plastic contained in each vehicle type that is type-approved as of [the first day of the month following 72 months after the date of entry into force of the Regulation] under Regulation (EU) 2018/858 shall contain a minimum of 25 % of plastic recycled by weight from post-consumer plastic waste.	
Document	<u>Proposal for a Regulation on circularity requirements for vehicle design and on management of end-of-life vehicles</u>
Assessment	 The pace of progress is sufficient to reach the target value Although the calculation method has not been defined, JRC assumes that these ambitious targets are in principle reachable. JRC highlights that they require significant changes in the industrial production systems both in the production and uptake of high-quality recycled plastics.

At least 25 % of the target set out in the first subparagraph shall be achieved by including plastics recycled from end-of-life vehicles in the vehicle type concerned.	
Document	<u>Proposal for a Regulation on circularity requirements for vehicle design and on management of end-of-life vehicles</u>
Assessment	 Progress needs to accelerate to reach the target value Although the calculation method has not been defined, JRC assumes that this feature of the targets is in principle reachable. JRC highlights that they require significant innovations in the industrial production systems both in the production and uptake of high-quality recycled plastics, in particular in the area of end-of-life vehicle collection and treatment and wide deployment of post-shredder sorting technologies.

Member States shall ensure that the following targets are met by the waste management operators: (a) the reuse and recovery, as calculated together, shall be a minimum of 95%, by average weight per vehicle, excluding batteries, and year; (b) the reuse and recycling, as calculated together, shall be a minimum of 85%, by average weight per vehicle, excluding batteries, and year.	
Document	<u>Proposal for a Regulation on circularity requirements for vehicle design and on management of end-of-life vehicles</u>
Assessment	 The pace of progress is sufficient to reach the target value The targets should in principle be reached, especially if other incentives on demand for recycled materials (See article 6) promote the wide deployment of post-shredder sorting technologies.

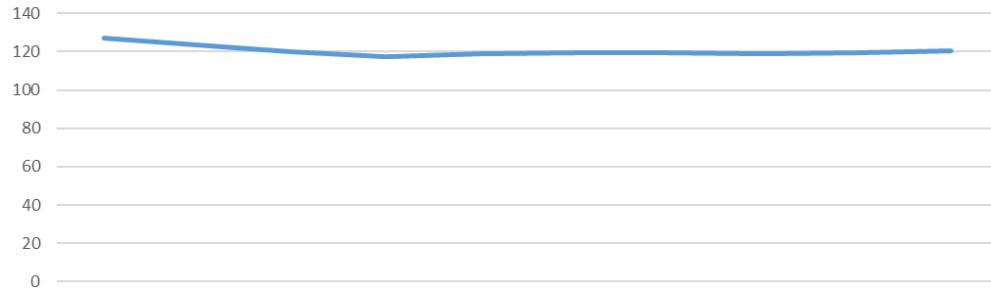
Member States shall ensure that waste management operators achieve a yearly target for the recycling of plastics of at least 30 % of the total weight of plastics contained in the vehicles delivered to the waste management operators.

Document	Proposal for a Regulation on circularity requirements for vehicle design and on management of end-of-life vehicles
Assessment	 The pace of progress is sufficient to reach the target value
	The targets should in principle be reached, especially if other incentives on demand of recycled plastics (See article 6) promote the wide deployment of post-shredder sorting technologies.

Targets from Communications (non-binding)

Circular economy

Halve the amount of residual (non-recycled) municipal waste by 2030 (Assuming 2020 as the baseline year)

Document	A new Circular Economy Action Plan																						
Assessment	 The current trend runs counter to the desired direction or it is stagnant																						
	The target aims at halving the amount of residual municipal waste by 2030. Assuming as a reference year the 2020, the residual municipal waste should be reduced from 119 to 59.5 M tonnes. Looking at historical trend, the amount of residual municipal waste decreased by 5% only in the time frame 2012-2021 and slightly increased in the last seven years (2015-2021, +2.6%). Indeed, despite increasing recycling levels, the amount of waste generated is increasing at a higher pace. It should also be noted that the assessment is based on estimated currently available in Eurostat, and that updated and more granular statistics on municipal waste are currently under development.																						
Indicator	Amount of residual (non-recycled) municipal waste in EU 27 (calculated as waste generated – recycling)																						
Trend	Residual (non-recycled) municipal waste in EU27 (in million tonnes), 2012-2021  <table border="1"> <caption>Data for Residual (non-recycled) municipal waste in EU27 (in million tonnes)</caption> <thead> <tr> <th>Year</th> <th>Waste (million tonnes)</th> </tr> </thead> <tbody> <tr><td>2012</td><td>125</td></tr> <tr><td>2013</td><td>123</td></tr> <tr><td>2014</td><td>121</td></tr> <tr><td>2015</td><td>118</td></tr> <tr><td>2016</td><td>117</td></tr> <tr><td>2017</td><td>116</td></tr> <tr><td>2018</td><td>115</td></tr> <tr><td>2019</td><td>115</td></tr> <tr><td>2020</td><td>115</td></tr> <tr><td>2021</td><td>115</td></tr> </tbody> </table> <p>Source: Eurostat.</p>	Year	Waste (million tonnes)	2012	125	2013	123	2014	121	2015	118	2016	117	2017	116	2018	115	2019	115	2020	115	2021	115
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Double EU's circular material use rate in the coming decade																															
Document	A new Circular Economy Action Plan																														
Assessment	X The current trend runs counter to the desired direction or it is stagnant																														
	<p>This target aims to increase the circular material use rate (CMUR) from 11.7% in 2020 to 23.4% in 2030. At EU level, this target has been steady since 2010, registering an increase of less than one percentage point. As such, there is a stagnation in the pace of improvement of the CMUR indicator. This target aims to increase the circular material use rate (CMUR) from 11.7% in 2020 to 23.4% in 2030. This target has been steady since 2010, registering an increase of less than one percentage point. As such, there is a stagnation in the pace of improvement of the CMUR indicator. At Member State level, CMUR shows a high variability with values ranging from 0.6 to 27.5% in 2022.</p>																														
Trend	<p>Circular material use rate in EU, 2010-2022</p> <table border="1"> <caption>Data for Circular Material Use Rate in EU (2010-2023)</caption> <thead> <tr> <th>Year</th> <th>CMUR (%)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>10.8</td></tr> <tr><td>2011</td><td>10.2</td></tr> <tr><td>2012</td><td>10.9</td></tr> <tr><td>2013</td><td>11.1</td></tr> <tr><td>2014</td><td>11.0</td></tr> <tr><td>2015</td><td>11.2</td></tr> <tr><td>2016</td><td>11.3</td></tr> <tr><td>2017</td><td>11.4</td></tr> <tr><td>2018</td><td>11.6</td></tr> <tr><td>2019</td><td>11.2</td></tr> <tr><td>2020</td><td>11.3</td></tr> <tr><td>2021</td><td>11.1</td></tr> <tr><td>2022</td><td>11.5</td></tr> <tr><td>2023</td><td>11.8</td></tr> </tbody> </table> <p>Source: Eurostat - Statistics for the European Green Deal [SDG_12_41]</p>	Year	CMUR (%)	2010	10.8	2011	10.2	2012	10.9	2013	11.1	2014	11.0	2015	11.2	2016	11.3	2017	11.4	2018	11.6	2019	11.2	2020	11.3	2021	11.1	2022	11.5	2023	11.8
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2017	11.4																														
2018	11.6																														
2019	11.2																														
2020	11.3																														
2021	11.1																														
2022	11.5																														
2023	11.8																														

Sustainable carbon cycles

At least 20% of the carbon used in the chemical and plastic products should be from sustainable non-fossil sources by 2030, in full consideration of the EU's biodiversity and circular economy objectives and of the upcoming policy framework for bio-based, biodegradable and compostable plastics	
Document	Communication on Sustainable Carbon Cycles
Assessment	? The target cannot be assessed due to lack of data The current lack of data does not allow to assess the status of this target.

Non quantifiable targets

Batteries

Performance and durability of rechargeable industrial batteries > 2 kWh	
Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 Progress needs to accelerate to reach the target value Input for minimum requirements is needed 30 months before their application, i.e. by February 2025. Standard development is about to start and there is a risk standards are not ready on time.

Performance and durability of LMT batteries	
Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 Progress needs to accelerate to reach the target value Input for minimum requirements is needed 30 months before their application, i.e. by February 2026. Standard development is about to start and there is a risk that standards are not ready on time.

Performance and durability of portable batteries of general use	
Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 The pace of progress is sufficient to reach the target value Input for minimum requirements is needed 36 months before their application, i.e. by August 2026

Carbon footprint , progressive requirements as:	
Document	Regulation (EU) 2023/1542 concerning batteries and waste batteries
Assessment	 Progress needs to accelerate to reach the target value (for step 1)  The currently observed trend runs counter to the desired direction (for step 2 and 3)
	As a fully novel types of requirements and targets, the Commission is dealing with a number of difficulties in the implementation (especially for what concerns the availability of quality background datasets for the calculation). Calculation rules are expected at the beginning of 2024 and mandatory declaration should entry into force as expected. JRC is concerned that in the case of step 2 and 3, the market is still not ready for such assessment and the entry into force of the targets will need to be postponed.

Textiles

By 2030, textile products placed on the EU market are long-lived and recyclable, to a great extent made of recycled fibres, free of hazardous substances and produced in respect of social rights and the environment.

Document	EU Strategy for sustainable and circular textiles
Assessment	 The target cannot be assessed due to lack of data <p>Within the framework of the Ecodesign for Sustainable Product Regulation proposal, the preparatory study on textile products is currently analysing how apparel textiles can meet these objectives. At this stage, it is difficult to estimate the distance to the target. Overall progress is being made towards a more circular textile ecosystem, but the capacity and technical ability for fibre-to-fibre recycling is still insufficient to reach the 2030 goal.</p>

By 2030, in a competitive, resilient and innovative textiles sector, producers take responsibility for their products for their products along the value chain, including when they become waste.

Document	EU Strategy for sustainable and circular textiles
Assessment	 Progress needs to accelerate to reach the target value <p>A harmonised and mandatory Extended Producer Responsibility (EPR) scheme for textile waste has been included in the Commission proposal for a revised Waste Framework Directive, as a flagship measure. This will require producers to take responsibility for the sustainable end-of-life management of textiles. Even though at present only 3 EU-Member States (France, the Netherlands, and Hungary) have an EPR system in place, many other Member States are taking preparatory measures to set up their system, and general support for this measure seems to exist across the EU-27. A possible upcoming legal requirement will further stimulate progress and action.</p>

Annex 4. SUSTAINABLE AND SMART MOBILITY

Targets from legal acts (binding)

Renewable Hydrogen

Member States shall ensure that, by 31 December 2030, at least one publicly accessible hydrogen refuelling station is deployed in each urban node.

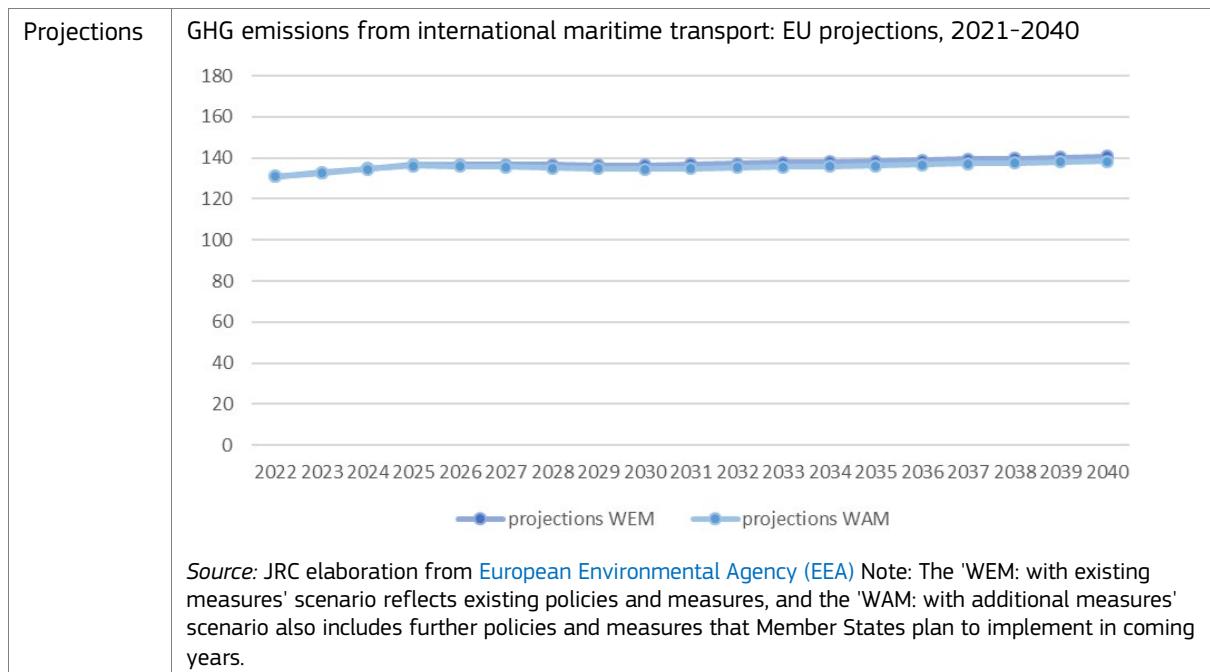
Member States shall ensure that, by 31 December 2030, publicly accessible hydrogen refuelling stations designed for a minimum cumulative capacity of 1 tonne per day and equipped with at least a 700 bar dispenser are deployed with a maximum distance of 200 km between them along the TEN-T core network

Document	Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure
Assessment	<p>! Progress needs to accelerate to reach the target value</p> <p>The extent of the urban nodes equipped with publicly accessible hydrogen refuelling station is mostly localised in central-northern EU (source: TENtec Interactive Map Viewer). HRS (Hydrogen Refuelling Station) number is steadily increasing in the EU. Alternative Fuels Infrastructure Regulation sets the minimum goals for HRS deployment until 2030, which should significantly increase from the current 200 operational stations (source: Clean Hydrogen Monitor 2023, p. 145)</p>
Chart	<p>Comparison between the urban nodes and hydrogen refuelling station distribution over the EU territory</p> <p>Source: TENtec interactive map, accessed in June 2024.</p>

Renewable and low-carbon fuels

The yearly average GHG intensity of the energy used on board by a ship during a reporting period shall be reduced, compared to the reference value (91.16 gCO₂e/MJ) by: **2 % from 1 January 2025; 6 % from 1 January 2030; 14,5 % from 1 January 2035; 31 % from 1 January 2040; 62 % from 1 January 2045; 80 % from 1 January 2050.**

Document	Regulation (EU) 2023/1805 on the use of renewable and low-carbon fuels in maritime transport
Assessment	X The current trend runs counter to the desired direction or it is stagnant EU shipping emissions increased by 5.6 percent in 2021 from the previous year, rebounding from the COVID-19 induced slump of 2020. The target for 2025 seems unlikely to be reached. The EEA projections suggest that, even with measures currently planned in the Member States, emissions from domestic navigation are projected to remain relatively stable in the coming years. International maritime transport emissions are projected to continue increasing.
Indicator	Greenhouse gas emissions in maritime transport in the EU
Chart	<p>Change in GHG emission levels from 1990 (index 1990=100) in EU-27, by transport mode</p> <p>Source: European Environmental Agency (EEA)</p> <p>Notes: The figure shows the trend in the greenhouse gas (GHG) by sub-sector since 1990 and projections to 2040. The figure covers the EU-27. The 'WEM: with existing measures' scenario reflects existing policies and measures, and the 'WAM: with additional measures' scenario also includes further policies and measures that Member States plan to implement in coming years.</p>
Trend	<p>GHG emissions from international maritime transport: EU observed trend, 1990-2022</p> <p>Source: JRC elaboration from European Environmental Agency (EEA)</p>



Each Member State shall set an obligation on fuel suppliers to ensure that: (B) the combined share of advanced biofuels and biogas produced from the feedstock listed in Part A of Annex IX and of renewable fuels of non-biological origin in the energy supplied to the transport sector is at least 1% in 2025 and 5.5% in 2030, of which a share of at least 1 percentage point is from renewable fuels of non-biological origin in 2030

Document	Directive (EU) 2023/2413 for the promotion of energy from renewable sources	
Assessment	✓	The pace of progress is sufficient to reach the target value

According to EurObserv'ER the contribution of advanced biofuels already reached 1% in 2022 (indicative data). The target for 2025 has already been reached. Nevertheless, the sub-target for RFNBO of 1pp for 2030 is not on track as of 2022 data, but the uptake of RFNBO is expected to grow in the coming years, providing enough time to reach the 2030 target.

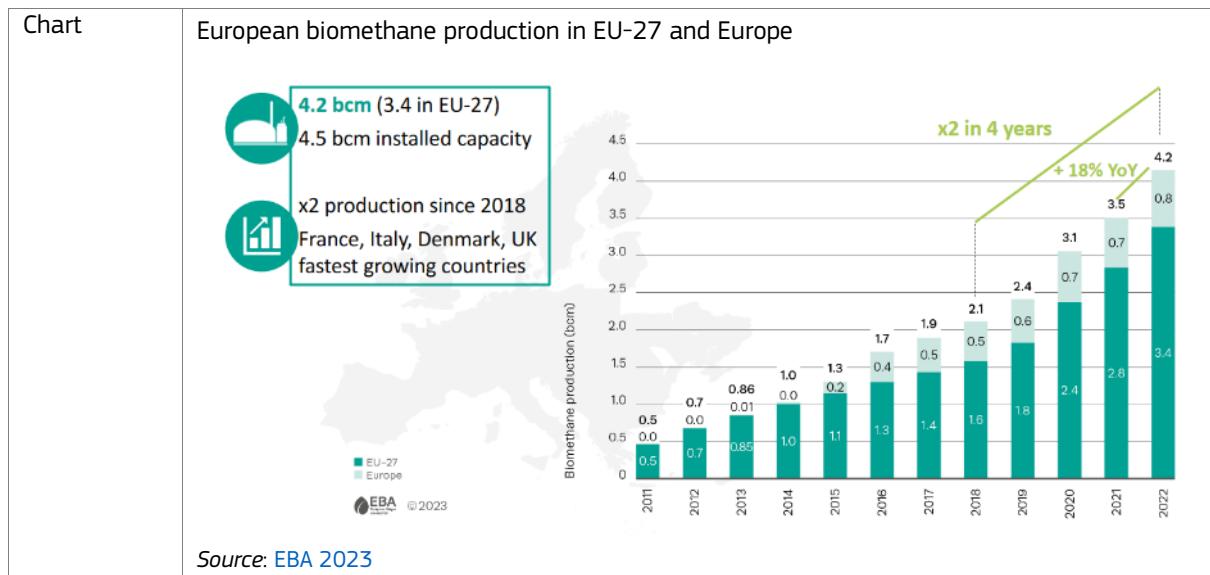
The share of biofuels and biogas produced from the feedstock listed in Part B of Annex IX in the energy content of fuels and electricity supplied to the transport sector shall, except in Cyprus and Malta, be limited to 1.7%.

Document	Directive (EU) 2023/2413 for the promotion of energy from renewable sources	
Assessment	✓	The pace of progress is sufficient to reach the target value

The EU27 share (including Cyprus and Malta) was 1.28% in 2021 and has increased to 1.35% in 2022. This target is currently on track.

Achieve an annual production of sustainable biomethane of 35 billion cubic meters by 2030

Document	Directive (EU) 2023/2413 for the promotion of energy from renewable sources	
Assessment	!	Progress needs to accelerate to reach the target value
In 2021, the total biomethane production in the EU was 3.5 billion cubic meters, produced in about 1300 biomethane plants. Production increased in 2022 to reach 4.2 bcm. In order to reach 35 billion cubic meters, an estimate of 5000 additional plants are required.		
Indicator	Billion cubic meters of produced biomethane	



Aviation fuel suppliers shall ensure that Sustainable Aviation Fuel (SAF) made available to aircraft operators at each Union airport will be at least 2% from 2025, 6% from 2030, 20% from 2035, 34% from 2040, 42% from 2045, 70% from 2050.

Document	Regulation (EU) 2023/2405 on ensuring a level playing field for sustainable air transport (ReFuelEU Aviation)	
Assessment		The current trend runs counter to the desired direction or it is stagnant

Several plants are being built to produce sustainable aviation fuels and sustainable aviation fuels are tested by companies. The contribution of aviation fuels is practically negligible currently. No sustainable biofuel use was reported in Eurostat in aviation in 2021.

Of the SAF targets reported above, synthetic aviation fuels should represent a minimum share of 1.2% from 2030, 5% from 2035, 10% from 2034, 15% from 2045, and 35% from 2050.

Document	Regulation (EU) 2023/2405 on ensuring a level playing field for sustainable air transport (ReFuelEU Aviation)	
Assessment		The current trend is stagnant

Synthetic fuels are not available on the market, conversion pathways are at early technology development levels, facing major techno-economic challenges.

The yearly quantity of aviation fuel uplifted by a given aircraft operator at a given Union airport shall be at least 90 % of the yearly aviation fuel required, to avoid tankering practices which would bring additional emissions from extra weight

Document	Regulation (EU) 2023/2405 on ensuring a level playing field for sustainable air transport (ReFuelEU Aviation)	
Assessment		The target cannot be assessed due to lack of data

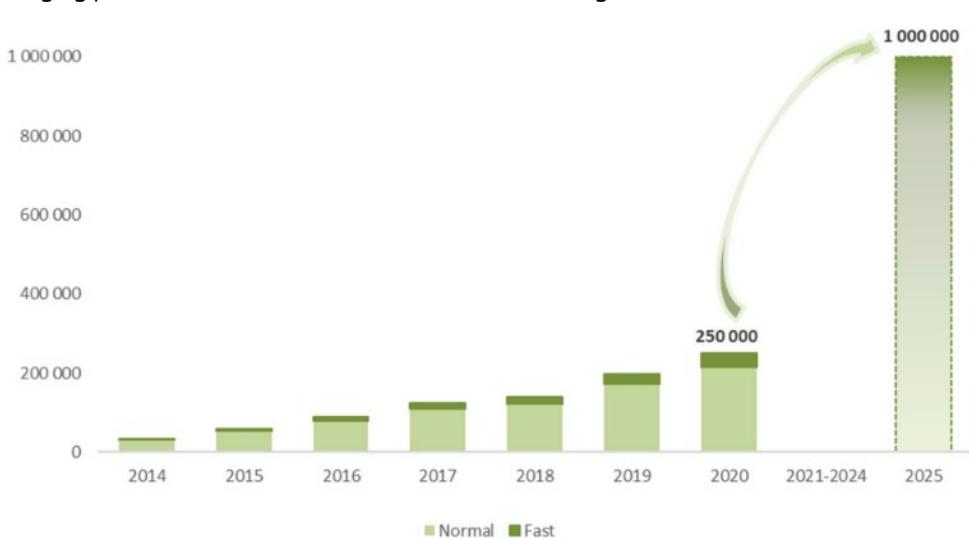
Synthetic fuels are not available on the market, conversion pathways are at early technology development levels, facing major techno-economic challenges.

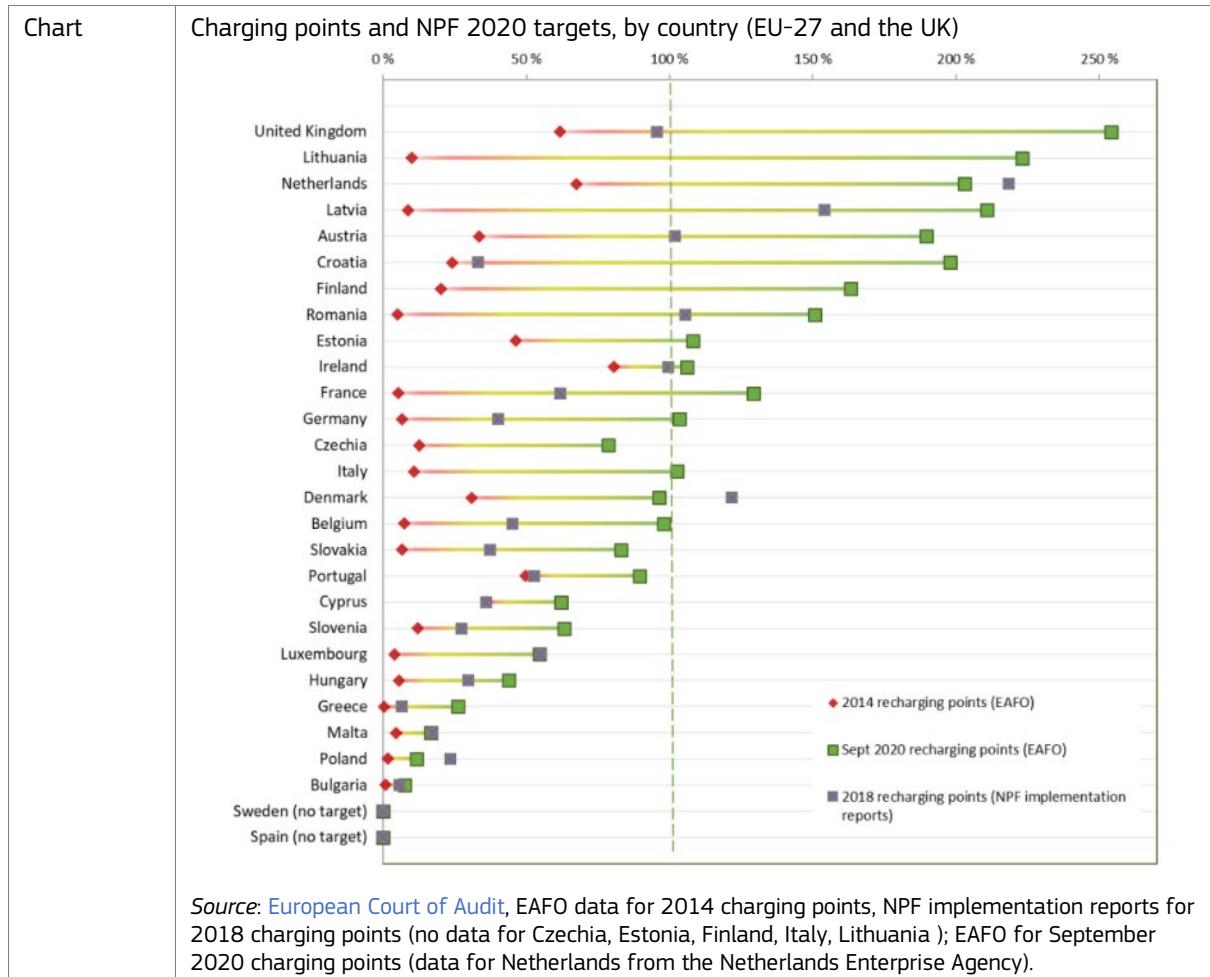
Member States with maritime ports shall endeavour to ensure that as of 2030 the share of renewable fuels of non-biological origin (RFNBO) in the total amount of energy supplied to the maritime transport sector is at least 1,2%

Document	Directive (EU) 2023/2413 for the promotion of energy from renewable sources
Assessment	X The current trend runs counter to the desired direction or it is stagnant <p>Synthetic fuels are not available on the market and conversion pathways are at early technology development levels, facing major techno-economic challenges. E-fuels facilities are still at demo-scale, with only a few plants currently operated at EU level.</p> <p>RFNBOs is a promising solution for hard-to-electrify sectors, such as the maritime on. However, a market for maritime RFNBO is currently yet to develop. Regulation (EU) 2023/1805 also introduces a combination of measures to ensure the support to the uptake of sustainable RFNBOs. The deal also set a 2% renewable fuels usage target as of 2034 if the Commission reports that in 2031 RFNBO will amount to less than 1% in fuel mix.</p>
Chart	<p>Complying of all EU ports (maritime and not) with the renewable fuels legislation</p> <p>Source: TENtec interactive map, accessed in June 2024. Legend: Blue: compliant, Red: not compliant, Black: no data.</p>

Electric Vehicles infrastructure

Member States shall ensure that, at the end of each year, the following power output targets are met cumulatively: (a) for each light-duty battery electric vehicle registered in their territory, a total power output of at least 1,3 kW is provided through publicly accessible recharging stations; and (b) for each light-duty plug-in hybrid vehicle registered in their territory, a total power output of at least 0,80 kW is provided through publicly accessible recharging stations

Document	Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure																																								
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>Based on charging infrastructure data from Eco-Movement 2022 and estimates of electric vehicles on the roads, most of Member States are already compliant with this fleet-based target (source: European Alternative Fuels Observatory – Target tracker). Research also highlights that the total power output needed per electric vehicle (including BEV and PHV) is highly dependent on the share of electric cars and vans on the road, with AFIR targets on cumulative power outputs per vehicle being sufficient in the long term (when a rise in the market share of BEV and PHV is expected).</p>																																								
Chart	<p>Charging points (EU-27 and the UK) and Green Deal target</p>  <table border="1"> <thead> <tr> <th>Year</th> <th>Normal</th> <th>Fast</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>2014</td> <td>~20,000</td> <td>~10,000</td> <td>~30,000</td> </tr> <tr> <td>2015</td> <td>~30,000</td> <td>~15,000</td> <td>~45,000</td> </tr> <tr> <td>2016</td> <td>~40,000</td> <td>~20,000</td> <td>~60,000</td> </tr> <tr> <td>2017</td> <td>~50,000</td> <td>~25,000</td> <td>~75,000</td> </tr> <tr> <td>2018</td> <td>~60,000</td> <td>~30,000</td> <td>~90,000</td> </tr> <tr> <td>2019</td> <td>~70,000</td> <td>~40,000</td> <td>~110,000</td> </tr> <tr> <td>2020</td> <td>~80,000</td> <td>~50,000</td> <td>~130,000</td> </tr> <tr> <td>2021-2024</td> <td>~100,000</td> <td>~100,000</td> <td>~200,000</td> </tr> <tr> <td>2025</td> <td>~100,000</td> <td>~100,000</td> <td>~200,000</td> </tr> </tbody> </table> <p>Source: European Court of Audit based on EAFO data as of September 2020 (excluding around 4 100 Tesla chargers).</p>	Year	Normal	Fast	Total	2014	~20,000	~10,000	~30,000	2015	~30,000	~15,000	~45,000	2016	~40,000	~20,000	~60,000	2017	~50,000	~25,000	~75,000	2018	~60,000	~30,000	~90,000	2019	~70,000	~40,000	~110,000	2020	~80,000	~50,000	~130,000	2021-2024	~100,000	~100,000	~200,000	2025	~100,000	~100,000	~200,000
Year	Normal	Fast	Total																																						
2014	~20,000	~10,000	~30,000																																						
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2020	~80,000	~50,000	~130,000																																						
2021-2024	~100,000	~100,000	~200,000																																						
2025	~100,000	~100,000	~200,000																																						



Source: European Court of Audit, EAFO data for 2014 charging points, NPF implementation reports for 2018 charging points (no data for Czechia, Estonia, Finland, Italy, Lithuania); EAFO for September 2020 charging points (data for Netherlands from the Netherlands Enterprise Agency).

Member States shall ensure that along the TEN-T core network, publicly accessible recharging pools dedicated to light-duty vehicles deployed in each direction of travel with a maximum distance of 60 km in-between them offering a power output of at least 600kW and including at least one recharging point with an individual power output of at least 150 kW

Document	Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure	
Assessment		Progress needs to accelerate to reach the target value
	<p>The target supports the vision of 3 million charging points by 2030 under the Sustainable and Smart Mobility strategy. As of mid-2024, around 730.000 charging points are available in the EU (source: TENtec Interactive Map Viewer). According to the EC Dashboard towards zero-emission vehicle, around 60% of charging points in the EU are concentrated in three EU countries (Germany, France, Netherlands), while Eastern EU is lacking behind. To meet the 3 million charging points ambition, around 400.000 new points need to be installed annually, with a significant gap with respect to the 153.000 new public charging points installed in 2023.</p>	

Chart	Compliance with the target along the TEN-T
<p>Source: TENtec interactive map, accessed in June 2024. Legend: Green is the core TEN-T lines which fulfil the target requirement, red are those that don't comply with the requirement. The figure includes both the core and the comprehensive TEN-T network.</p>	

Member States shall ensure that, by 31 December 2030 (with intermediate 2025 and 2027 targets), along the TEN-T core road network, publicly accessible recharging pools dedicated to heavy-duty electric vehicles are deployed in each direction of travel with a maximum distance of 60 km between them [...] (with intermediate 2025 and 2027 targets). Along the TEN-T comprehensive road network, recharging pools dedicated to heavy-duty electric vehicles are deployed in each direction of travel with a maximum distance of 100 km between them and each recharging pool offers a power output of at least 1 500 kW and includes at least one recharging point with an individual power output of at least 350 kW

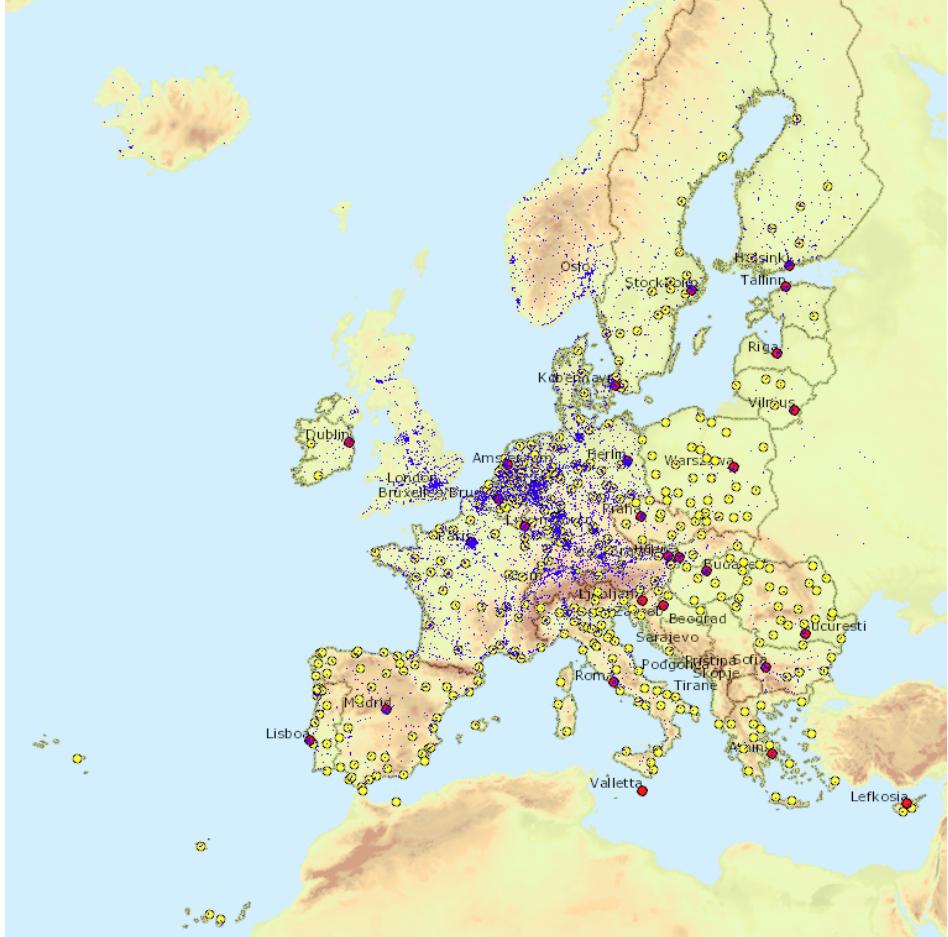
Document	Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure	
Assessment	!	Progress needs to accelerate to reach the target value

	Despite the lack of specific data regarding recharging pools for heavy-duty electric vehicles, the extent of the TEN-T network served by high voltage recharging points stays so far limited to central Europe, with significant infrastructure improvement needed in Southern and Eastern EU, alongside the core and comprehensive networks (source: TENtec Interactive Map Viewer).
Chart	<p>Compliance with the target along the TEN-T</p> <p>Source: TENtec interactive map, accessed in June 2024. Legend: Green is the core TEN-T lines which fulfil the target requirement, red are those that don't comply with the requirement. The figure includes both the core and the comprehensive TEN-T network.</p>

By 31 December 2030, in each safe and secure parking area at least four publicly accessible recharging stations dedicated to heavy-duty electric vehicles with an individual power output of at least 100 kW are deployed

Document	Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure
Assessment	? The target cannot be assessed due to lack of data The extent of the TEN-T network equipped with safe and secure parking complying with the target is localised in central-northern EU (source: TENtec Interactive Map Viewer). However, data available is not updated and it is not possible to assess whether current number of secure parking areas for HDEV and the speed of installation is sufficient to reach the 2030 target.

By 31 December 2030, in each urban node publicly accessible recharging points dedicated to heavy-duty electric vehicles with an aggregated power output of at least 1 800 kW are deployed, provided by recharging stations with an individual power output of at least 150 kW

Document	Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure
Assessment	? The target cannot be assessed due to lack of data Data is available on publicly accessible recharging stations with an individual power output of at least 150 kW, however, there is no data yet on publicly accessible recharging points dedicated to heavy-duty electric vehicles with an aggregated power output of at least 1 800 kW.
Chart	Publicly accessible recharging stations with an individual power output of at least 150 kW  <p>Source: TENtec interactive map, accessed in June 2024. Legend: Blue: publicly accessible recharging point with at least an outlet at 150 kW. Red: capitals. Yellow: urban nodes.</p>

Electrification of non-road transport

Member States shall ensure that, **at all airports of the TEN-T core network and TEN-T comprehensive network, the provision of electricity supply to stationary aircraft is ensured by 31 December 2029**, at all aircraft remote stands used for commercial air transport operations to embark or disembark passengers or to load or unload goods

Document	Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure	
Assessment	?	The target cannot be assessed due to lack of data
	No data available.	

Member States shall ensure that a **minimum shore-side electricity supply for seagoing container ships and seagoing passenger ships is provided in TEN-T maritime ports**. To that end, by 31 December 2029 TEN-T core and comprehensive maritime ports [...] are equipped to provide each year shore-side electricity supply for at least 90 % of the total number of port calls of seagoing container ships above 5.000 gross tonnes that are moored at the quayside at the maritime port concerned and 90% of the total number of port calls of seagoing ro-ro passenger ships above 5 000 gross tonnes and seagoing high-speed passenger craft above 5 000 gross tonnes that are moored at the quayside at the maritime port concerned

Document	Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure	
Assessment	?	The target cannot be assessed due to lack of data
	No data available.	

Member States shall ensure that at least one installation providing **shore-side electricity supply to inland waterway vessels is deployed at all TEN-T core inland waterway ports by 1 January 2025; at least one installation providing shore-side electricity supply to inland waterway vessels is deployed at all TEN-T comprehensive inland waterway ports by 1 January 2030**.

Document	Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure	
Assessment	?	The target cannot be assessed due to lack of data
	No data available.	

Decarbonisation of road transport

The average **CO2 emissions of the Union fleet of new heavy-duty motor vehicles, off-road, off-road special purpose, and vocational vehicles shall be reduced** by the following percentages compared to the average CO2 emissions of the reporting period of the year 2019:

- (a) for vehicle sub-groups 4-UD, 4-RD, 4-LH, 5-RD, 5-LH, 9-RD, 9-LH, 10-RD, 10-LH for the reporting periods of the years **2025** to 2029 **by 15 %**;
- (b) for all vehicle sub-groups for the reporting periods of the years **2030** to 2034 **by 45%**,
- (c) for all vehicle sub-groups for the reporting periods of the years **2035** to 2039 **by 65%**,
- (d) for all vehicle sub-groups for the reporting periods of the years **2040** onwards **by 90%**.

Document	Regulation (EU) 2024/1610 to strengthen the CO2 emission performance standards for new heavy-duty vehicles	
Assessment	!	Progress needs to accelerate to reach the target value
	The average specific CO ₂ emissions of new heavy-duty vehicles in groups 4, 5, 9 and 10 has decreased by 0.55%, from 52.75g/t.km in 2019 to 52.45g/t.km in 2020. If the same yearly reduction rate persists, the reduction target will not be achieved in time. Therefore, actions are needed to accelerate the pace of progress.	

Indicator	CO2 emissions from new heavy-duty vehicles
Chart	<p>Source: European Commission</p>

For [...] “urban buses” manufacturers shall comply with the 90% (in the reporting period 2030-2034) and 100% (as from 2035) minimum shares in their fleet of new heavy-duty vehicles

Document	Regulation (EU) 2024/1610 to strengthen the CO2 emission performance standards for new heavy-duty vehicles
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>Following the Regulation, due to the technical readiness of urban buses and the need to improve urban air quality, this target supports the need to have a mandatory minimum share of new zero-emission urban buses. According to ACEA and Rabobank, the whole EU bus fleet consists of around 715.000-750.000 vehicles, with city buses representing around 215.000 units (around 30%). Looking at city buses only, there is a steady decrease in the number of new city buses fuelled by Diesel since 2016, increasingly being replaced by EVs. A market growth average close to 18% could get us to the 2030 target. This is feasible, given 2020-2023 market trend (source: Rabobank). It should be finally noted that a collapse of the diesel buses market is unlikely (e.g., due to the need in rural areas), and new electrically chargeable buses accounted for 12.7% in the total EU bus market in 2022 (source: ACEA), making up only 1.4% of total buses on EU roads (source: ACEA).</p>

Targets from Proposals (non-binding)

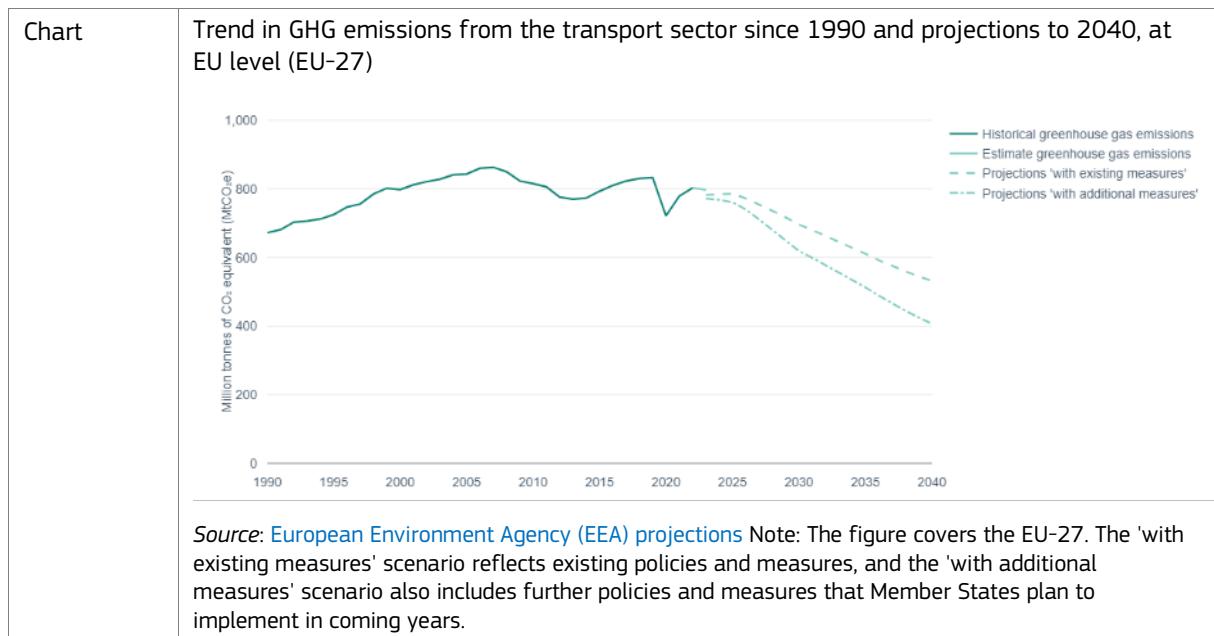
Intermodality

Reduce the average door-to-door cost of combined transport operations by at least 10% within 7 years	
Document	Proposal for a Directive to support framework for intermodal transport of goods
Assessment	<p> The target cannot be assessed due to lack of data</p> <p>No data available.</p>

Targets from Communications (non-binding)

GHG emissions

Cut the emissions of transport sector by 90% by 2050, relative to 1990																																																																																																																																																																																																																																								
Document	Sustainable and Smart Mobility Strategy																																																																																																																																																																																																																																							
Assessment	! Progress needs to accelerate to reach the target value <p>Following six years of steady growth in greenhouse gas emissions from the EU's transport sector, transport emissions dropped substantially in 2020 because of reduced activity during the COVID-19 pandemic. Estimates of emissions in 2021 indicate a rebound of 8.6% in transport, followed by further growth of 2.7% in 2022. In 2022 they were still 6% below 2019 levels. However, Eurostat quarterly GHG emission data shows that this rebound continued in 2023. According to the report "Towards EU climate neutrality: progress, policy gaps and opportunities" by the European Scientific Advisory Board on Climate Change, the average rate of emission reduction since 2005 (-2 Mt CO₂e per year) should be more than ten times higher (-26 Mt CO₂e per year in 2023-2030) to be consistent with the trajectories towards the overall 2030 GHG emission reduction target by the EU Climate Law. When considering the 90% reduction objective for transport GHG emission by 2050, the average rate of emission reduction should be even higher (-31 Mt CO₂e in 2031-2050).</p>																																																																																																																																																																																																																																							
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Trend	<p>CO₂ emissions EU-27 from transport, by sector (million tonnes) *</p> <p>Energy industries • Industry (***). Transport (**). Residential & commercial . Agriculture, forestry, fisheries (****). Other (*****). 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Notes: (*) Excluding LULUCF (land use, land-use change and forestry) emissions and international maritime, including international aviation and indirect CO₂. (**) Transport excluding international maritime (international traffic departing from the EU), including international aviation. (*** Emissions from manufacturing and construction, industrial processes and product use. (****) Emissions from fuel combustion and other emissions from agriculture. (*****) Other emissions from other (not elsewhere specified), fugitive emissions from fuels, waste, indirect CO₂ and other.</p>	Year	Total	Industry (***)	Transport (**)	Residential & commercial	Agriculture, forestry, fisheries (****)	Other (*****)	1990	100	100	100	100	100	100	1991	100	100	100	100	100	100	1992	100	100	100	100	100	100	1993	100	100	100	100	100	100	1994	100	100	100	100	100	100	1995	100	100	100	100	100	100	1996	100	100	100	100	100	100	1997	100	100	100	100	100	100	1998	100	100	100	100	100	100	1999	100	100	100	100	100	100	2000	100	100	100	100	100	100	2001	100	100	100	100	100	100	2002	100	100	100	100	100	100	2003	100	100	100	100	100	100	2004	100	100	100	100	100	100	2005	100	100	100	100	100	100	2006	100	100	100	100	100	100	2007	100	100	100	100	100	100	2008	100	100	100	100	100	100	2009	100	100	100	100	100	100	2010	100	100	100	100	100	100	2011	100	100	100	100	100	100	2012	100	100	100	100	100	100	2013	100	100	100	100	100	100	2014	100	100	100	100	100	100	2015	100	100	100	100	100	100	2016	100	100	100	100	100	100	2017	100	100	100	100	100	100	2018	100	100	100	100	100	100	2019	100	100	100	100	100	100	2020	100	100	100	100	100	100	2021	100	100	100	100	100	100
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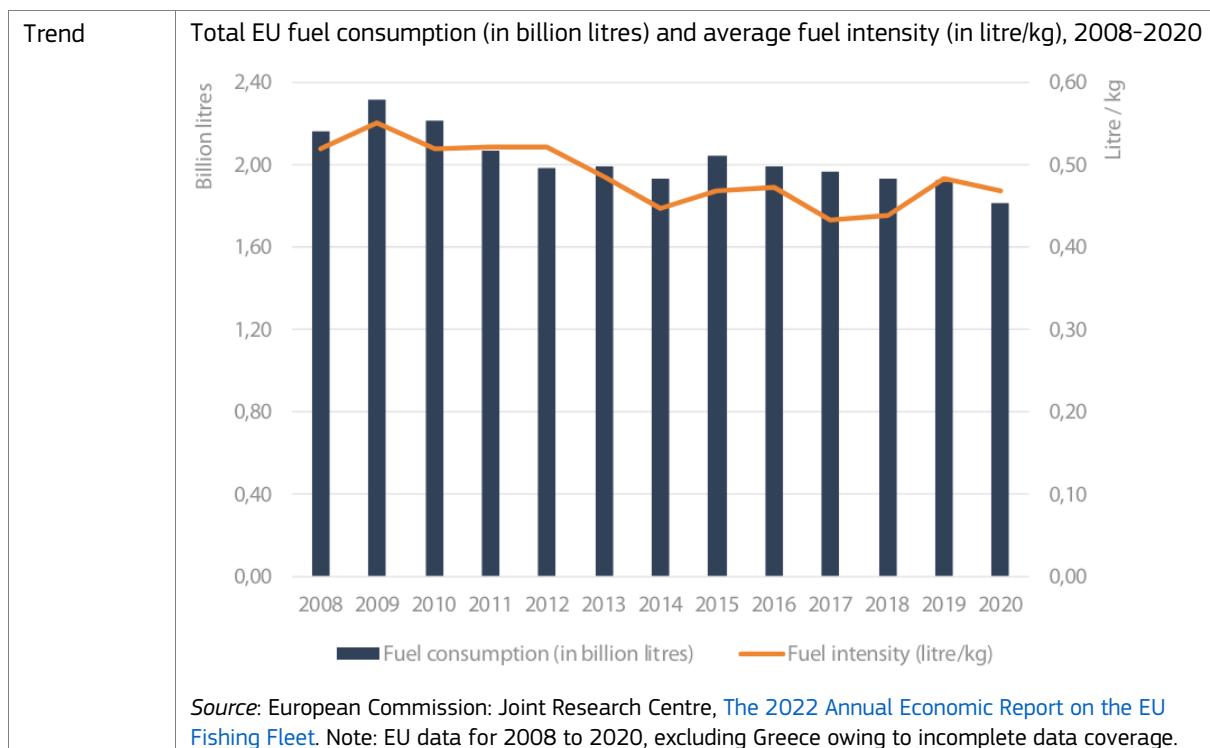
Zero-emission in urban logistics

Document	The new EU Urban Mobility Framework
Assessment	? The target cannot be assessed due to lack of data Although it has been estimated that urban freight is an important traffic component (10% to 15% of vehicle equivalent miles) and is responsible for 20% to 25% of urban transport related CO2 emissions, there is no sufficient data to assess the trend.

Fuel intensity in Fisheries

EU fisheries are encouraged to continue the positive trend, as observed for the period 2009–2019, towards reducing fuel intensity by reducing the fossil-fuel consumption per kg of landed product for at least an additional 15% for the period 2019–2030

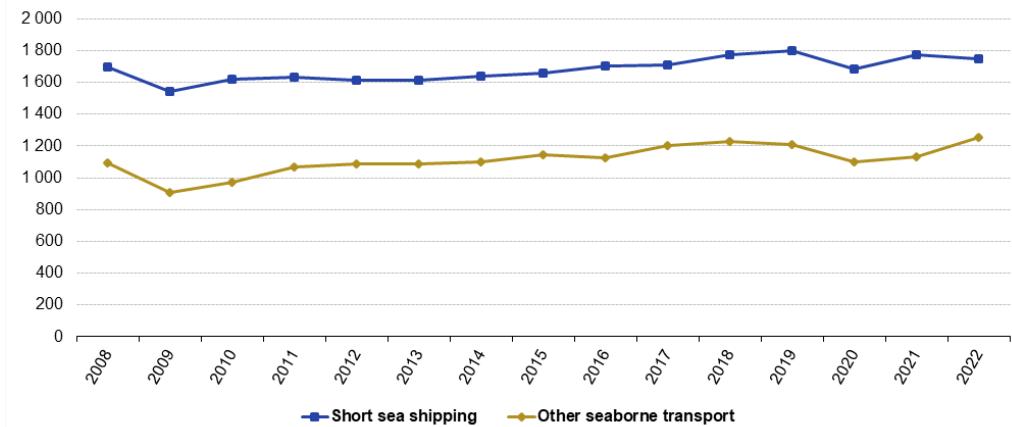
Document	Communication on Energy Transition of the EU Fisheries and Aquaculture sector
Assessment	! Progress needs to accelerate to reach the target value The Communication notes that "Fishers and aquaculture operators began reducing their energy intensity between 2009 and 2014, but the progress they made has stagnated in recent years. There is therefore a need to accelerate the energy transition". In turn, this statement grounds on the JRC science for policy report 2022 Annual Economic Report on the EU Fishing Fleet , by the Scientific, Technical and Economic Committee for Fisheries, assessing that the sector fuel intensity (i.e. fuel consumption per tonne landed) dropped by more than 15% between 2009 and 2014, but that this trend has stagnated since then.



Non quantifiable targets

Sustainable and smart mobility

Zero-emission ocean-going vessels will become market ready	
Document	Sustainable and Smart Mobility Strategy
Assessment	 Progress needs to accelerate to reach the target value
	<p>While significant progress has been made in recent years, achieving the European Green Deal's target of zero-emission ocean-going vessels by 2030 will be challenging. Globally, the shipping industry is not on track to meet its target of having zero-emission fuels account for 5% of all fuels by 2030 (UCL). Several alternative fuels and energy technologies have the potential to reduce the maritime transport sector's impact on the environment, in terms of air emissions (both greenhouse gas and air pollution). Batteries are beginning to be used more and more to complement heavy-duty onboard ship operations like propulsion and providing energy to different auxiliary systems (EMSA). There are a few examples of market-ready zero-emission vessels developed in Europe already, both for fisheries (DG MARE) and for seaborne passenger and freight transport (CORDIS). These vessels demonstrate the growing trend towards electric and hybrid propulsion in the European maritime industry. With continued innovation, investment, and supportive regulatory developments, the maritime industry can make significant progress towards achieving this goal.</p>

Increase the uptake of short-sea shipping instead of using more polluting modes																																																	
Document	On a new approach for a sustainable blue economy in the EU																																																
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>The overall increase in short sea shipping recorded by the main EU ports consolidated the gradual recovery seen in EU short sea shipping following the economic downturn in Europe in 2009 and reached a new high in 2019 (see figure below). However, this positive trend was put to an end in 2020 most probably because of the COVID-19 pandemic and the subsequent restrictions put in place in the EU and worldwide. In 2021, a partial recovery was observed. The total gross weight of goods transported as part of EU short sea shipping was estimated at almost 1.8 billion tonnes in 2021, an increase of 6.0 % from the previous year, but still 1 % below the levels observed in 2019. Short sea shipping made up 60.9 % of the total sea transport of goods to and from the main EU ports in 2021, 0.5 percentage points more as compared to 2019. This was the highest share since 2010, when it was 62.5% (Source: Eurostat, Maritime transport statistics).</p>																																																
Trend	<p>Gross weight of seaborne freight transported to/from main ports by type of shipping, EU, 2008-2022 (million tonnes)</p>  <table border="1"> <caption>Data for Gross weight of seaborne freight transported to/from main ports by type of shipping, EU, 2008-2022 (million tonnes)</caption> <thead> <tr> <th>Year</th> <th>Short sea shipping (million tonnes)</th> <th>Other seaborne transport (million tonnes)</th> </tr> </thead> <tbody> <tr><td>2008</td><td>1650</td><td>1100</td></tr> <tr><td>2009</td><td>1500</td><td>850</td></tr> <tr><td>2010</td><td>1550</td><td>950</td></tr> <tr><td>2011</td><td>1600</td><td>1050</td></tr> <tr><td>2012</td><td>1580</td><td>1080</td></tr> <tr><td>2013</td><td>1580</td><td>1100</td></tr> <tr><td>2014</td><td>1620</td><td>1120</td></tr> <tr><td>2015</td><td>1650</td><td>1150</td></tr> <tr><td>2016</td><td>1680</td><td>1150</td></tr> <tr><td>2017</td><td>1680</td><td>1200</td></tr> <tr><td>2018</td><td>1750</td><td>1220</td></tr> <tr><td>2019</td><td>1780</td><td>1200</td></tr> <tr><td>2020</td><td>1650</td><td>1100</td></tr> <tr><td>2021</td><td>1750</td><td>1150</td></tr> <tr><td>2022</td><td>1720</td><td>1250</td></tr> </tbody> </table> <p>Source: Eurostat Statistics. Note: break in time series from 2021 due to methodological improvement in the data reported by the Netherlands. The data reported for certain periods contain a significant share of declarations to and from unknown ports. Data from Eurostat (mar_sg_am_cw).</p>	Year	Short sea shipping (million tonnes)	Other seaborne transport (million tonnes)	2008	1650	1100	2009	1500	850	2010	1550	950	2011	1600	1050	2012	1580	1080	2013	1580	1100	2014	1620	1120	2015	1650	1150	2016	1680	1150	2017	1680	1200	2018	1750	1220	2019	1780	1200	2020	1650	1100	2021	1750	1150	2022	1720	1250
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Pursue the objective of zero-emission ports	
Document	On a new approach for a sustainable blue economy in the EU
Assessment	<p> Progress needs to accelerate to reach the target value</p> <p>On-shore power (OPS) can serve as a clean power supply for maritime transport, thus drastically reducing carbon dioxide, nitrogen oxide, sulphur oxide and particulate matter emissions while at berth. However, the availability of "clean/green" electricity installations within ports, as well as the OPS readiness of ships is under progress (EMSA). The cost of implementing these technologies and the complexity of integrating them into existing port infrastructure may be barriers to adoption. While several European ports have initiated clean energy solutions, many still grapple with hurdles in their decarbonisation journey. Challenges persist, ranging from securing funding for electrification and port infrastructure to delays in electricity grid capacity expansion and difficulties in defining viable business models (DNV&DG ENER).</p>

Renovate the EU's maritime fleet (e.g. passenger ships and supply vessels for offshore installations) to improve their energy efficiency

Document	On a new approach for a sustainable blue economy in the EU
Assessment	 Progress needs to accelerate to reach the target value <p>The share of shipping emissions in global anthropogenic emissions has increased from 2.76% in 2012 to 2.89% in 2018. Emissions are projected to increase from about 90% of 2008 emissions in 2018 to 90–130% of 2008 emissions by 2050 for a range of plausible long-term economic and energy scenarios (IMO's Fourth Greenhouse Gas Study 2020). The availability of energy-efficient technologies, such as advanced propulsion systems and waste heat recovery systems, can help reduce energy consumption and emissions. However, the cost of renovation and the complexity of installing new technologies on existing vessels may be barriers to adoption. According to the Co-Programmed Partnership on Zero-Emission Waterborne Transport (https://www.waterborne.eu/), “increasing the energy efficiency of ships has its limits and would not be sufficient to meet either the 2050 level of ambition of the European Green Deal or the targets of the Initial IMO Strategy on Reduction of GHG Emissions from Ships. Only a combination of low and zero-emission innovative solutions, fuels, operational approaches and technologies, initiated by ambitious regulations, can bring about the change needed” (SRIA). Renovating the EU's maritime fleet to improve energy efficiency will require continued investment in research and development, incentives for renovation, and public-private partnerships.</p>

Seamless multimodal passenger transport will be facilitated by integrated electronic ticketing

Document	Sustainable and Smart Mobility Strategy
Assessment	 The pace of progress is sufficient to reach the target value <p>During 2023 an ISSG on the revision of Delegated Regulation 2017/1926 on multimodal travel information services has followed the work by MOVE on the topic. This revision was a fundamental step on the development of integrated electronic ticketing.</p>

Rail and waterborne-based intermodal transport will be able to compete on equal footing with road-only transport in the EU

Document	Sustainable and Smart Mobility Strategy
Assessment	 The target cannot be assessed due to lack of data <p>Difficult to find reliable data on intermodal transport.</p>

Freight transport will be paperless

Document	Sustainable and Smart Mobility Strategy
Assessment	 The target cannot be assessed due to lack of data <p>No data available.</p>

Active transport modes, such as cycling, have seen growth with cities announcing over 2300 km of extra cycling infrastructure. This should be doubled in the next decade towards 5000 km in safe bike lanes

Document	Sustainable and Smart Mobility Strategy
Assessment	 The target cannot be assessed due to lack of data The proposal for a European Declaration on Cycling , adopted in October, recognises cycling as a sustainable, accessible and inclusive, affordable and healthy means of transport, with strong added value for the EU economy. It lists principles to boost cycling. Also important to mention that all Member States plans related to the access to recovery and resilience funds included the construction of new cycling infrastructure. However, it is difficult to quantify at this stage the distance to target.

Annex 5. GREENING THE COMMON AGRICULTURAL POLICY / ‘FARM TO FORK’

EU Food System Model

The EU Food System Model has been developed by the JRC under the EU food system monitoring framework project. It offers a comprehensive overview of the EU food system, identifying key areas crucial for the transition to sustainable food systems. The EU Food System Monitoring [dashboard](#) can be accessed with the accompanying [report](#) describing the concept and related indicators.

The objectives of the Farm to Fork Strategy and the Common Agricultural Policy can address more sustainability domains at the same time. In the table below, the most prominent link between objectives and domain is shown.

EU Food System Model towards sustainable, fair and healthy food system

Thematic areas	Domains	F2F objectives/targets	CAP-CFP objectives
Environmental Dimension			
Climate change	GHG emissions	Ensure that agriculture, fisheries and aquaculture, and the food value chain contribute to the target of reducing greenhouse gas emissions to at least 55% below 1990 levels by 2030 and to the achievement of the objective for a climate neutral Union in 2050.	Contribute to climate change mitigation and adaptation, including by reducing greenhouse gas emissions and enhancing carbon sequestration, as well as promoting sustainable energy
Pollution and antimicrobials	Antimicrobials	Reduce overall EU sales of antimicrobials for farmed animals and in aquaculture by 50% by 2030.	Combat antimicrobial resistance
	Pollution	Reduce the overall use and risk of chemical pesticides by 50%. (target in common with the Biodiversity Strategy and Zero Pollution Action Plan)	Foster sustainable development and efficient management of natural resources such as water, soil and air, including by reducing chemical dependency.
		Reduce the use of more hazardous pesticides by 50% by 2030. (target in common with the Biodiversity Strategy and Zero Pollution Action Plan)	
Sustainable use of resources	Water use	Sustainable use of water. Preserving freshwater, boosting water reuse in agriculture.	
	Land and soil	Sustainable use of soil and land. Preserve land, land use. Protect soil.	
		Increase organic farming with the aim to achieve at least 25% of total farmland under organic farming by 2030. (target in common with the Biodiversity Strategy 2030)	

	Aquatic living resources	Increase sustainable fishing and aquaculture. Bring fish stocks to sustainable levels. Significant increase in organic aquaculture.	
	Energy	Increase renewable energy in agriculture and food sector. Adopt energy efficiency solutions in the agriculture and food sector, by reducing energy consumption.	
Biodiversity	Biodiversity conservation and restoration of natural resources	Protect the environment and restore natural resources. Preserve biodiversity and reduce biodiversity loss.	Contribute to halting and reversing biodiversity loss, enhance ecosystem services and preserve habitats and landscapes
	Genetic biodiversity of food production systems	Secure and ensure access to a range of quality seeds for plant varieties in order to adapt to the pressures of climate change	
Cross-cutting environmental	Circular economy	Scale-up and promote sustainable and socially responsible production methods and circular business models in food processing and retail.	Promote circular bio-economy and sustainable forestry
	Consumption footprints	Reduce the environmental and climate footprint of the EU food system, operating within planetary boundaries. Reduce the EU's contribution to global deforestation and forest degradation	
	Food loss and waste	Reduce food waste. Prevent food loss and waste. Halve per capita food waste at retail and consumer levels by 2030. (target in common with the Amending Directive 2008/98/EC on waste, including food waste reduction target of 30 % by 2025)	Reduce food waste
Economic Dimension			
Fair economic viability in food value chain	Income distribution	Ensure fair income and salaries. Improve income of primary producers to ensure their sustainable livelihood.	Improve farmers' position in the value chain. Enhance market orientation and increase farm competitiveness both in the short and long term, including greater focus on research, technology and digitalisation.
	Sectorial growth	Help farmers and fishers to strengthen their position in the supply chain and to capture a fair share of the added value of sustainable production.	
	Market power and business structure	Improve agricultural rules that strengthen the position of farmers (e.g. producers of products with geographical indications), their cooperatives and producer organisations in the food supply chain.	
	Price	Preserve the price affordability of food.	
	Trade	Foster the competitiveness of the EU supply sector	

Logistics and development	Technology and digitalization	Digitalisation and knowledge transfer. Ensure access to fast broadband to all farmers and all rural areas (enabler for jobs, businesses, investments, improvement in quality of life in rural areas and enabler to mainstream precision farming and use of artificial intelligence)	Modernise agriculture and rural areas through fostering and sharing knowledge, innovation and digitalisation, and by encouraging their uptake by farmers through improved access to research, innovation, knowledge exchange and training
	Transport, accessibility and infrastructure	Create shorter supply chains will support reducing dependence on long-haul transportation.	
Social Dimension			
Fair, Inclusive and Ethical food system	Employment and working conditions	Create new job opportunities. Improve working conditions, ensure occupation health and safety.	Attract and sustain young farmers and new farmers and facilitate sustainable business development in rural areas. Promote employment, growth, gender equality, including the participation of women in farming, social inclusion and local development in rural areas
	Social protection and Poverty	Ensure Fair, inclusive and ethical value chains. Improve working conditions, ensure occupation health and safety. Ensure workers' social protection and housing conditions; promote socially responsible production methods; Mitigate the socio-economic consequences impacting the food chain and ensure that the key principles enshrined in the European Pillar of Social Rights are respected, especially when it comes to precarious, seasonal and undeclared workers.	
	Animal welfare	Promote better animal welfare to improve animal health and food quality	Improve animal welfare
Food environment	Food messaging	Provide food information and labelling to empower consumers to make informed, healthy and sustainable food choices. Strengthen educational messages on the importance of healthy nutrition, sustainable food production and consumption, and reducing food waste.	Improve the response of EU agriculture to societal demands on food and health, including high-quality, safe and nutritious food produced in a sustainable way.
	Food availability	Improve availability of sustainable food. Ensure that the healthy option is always the easiest one. Ensure food supply.	
	Food affordability	Ensure affordability and access to sufficient, nutritious and sustainable food.	

	Properties of food	Increase reformulation of food products in line with guidelines for healthy and sustainable diets	
	Food heritage	Consider an extension of mandatory origin or provenance indications to certain products	
Nutrition and Health	Nutrition and healthy, sustainable diets	Move to healthy and sustainable diets	
	Health impact from diets	Reversing the rise in overweight and obesity rates across the EU by 2030 is critical	
	Food security	Ensure food security and access to quality, safe, sustainable, nutritious food for all	
Resilience	Preparedness	Strengthen the resilience of the EU food system. Build up resilience to climate change, and possible future diseases and pandemics. Increasing the sustainability of food producers will ultimately increase their resilience.	Support viable farm income and the resilience of the agricultural sector across the EU, in order to enhance long-term food security and agricultural diversity, as well as to ensure the economic sustainability of agricultural production
	Shock resilience		
	Adaptation		
	Transformation		

Source: JRC elaboration based on the [EU Food System Monitoring framework](#) (note: the governance thematic area with its domains is not presented in this table), the [Farm to Fork Strategy](#), the [Common Fisheries Policy](#) (CFP) objectives and the 10 objectives of the [CAP Strategic Plans](#).

Targets from Communications (non-binding)

Antimicrobials

Reduce overall EU sales of antimicrobials for farmed animals and in aquaculture by 50% by 2030	
Document	Farm to Fork Strategy
Assessment	 The pace of progress is sufficient to reach the target value According to the 13th ESVAC report, the sales of antimicrobials for food-producing animals in the EU27 have decreased by 28.3% between 2018 and 2022. The Farm to Fork (F2F) target, established in 2020, used 2018's data as a baseline (118.6 mg/PCU). The goal for 2030 is set at 59.3 mg/PCU. In 2022, the sales in the EU27 were recorded at 85 mg/PCU, marking a decrease of 33.6 mg/PCU from the baseline. This 33.6 mg/PCU reduction in four years represents 56.6% of the total reduction planned, underscoring substantial progress toward meeting the F2F target. This reduction indicates that over half of the target has been met, suggesting the full target is achievable by 2030.
Indicator	Sales of antimicrobials for food producing animals (Source: EMA)

Trend	Sales of antimicrobials for food producing animals, in mg/PCU (Population correction unit)												
<p>The graph plots Sales of antimicrobials for food producing animals in mg/PCU against the Year. The data points are as follows:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Sales (mg/PCU)</th> </tr> </thead> <tbody> <tr><td>2018</td><td>118</td></tr> <tr><td>2019*</td><td>95</td></tr> <tr><td>2020*</td><td>102</td></tr> <tr><td>2021</td><td>97</td></tr> <tr><td>2022</td><td>85</td></tr> </tbody> </table> <p>Source: JRC elaboration based on data from EMA (European Medicines Agency). Note: * 2020 value obtained from the 11th ESVAC report for year 2019 and 2020.</p>		Year	Sales (mg/PCU)	2018	118	2019*	95	2020*	102	2021	97	2022	85
Year	Sales (mg/PCU)												
2018	118												
2019*	95												
2020*	102												
2021	97												
2022	85												

Pollution

Pollution. Reduce by 50% the use and risk of chemical pesticides (target in common with the Biodiversity Strategy and Zero Pollution Action Plan)																											
Document	<u>Farm to Fork Strategy</u>																										
Assessment	The pace of progress is sufficient to reach the target value According to a trend analysis by DG SANTE, the use and risk of chemical pesticides decreased by 14% between the baseline period of 2015–2017 and 2020. The use and risk of chemical pesticides shows a decrease of 6% from 2020, and an overall decrease in the first four years of observation of 33% from the baseline period of 2015–2017. These overall downward trends shows that the target can be achieved by 2030 ⁸ (Franco et al., 2023).																										
Indicator	Use and risk of chemical pesticides (Source: DG SANTE)																										
Trend	Trend in the use and risk of chemical pesticides in EU, 2011–2022 and 2030 target <p>The graph plots the Use and Risk Index (Index) against the Year. The data points are as follows:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Index</th> </tr> </thead> <tbody> <tr><td>2011</td><td>116</td></tr> <tr><td>2012</td><td>105</td></tr> <tr><td>2013</td><td>101</td></tr> <tr><td>2014</td><td>105</td></tr> <tr><td>2015</td><td>106</td></tr> <tr><td>2016</td><td>101</td></tr> <tr><td>2017</td><td>92</td></tr> <tr><td>2018</td><td>93</td></tr> <tr><td>2019</td><td>85</td></tr> <tr><td>2020</td><td>73</td></tr> <tr><td>2021</td><td>66</td></tr> <tr><td>2022</td><td>54</td></tr> </tbody> </table> <p>Farm to Fork target (2030) X</p> <p>Source: EU Trends - European Commission. Note: for the index the baseline period taken as reference (100) is 2015–2017 years.</p>	Year	Index	2011	116	2012	105	2013	101	2014	105	2015	106	2016	101	2017	92	2018	93	2019	85	2020	73	2021	66	2022	54
Year	Index																										
2011	116																										
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2020	73																										
2021	66																										
2022	54																										

⁸ It should be noted that the current EU-wide indicator, which applies risk weightings to four different groups of chemical pesticides and is based on pesticide sales, is not considered scientifically robust by some. This indicator is based on a similar harmonised risk indicator, which, according to the European legislation (Commission Directive (EU) 2019/782), is considered hazard-based. This is due to the absence of statistics on the use of plant protection products needed to develop a risk indicator. The Commission is committed to developing more sophisticated indicators in future, such as improved weightings that take hazard properties into account in a more granular way or by using EU-level data on pesticide usage when it becomes available. An example of such an improvement is the new risk indicator assessing the toxicity of pesticide residues in soil from samples collected under the [LUCAS Soil Pesticide survey](#) coordinated by JRC. According to this indicator, in 2018, 14% of sites in the EU were at risk of negative effects on soil organisms due to pesticide residues. The analysis of samples from 2022 is currently ongoing and will shed light on the EU's progress towards pesticide risk reductions. This indicator is relevant to only one compartment (soil) but is just one of many being examined for usefulness and relevance.

Reduce by 50% the use of more hazardous pesticides

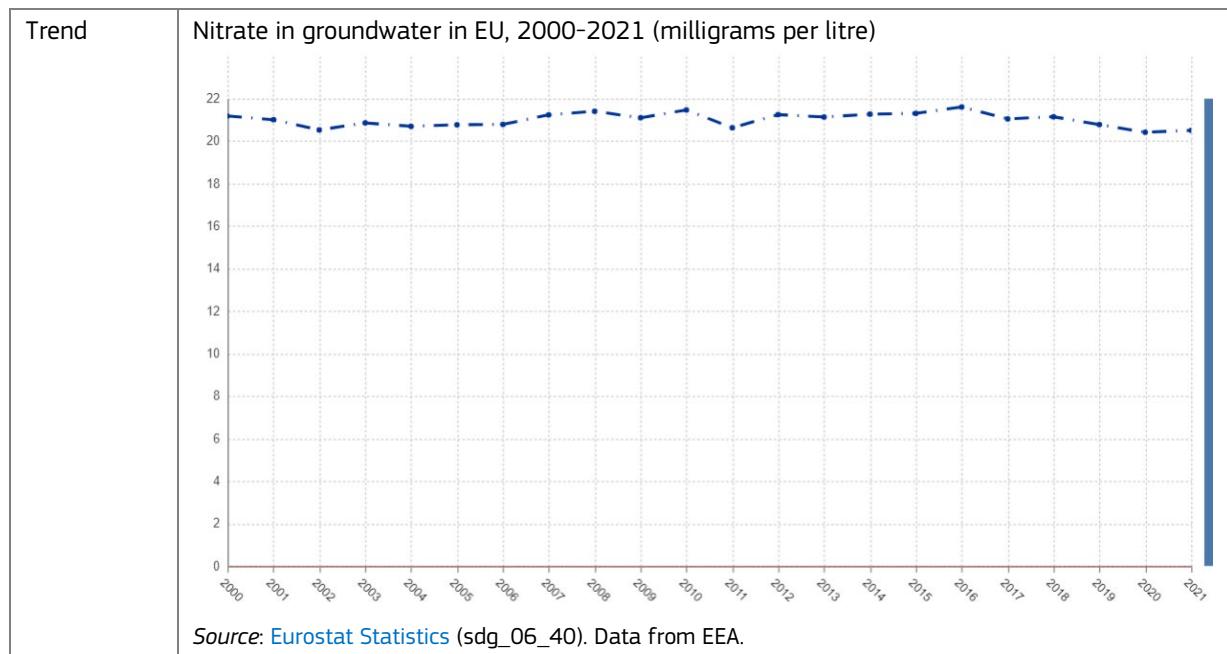
(target in common with the Biodiversity Strategy and Zero Pollution Action Plan)

Document	Farm to Fork Strategy																										
Assessment	! Progress needs to accelerate to reach the target value <p>According to data published by DG SANTE, the use of more hazardous pesticides fell by 21% between the baseline period of 2015–2017 and 2021. The use of more hazardous pesticides shows an increase of 5% from 2020 to 2021. Achievement of the 50% reduction target by 2030 remains challenging.</p> <p>It should be noted, while this indicator intends to monitor the use of the more hazardous pesticides, it does not take into account the exposure and hence the impact they might have on the environment and human health. In the future, this indicator should be complemented with a risk indicator showing changes in the actual risks⁹.</p>																										
Indicator	Use of more hazardous pesticides (Source: DG SANTE)																										
Trend	<p>Trend in the use of more hazardous pesticides in EU, 2011-2022 and 2030 target</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Index (approx.)</th> </tr> </thead> <tbody> <tr><td>2011</td><td>98</td></tr> <tr><td>2012</td><td>94</td></tr> <tr><td>2013</td><td>97</td></tr> <tr><td>2014</td><td>100</td></tr> <tr><td>2015</td><td>103</td></tr> <tr><td>2016</td><td>103</td></tr> <tr><td>2017</td><td>94</td></tr> <tr><td>2018</td><td>95</td></tr> <tr><td>2019</td><td>83</td></tr> <tr><td>2020</td><td>74</td></tr> <tr><td>2021</td><td>79</td></tr> <tr><td>2022</td><td>75</td></tr> </tbody> </table> <p>Source: EU Trends - European Commission. Note: for the index the baseline period taken as reference (100) is 2015–2017 years.</p>	Year	Index (approx.)	2011	98	2012	94	2013	97	2014	100	2015	103	2016	103	2017	94	2018	95	2019	83	2020	74	2021	79	2022	75
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Reduce nutrient losses by at least 50%, while ensuring that there is no deterioration in soil fertility.

Document	Farm to Fork Strategy
Assessment	! Progress needs to accelerate to reach the target value <p>The EU aggregate based on 18 Member States shows a positive trend (– 0.7% annual growth rate) between 2015-2020. However, this is slight reduction still far away from the 50% aimed by 2030. It should be noted that the long-term trend (2005-2020) for the EU aggregate was rather stagnant (0.003 % annual growth rate).</p>
Indicator	Nitrate in groundwater (Source: EEA)

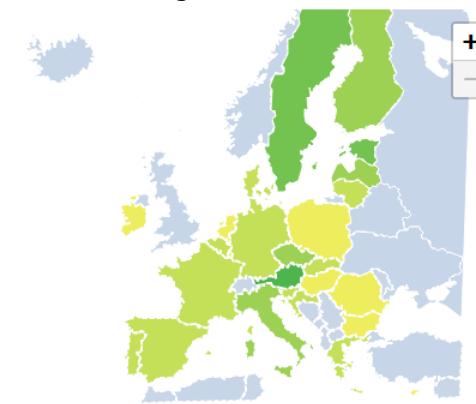
⁹ Options include better grouping of substances, group weighting reflecting substances' toxicities, standardisation of sales data with recommended application rates and utilisation of pesticide use data instead of the sales data as the basis for a new indicator.



Land and soil

Increase organic farming with the aim to achieve at least 25% of total farmland under organic farming by 2030

(target in common with the Biodiversity Strategy 2030)

Document	Farm to Fork Strategy
Assessment	 Progress needs to accelerate to reach the target value Moderate progress rate, but not enough to reach the target by 2030. The compound annual growth rate (CAGR) is 6.7% per year (observed i.e. increased from 5.6% to 9.1% (2012-2020)), while 9.3% per year would be required to meet target.
Indicator	Area under organic farming as percentage of the total utilised agricultural area (Source: Eurostat)
Chart	Area under organic farming in EU 27 (% of the total utilised agricultural area) <div style="display: flex; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> EU 27 Target 2030: 25%  </div> <div style="flex-grow: 1;">  <div style="display: flex; justify-content: space-around; width: 100%;"> 0% - 6.3% 6.3% - 12.5% 12.5% - 18.8% 18.8% - 25% > 25% </div> </div> </div> <p>Source: EU Biodiversity Strategy Dashboard, consulted in June 2024. Data from Eurostat (sdg_02_40). Note: This indicator measures the percentage of total utilised agricultural area, by Member State and at EU level, occupied by organic farming. It includes both existing organically-farmed areas and areas in the process of conversion. Values are calculated and provided every year by Eurostat based on data provided by the Member States.</p>

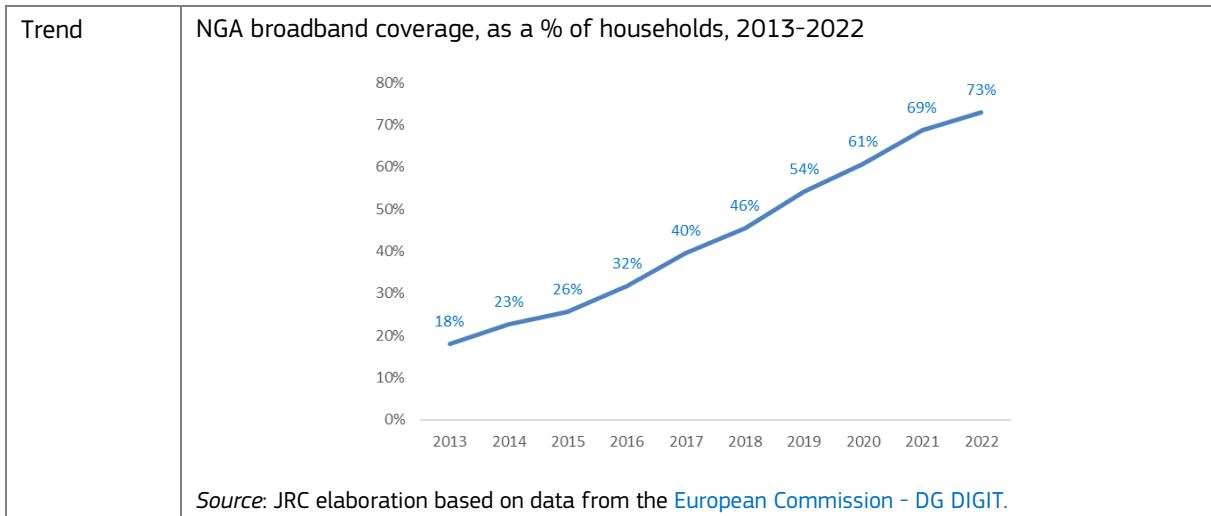
Trend	<p>Area under organic farming in EU 27 (% of the total), 2000-2020 and 2030 target</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Area under organic farming (% of the total)</th> </tr> </thead> <tbody> <tr><td>2000</td><td>~2</td></tr> <tr><td>2005</td><td>~3</td></tr> <tr><td>2010</td><td>~4</td></tr> <tr><td>2015</td><td>~6</td></tr> <tr><td>2020</td><td>~9</td></tr> <tr><td>2030 (Projected)</td><td>> 20</td></tr> </tbody> </table> <p>Source: JRC elaboration based on data from Eurostat (sdg_02_40).</p>	Year	Area under organic farming (% of the total)	2000	~2	2005	~3	2010	~4	2015	~6	2020	~9	2030 (Projected)	> 20
Year	Area under organic farming (% of the total)														
2000	~2														
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2030 (Projected)	> 20														

Food waste

Halve per capita food waste at retail and consumer levels	
Document	Farm to Fork Strategy
Assessment	<p>! Progress needs to accelerate to reach the target value</p> <p>The indicator measures the amount of food waste for all stages of the supply chain reported by the Member States. It should be noted that at the moment only two data points are available, 2020 and 2021, therefore it is still early to define a clear trend. The Member States should report on food waste every year, using primary data at least once every four years. Based on the analysis performed in the impact assessment of the Proposal for a Directive of the European Parliament and of the Council amending Directive 2008/98/EC on waste, this target was not deemed to be feasible to achieve. In the Proposal the target has been redefined with a reduction of food consumption by 30% at retail and consumption level, plus a reduction by 10% in manufacturing (see thematic area 3).</p>
Indicator	Food Waste (Source: Eurostat)

Technology and digitalization

Digitalisation and knowledge transfer. Ensure access to fast broadband to all farmers and all rural areas to achieve the objective of 100% access by 2025 (enabler for jobs, businesses, investments, improvement in quality of life in rural areas and enabler to mainstream precision farming and use of artificial intelligence)	
Document	Farm to Fork Strategy
Assessment	<p>! Progress needs to accelerate to reach the target value</p> <p>Rural NGA broadband availability in NGA has significantly improved over the past decade, with the percentage of households having access increasing from 18% of rural households in 2013 to 73% in 2022. However, the objective of achieving 100% coverage by 2025 is at risk at the current pace. Most Member States remain above the EU average of 73%. However, despite showing growth in the last decade, some Member States e.g. France (2013: 16%, 2022: 59%), Poland (2013: 18%, 2022: 40%) Croatia (2013: >1%, 2022: 52%) still lag behind.</p>
Indicator	Rural next generation access (NGA) broadband coverage (Source: DG DIGIT)



Other indicators for EU food system assessment

GHG emissions

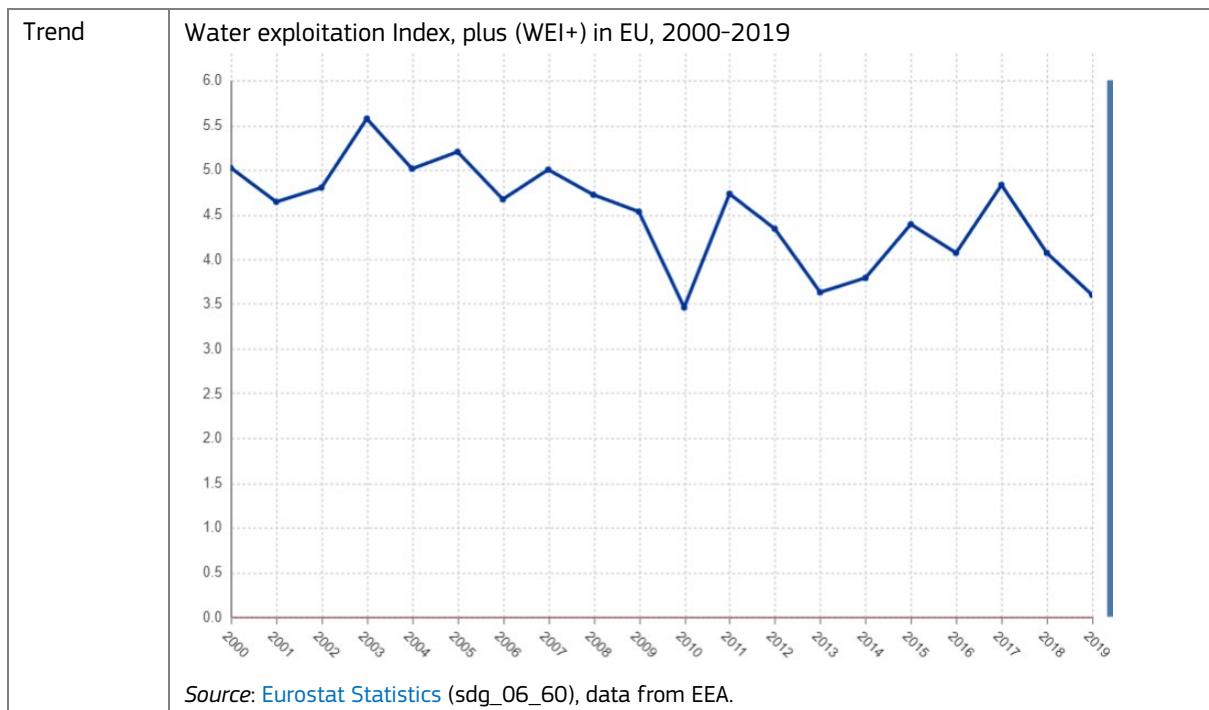
Ensure that agriculture, fisheries and aquaculture, and the food value chain contribute to the target of reducing greenhouse gas emissions to at least 55% below 1990 levels by 2030 and to the achievement of the objective for a climate neutral Union in 2050.

Document	<u>Farm to Fork Strategy</u>																																
Indicator	GHG food system emissions (<i>Source: JRC EDGAR Food</i>)																																
Assessment	The trend (from 1990 to 2018) of this indicator for the EU 27 countries covering the GHG emission from the entire food value chain (from production to consumption within the EU territory) is in the desired direction to contribute to the 55% reduction and climate neutrality targets set by the EC for all economic sectors in the EU combined. However, the lack of current data, and the unpredictability of certain components of the GHG food system emission indicator (as temporal or geographical changes in LULUC), make the prediction to 2030 very uncertain. In 2018 (the last recorded year in the time series) the total EU GHG food system emissions represented 85.86% of the GHG food system emissions in 1990).																																
Trend	<p>GHG food system emissions (kt CO₂eq, GWP-100 AR5) including LULUC, 1990-2018</p> <table border="1"> <caption>Data for GHG food system emissions (kt CO₂eq, GWP-100 AR5) including LULUC, 1990-2018</caption> <thead> <tr> <th>Year</th> <th>Emissions (kt CO₂eq)</th> </tr> </thead> <tbody> <tr><td>1990</td><td>1,250,000</td></tr> <tr><td>1992</td><td>1,230,000</td></tr> <tr><td>1994</td><td>1,210,000</td></tr> <tr><td>1996</td><td>1,190,000</td></tr> <tr><td>1998</td><td>1,170,000</td></tr> <tr><td>2000</td><td>1,160,000</td></tr> <tr><td>2002</td><td>1,170,000</td></tr> <tr><td>2004</td><td>1,180,000</td></tr> <tr><td>2006</td><td>1,190,000</td></tr> <tr><td>2008</td><td>1,200,000</td></tr> <tr><td>2010</td><td>1,210,000</td></tr> <tr><td>2012</td><td>1,220,000</td></tr> <tr><td>2014</td><td>1,230,000</td></tr> <tr><td>2016</td><td>1,240,000</td></tr> <tr><td>2018</td><td>1,050,000</td></tr> </tbody> </table> <p><i>Source: JRC elaboration based on data from JRC EDGAR-FOOD (Emissions Database for Global Atmospheric Research). Note: Total GHG emissions (including CO₂, CH₄, N₂O and F-gases) are expressed as CO₂equivalents calculated using the GWP100 values used in the IPCC AR5. Further methodology details can be found in Crippa et al 2021.</i></p>	Year	Emissions (kt CO ₂ eq)	1990	1,250,000	1992	1,230,000	1994	1,210,000	1996	1,190,000	1998	1,170,000	2000	1,160,000	2002	1,170,000	2004	1,180,000	2006	1,190,000	2008	1,200,000	2010	1,210,000	2012	1,220,000	2014	1,230,000	2016	1,240,000	2018	1,050,000
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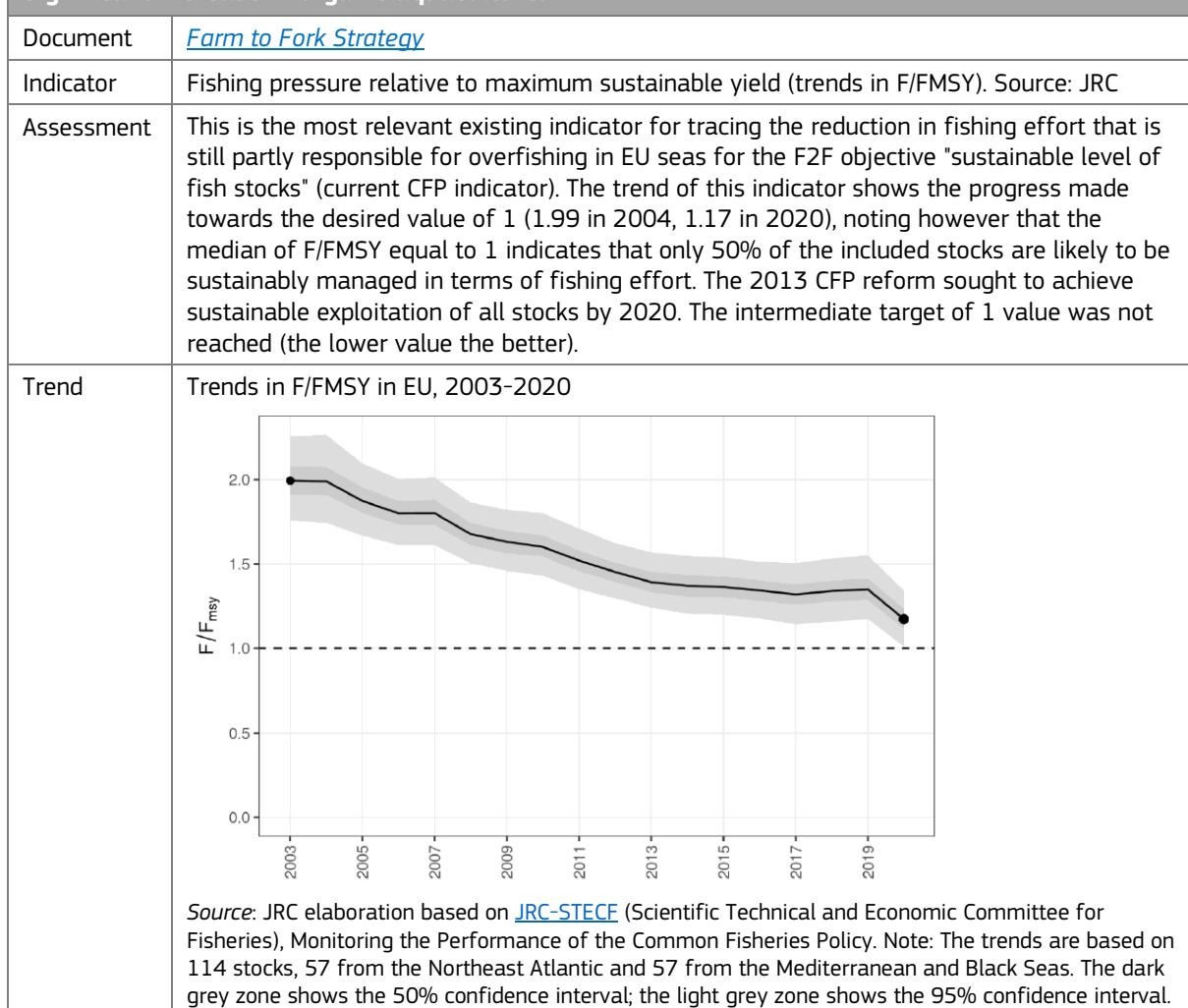
Sustainable use of resources

Sustainable use of water. Preserving freshwater, boosting water reuse in agriculture

Document	<u>Farm to Fork Strategy</u>
Indicator	Water use in agriculture: Water exploitation index, plus - WEI+ (<i>Source: EEA</i>)
Assessment	Overall, using a 3-year moving average, the EU27 has seen a 14% improvement in the Water Exploitation Index (WEI+) compared to 2011. This improvement was observed in 14 Member States (MSs). However, further improvements are necessary. Efforts are needed to reduce the inequality in total water use as a percentage of the renewable freshwater resources, between Member States, especially in the Mediterranean area. (Renewable freshwater resources in the WEI+ index are computed considering mainly a change in the water storage capacity (groundwater and surface water) of the given territory). For example, Cyprus had a WEI+ of 113% in 2019, in contrast to France's 2.8%. Seven Member States recorded a WEI+ score of less than 1, indicating that their water storage capacity exceeded their consumption.



Blue food. Increase sustainable fishing and aquaculture. Bring fish stocks to sustainable levels. Significant increase in organic aquaculture.



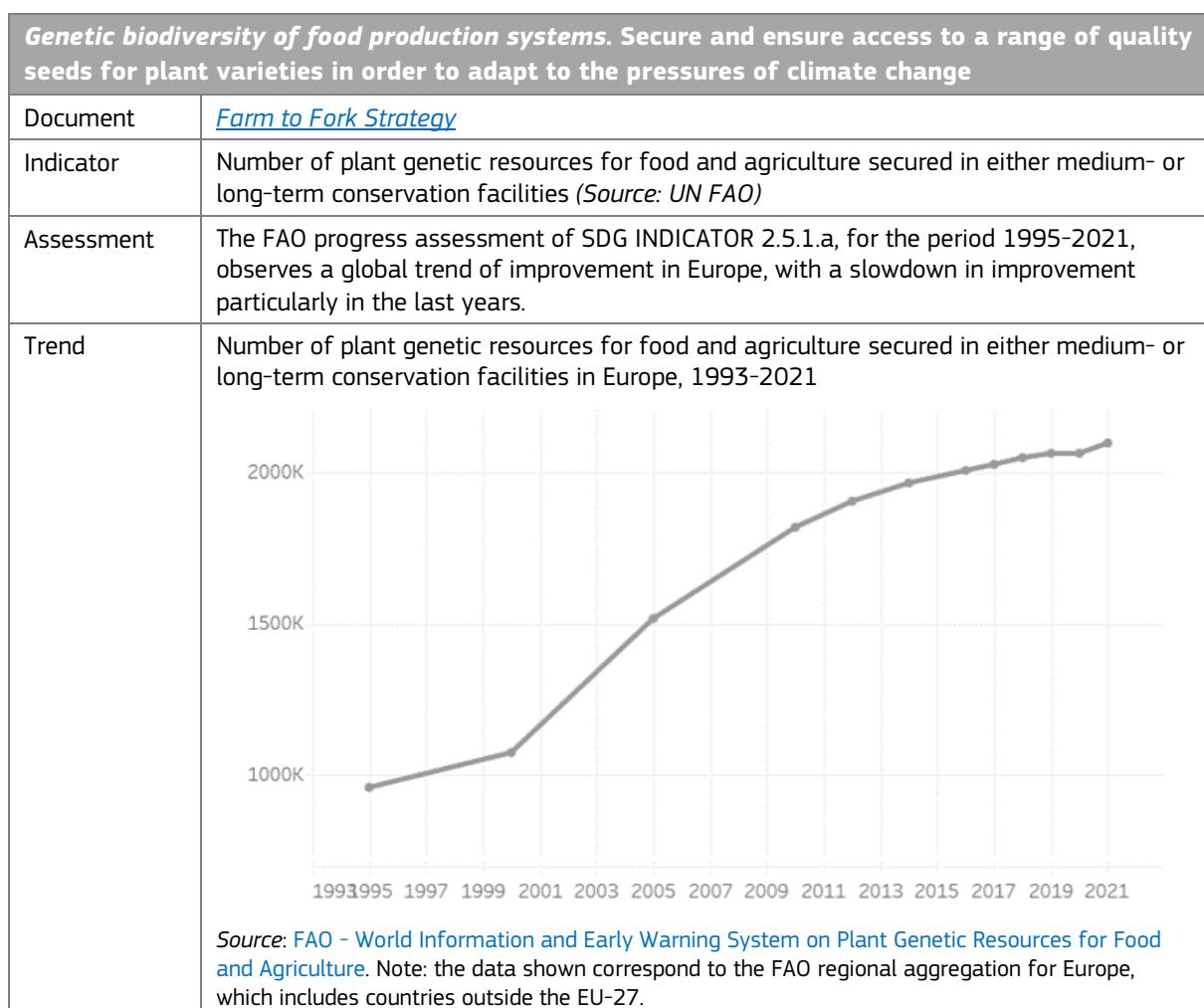
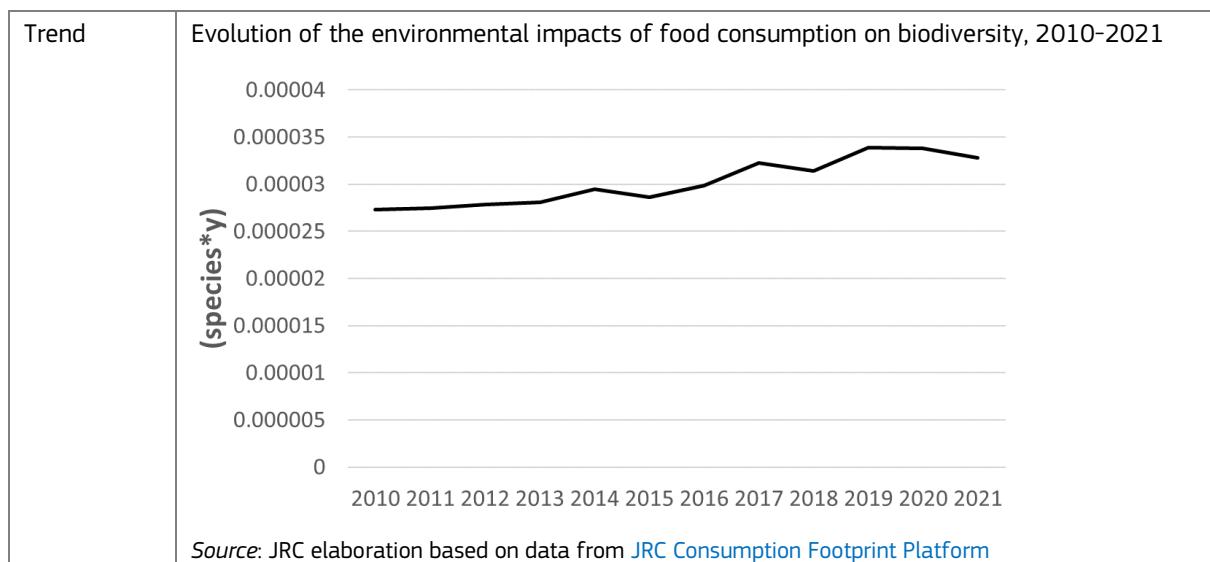
Energy. Increase renewable energy in agriculture and food sector. Adopt energy efficiency solutions in the agriculture and food sector, by reducing energy consumption.

Document	<u>Farm to Fork Strategy</u>
Indicator	Final energy consumption in agriculture, forestry and food industry (Source: Eurostat)
Assessment	<p>Overall, there has been an increase in energy consumption for both agriculture and forestry, as well as the overall food industry, by 7.4 % and 13.5% respectively compared to 2011. The annual rate of increase is 0.8% for agriculture and forestry and 1.7% for the food industry. Across Europe, these two sectors have consumed 54,317 thousand tonnes of oil equivalent, evenly split between them. France and Germany lead in total energy consumption. For the overall food industry, there has been a noticeable decrease of 1% in France, while Germany experienced an increase of 5.8% compared to 2011. In agriculture and forestry, France and the Netherlands lead in energy consumption, with increases of 1.3% and 9.9%, respectively. Consequently, efforts are required to enhance energy efficiency and achieve the objective of reducing energy consumption at the EU level.</p>
Trend	<p>Final energy consumption in agriculture, forestry and food industry in EU27, 1995–2022 <i>(in thousand tonnes of oil equivalent)</i></p> <p>Source: Eurostat Statistics</p>

Biodiversity

Biodiversity conservation and restoration of natural resources. Protect the environment and restore natural resources. Preserve biodiversity and reduce biodiversity loss.

Document	<u>Farm to Fork Strategy</u>
Indicator	Consumption Footprint - Food (biodiversity loss) (Source: JRC)
Assessment	<p>The impacts on global species richness due to the supply chain of food products consumed in the EU (produced either in the EU or in other world regions) have increased during the last decade. This results from increasing food consumption, as well as increasing consumption of animal-based products. Main drivers of biodiversity loss are associated to land use and climate change impacts. Observed trends in consumption patterns are not expected to change to an extent to revert this trend by 2030.</p>

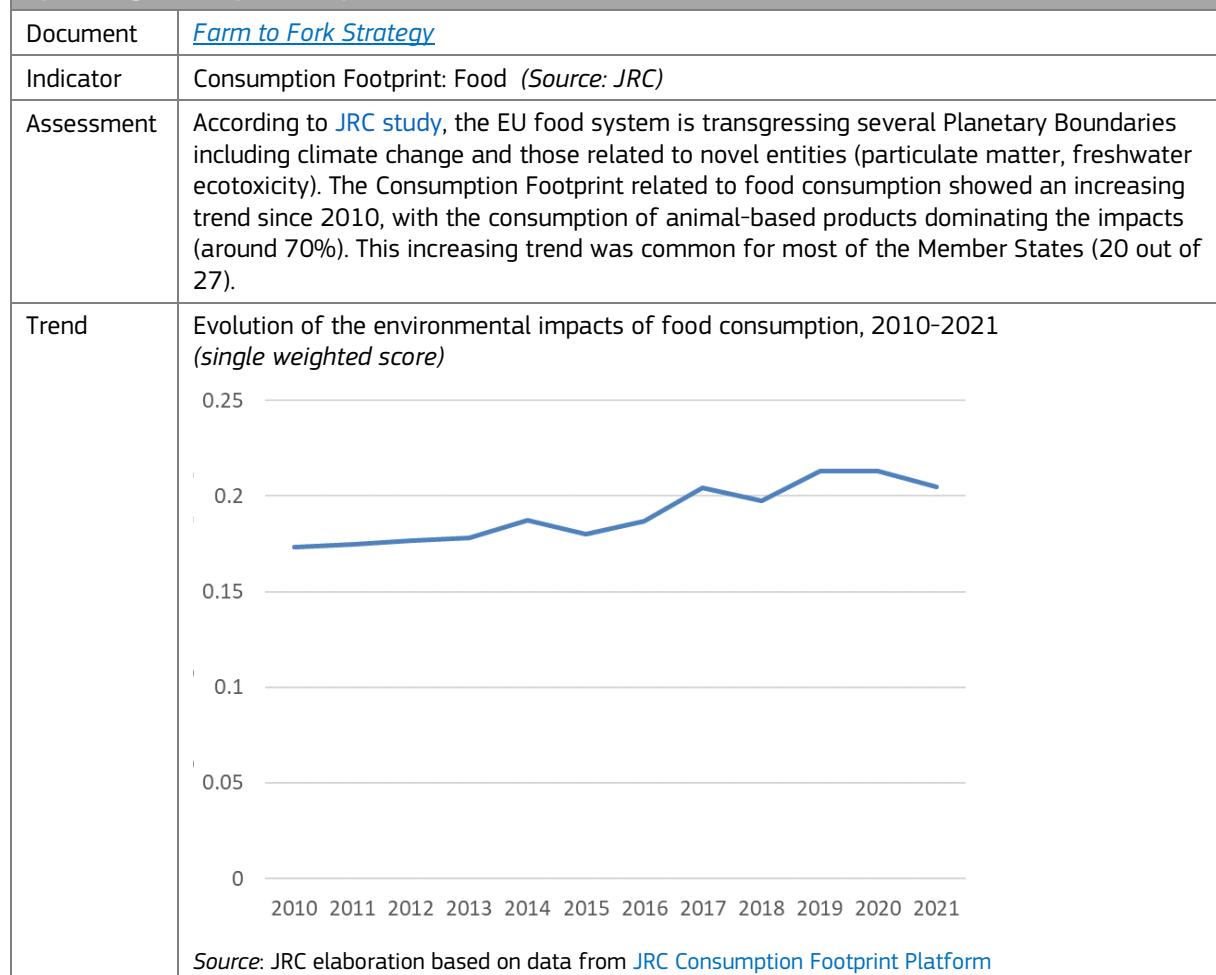


Cross-cutting environmental

Circular economy. Scale-up and promote sustainable and socially responsible production methods and circular business models in food processing and retail.

Document	Farm to Fork Strategy
Assessment	No adequate indicator is available at the moment to assess this objective.

Consumption footprint. Reduce the environmental and climate footprint of the EU food system, operating within planetary boundaries.



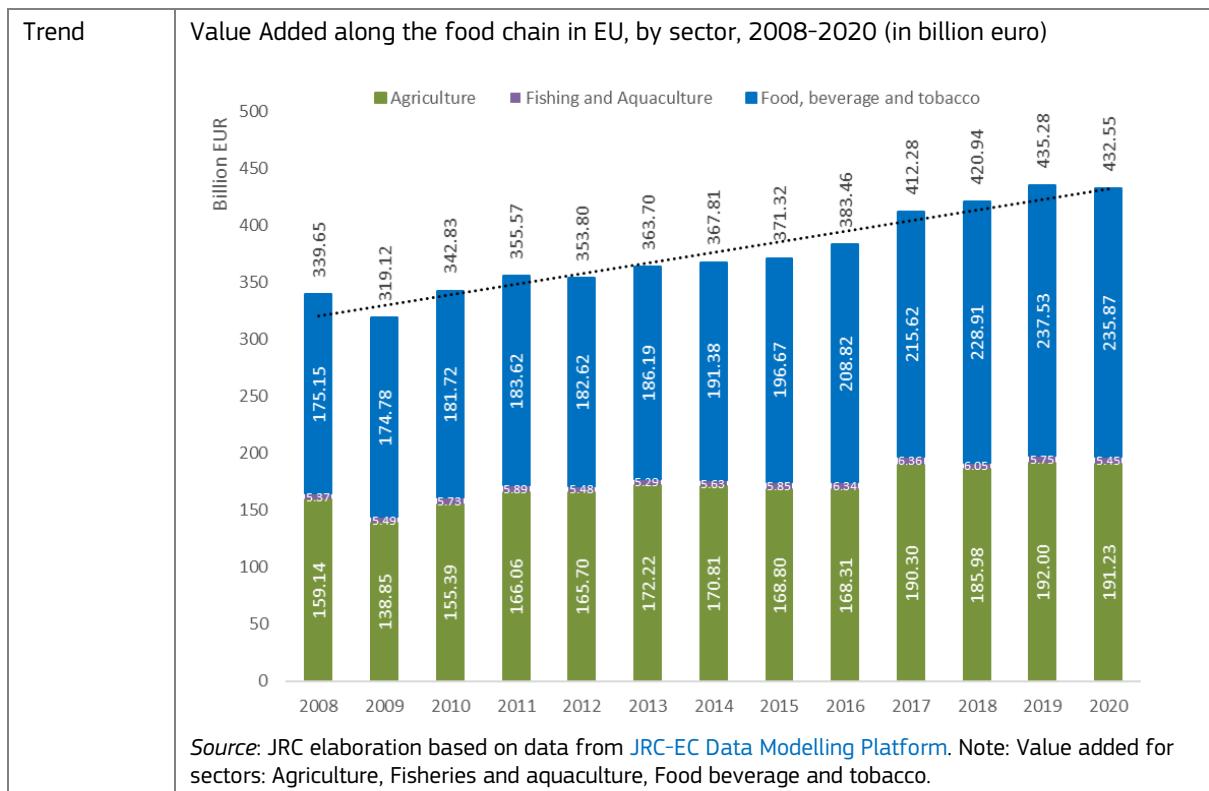
Fair economic viability in food value chain

Income distribution. Ensure fair income and salaries. Improve income of primary producers to ensure their sustainable livelihood.

Document	Farm to Fork Strategy
Indicator	Farmers' income compared to wages in the rest of the economy (Share of average wage in whole economy) (Source: DG AGRI)

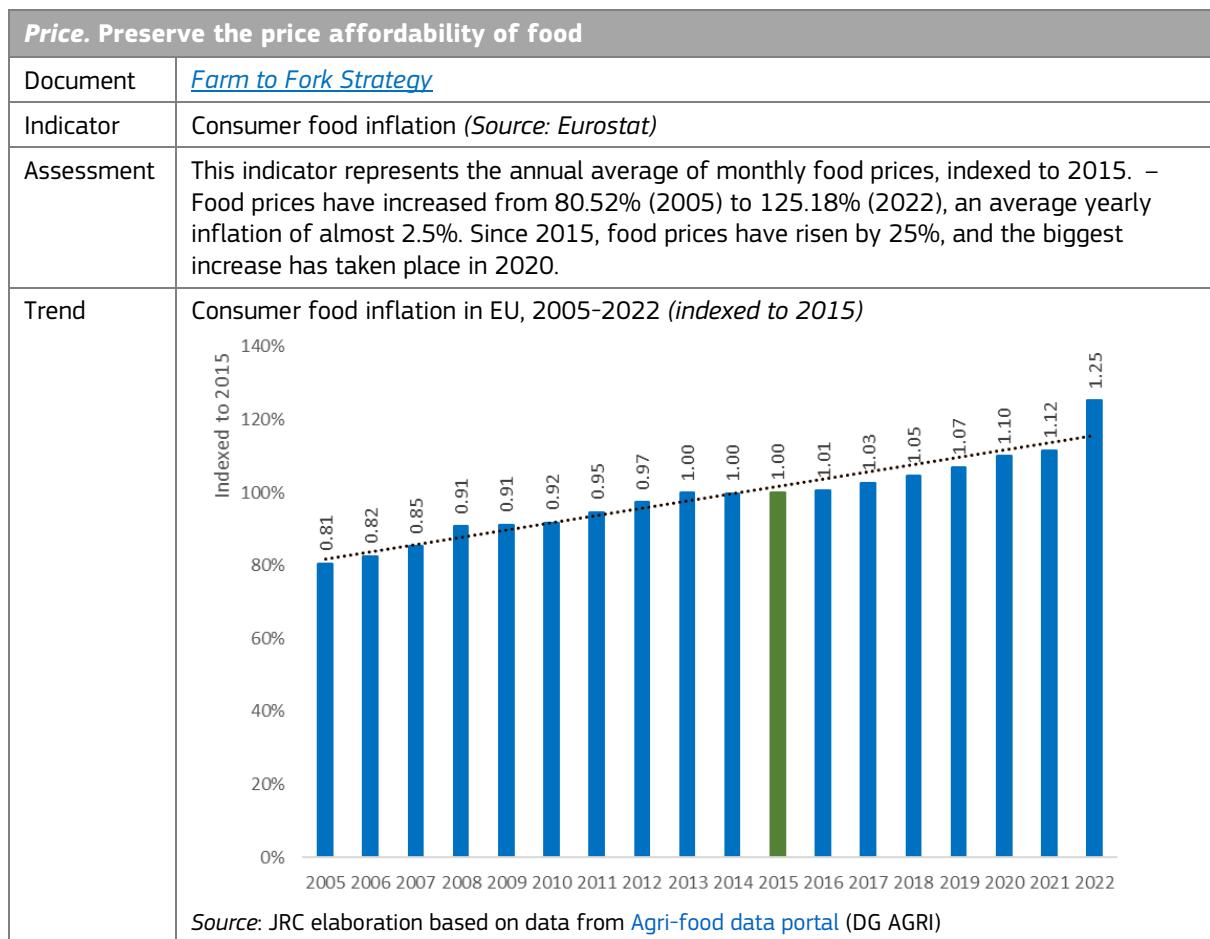
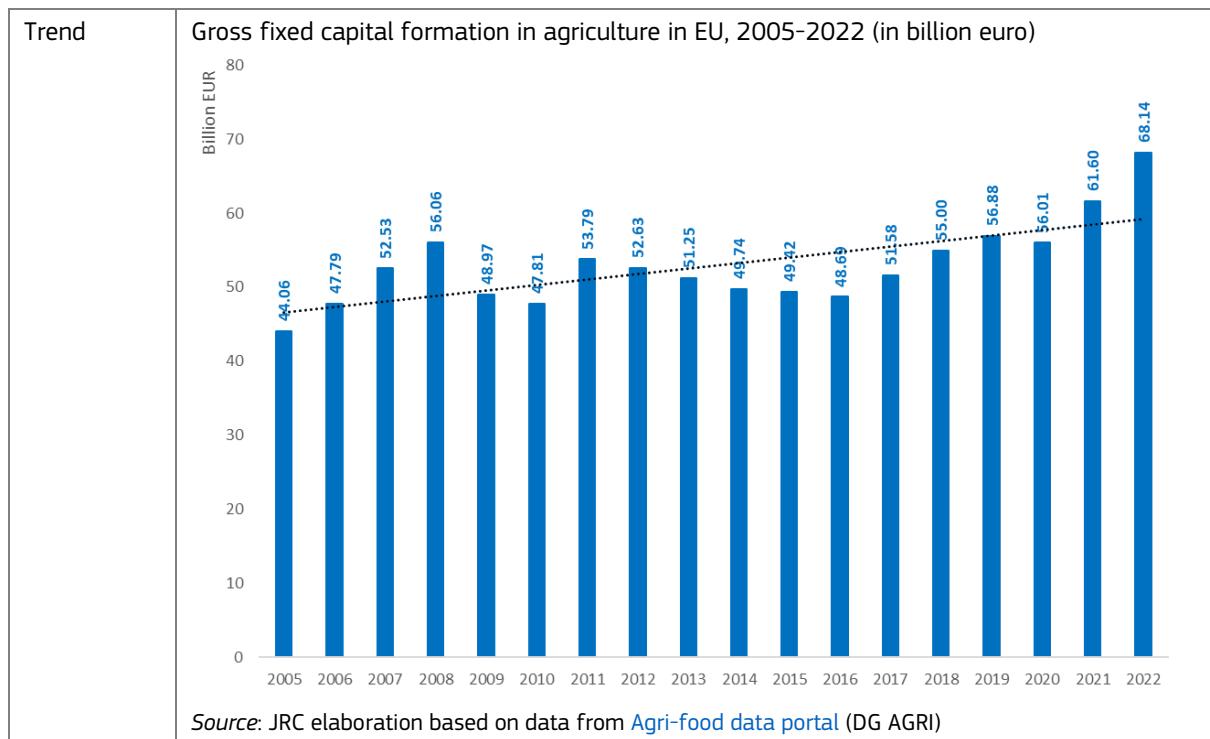
Assessment	Overall, this indicator compares agricultural income to average wages in the economy and provides an estimate for the average income opportunities that a person would have outside of agriculture. It has increased from 31% to 52% between 2005 and 2021 at the EU level, reflecting a CAGR of 3% in this time frame. However, there are discrepancies among Member States. While in certain Member States, such as Hungary and France, farmers' income compared to other wages in the economy has grown more than the EU average, in other Member States like Italy and Belgium, have remained below the EU average or has shown decreasing trend (e.g., Estonia, Austria). In addition, although the average farm income per worker in the EU has steadily increased over the past decade (by 56% from 2013 to 2021), income levels do not only vary significantly across EU countries, but also across farming sector and farm size. In particular, farm economic size significantly influences income as higher costs per hectare associated with larger farms are compensated by higher production, leading to greater overall profitability																																				
Trend	<p>Farmers' income compared to wages in the rest of the economy in EU, 2005-2021 <i>(Share of average wage in whole economy)</i></p> <table border="1"> <thead> <tr> <th>Year</th> <th>Share of average wage in whole economy (%)</th> </tr> </thead> <tbody> <tr><td>2005</td><td>31%</td></tr> <tr><td>2006</td><td>32%</td></tr> <tr><td>2007</td><td>37%</td></tr> <tr><td>2008</td><td>33%</td></tr> <tr><td>2009</td><td>26%</td></tr> <tr><td>2010</td><td>37%</td></tr> <tr><td>2011</td><td>42%</td></tr> <tr><td>2012</td><td>41%</td></tr> <tr><td>2013</td><td>43%</td></tr> <tr><td>2014</td><td>43%</td></tr> <tr><td>2015</td><td>41%</td></tr> <tr><td>2016</td><td>40%</td></tr> <tr><td>2017</td><td>48%</td></tr> <tr><td>2018</td><td>46%</td></tr> <tr><td>2019</td><td>48%</td></tr> <tr><td>2020</td><td>49%</td></tr> <tr><td>2021</td><td>52%</td></tr> </tbody> </table> <p>Source: JRC elaboration based on data from Agri-food data portal (DG AGRI).</p>	Year	Share of average wage in whole economy (%)	2005	31%	2006	32%	2007	37%	2008	33%	2009	26%	2010	37%	2011	42%	2012	41%	2013	43%	2014	43%	2015	41%	2016	40%	2017	48%	2018	46%	2019	48%	2020	49%	2021	52%
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Sectorial growth. Help farmers and fishers to strengthen their position in the supply chain and to capture a fair share of the added value of sustainable production	
Document	Farm to Fork Strategy
Indicator	Value Added along the food chain (<i>Source: JRC</i>)
Assessment	This indicator measures the economic contribution in the agriculture, fishing and aquaculture, as well as the food, beverage, and tobacco sectors. Among these sectors, the food, beverage, and tobacco sector constitute the largest portion of the overall agri-food value chain (over 50%), followed by the agriculture sector. The total value added in the food and agriculture sector has increased from 340K in 2008 to 433.5K in 2020 in the EU, with a CAGR of 2%. The compound growth in the manufactured food sector has been higher (2.5%) than the growth in the agriculture sector (1.5%).



Market power and business structure. Improve agricultural rules that strengthen the position of farmers (e.g. producers of products with geographical indications), their cooperatives and producer organisations in the food supply chain.

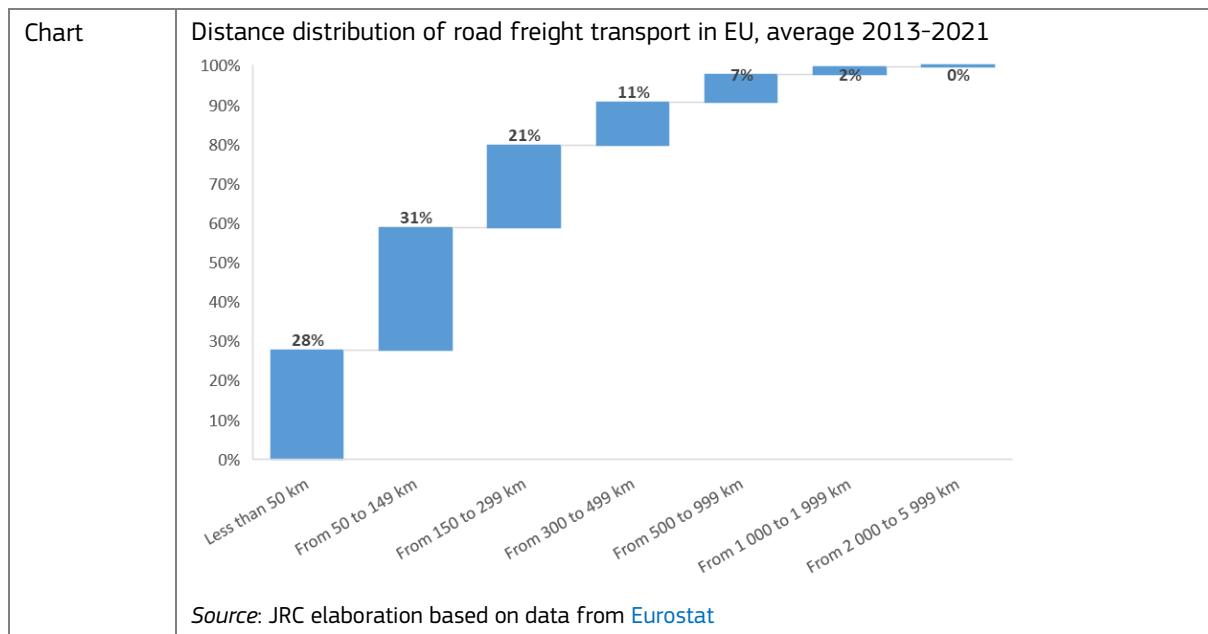
Document	Farm to Fork Strategy
Indicator	Gross fixed capital formation in agriculture (<i>Source: DG AGRI</i>)
Assessment	<p>This indicator is important to assess the level of investment and development in the agricultural sector. Among Member States, the level of gross fixed capital formation varies. Most Member States surpass the EU average. While countries such as France and Germany have the highest capital formation in agriculture, some Member States lag behind e.g. Czechia, Bulgaria, Estonia.</p> <p>In the EU as a whole, gross fixed capital formation in agriculture has increased from 44 Billion Euro in 2005 to 68 Billion Euro in 2022, corresponding to a CAGR of 2.8% and a percentage increase of 55%. The growth rates also vary across Member States. As expected, the countries with the highest capital formation show limited growth trend e.g. Germany, while highest growth rates are observed in the countries that had lower starting values e.g. Romania, Bulgaria.</p>



Trade. Foster the competitiveness of the EU supply sector																																																																							
Document	<u>Farm to Fork Strategy</u>																																																																						
Indicator	Agricultural and food products trade balance (<i>Source: Eurostat</i>)																																																																						
Assessment	The EU agri-food trade balance has shown stable growth over the last twenty years, despite a marginal decrease in 2022. It has reached a record level in 2023, with a total surplus of EUR 70.1 billion. While the overall agri-food trade balance shows a surplus, there are variations at the category level. The EU has a trade deficit in several product categories, with the most significant deficits observed in oilseeds and protein crops, and some fruits and nuts. The surplus is spread across product categories, driven mainly by cereal preparations, dairy products, and wine.																																																																						
Trend	<p>Agricultural and food products trade balance in EU, 2010-2022 (<i>in millions</i>)</p> <table border="1"> <caption>Data extracted from the chart</caption> <thead> <tr> <th>Year</th> <th>Agriculture, hunting and related services (Millions)</th> <th>Fish and other fishing products; aquaculture products; support services to fishing (Millions)</th> <th>Food products (Millions)</th> <th>Total Trade Balance (Millions)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>-25,000</td><td>-5,000</td><td>-2,000</td><td>-32,000</td></tr> <tr><td>2011</td><td>-26,000</td><td>-5,000</td><td>-2,000</td><td>-33,000</td></tr> <tr><td>2012</td><td>-27,000</td><td>-5,000</td><td>-2,000</td><td>-34,000</td></tr> <tr><td>2013</td><td>-28,000</td><td>-5,000</td><td>-2,000</td><td>-35,000</td></tr> <tr><td>2014</td><td>-29,000</td><td>-5,000</td><td>-2,000</td><td>-36,000</td></tr> <tr><td>2015</td><td>-30,000</td><td>-5,000</td><td>-2,000</td><td>-37,000</td></tr> <tr><td>2016</td><td>-31,000</td><td>-5,000</td><td>-2,000</td><td>-38,000</td></tr> <tr><td>2017</td><td>-32,000</td><td>-5,000</td><td>-2,000</td><td>-39,000</td></tr> <tr><td>2018</td><td>-33,000</td><td>-5,000</td><td>-2,000</td><td>-40,000</td></tr> <tr><td>2019</td><td>-34,000</td><td>-5,000</td><td>-2,000</td><td>-41,000</td></tr> <tr><td>2020</td><td>-35,000</td><td>-5,000</td><td>-2,000</td><td>-42,000</td></tr> <tr><td>2021</td><td>-36,000</td><td>-5,000</td><td>-2,000</td><td>-43,000</td></tr> <tr><td>2022</td><td>-37,000</td><td>-5,000</td><td>-2,000</td><td>-44,000</td></tr> </tbody> </table> <p>Source: JRC elaboration based on data from Eurostat COMEXT</p>	Year	Agriculture, hunting and related services (Millions)	Fish and other fishing products; aquaculture products; support services to fishing (Millions)	Food products (Millions)	Total Trade Balance (Millions)	2010	-25,000	-5,000	-2,000	-32,000	2011	-26,000	-5,000	-2,000	-33,000	2012	-27,000	-5,000	-2,000	-34,000	2013	-28,000	-5,000	-2,000	-35,000	2014	-29,000	-5,000	-2,000	-36,000	2015	-30,000	-5,000	-2,000	-37,000	2016	-31,000	-5,000	-2,000	-38,000	2017	-32,000	-5,000	-2,000	-39,000	2018	-33,000	-5,000	-2,000	-40,000	2019	-34,000	-5,000	-2,000	-41,000	2020	-35,000	-5,000	-2,000	-42,000	2021	-36,000	-5,000	-2,000	-43,000	2022	-37,000	-5,000	-2,000	-44,000
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Transport and infrastructure

Transport, accessibility and infrastructure. Create shorter supply chains will support reducing dependence on long-haul transportation.	
Document	<u>Farm to Fork Strategy</u>
Indicator	Annual road freight transport by distance class (food products, beverages and tobacco) (<i>Source: Eurostat</i>)
Assessment	There have been almost no changes in the number of tonnes transported in the difference distance categories. Since 2013, approximately 30% of the freight of food products, beverages and tobacco is transported less than 50 km, and another 30% is transported between 50 and 150 km. Between 2013 and 2021, the tonnes per kilometre transported for all activities related to the food system (agriculture, fisheries, food manufacturing, trade and services) has increased by 9%, although the tonnes per kilometre transported in the food and beverages manufacturing sector decreased by 5%.



Fair, inclusive and ethical food system

Employment and working conditions. Create new job opportunities. Improve working conditions, ensure occupation health and safety.

Document	Farm to Fork Strategy
Indicator	Employment by economic activity (Source: Eurostat)
Assessment	This indicator gives total employment in agriculture, the food industry and food services in absolute terms and also as a share of total employment. The employment in the food sector by economic activity has decreased over the last decade, from 8,474 (in 2013) to 6,326 (in 2022) million persons. During this period the mean annual decrease was 2.88% based on CAGR calculation, therefore around 25% of the employment moved out from the food sector in almost a decade. The share of total employment has also decreased, from 5% (in 2013) to 3% (in 2022). This negative trend indicates a move away from the objective, which aims at creating new job opportunities in the food sector.
Trend	Persons employed in agriculture, food industry and food services, in EU27, 2013-2022 Source: Eurostat Statistics.

Social protection and poverty. Ensure Fair, inclusive and ethical value chains. Ensure workers' social protection and housing conditions; promote socially responsible production methods; Mitigate the socio-economic consequences impacting the food chain and ensure that the key principles enshrined in the European Pillar of Social Rights are respected, especially when it comes to precarious, seasonal and undeclared workers.

Document	Farm to Fork Strategy
	No adequate data is available at the moment to assess this objective.

Animal welfare. Promote better animal welfare to improve animal health and food quality

Document	Farm to Fork Strategy
Assessment	<p>No adequate data is available at the moment to assess this objective.</p> <p>Currently, only one smaller field is sufficiently supported by regular data flows. Indicator "Share of laying hens by farming method (0297)" explains which percentage of laying hens are kept in enhanced cages, barns, free range and in organic way. Data are available from 2011 at the level of the Member States. An overall positive trend can be observed. Non-enriched cages have disappeared in the EU. Moreover, by exception of few cases, methods allowing better welfare are increasingly applied.</p> <p>To assess animal welfare in the EU from broader perspective, harmonised and comparable data on farming methods, stocking densities, outdoor access, mutilations, stunning methods and duration of transportation would be needed. In absence of such data, the degree of applying standards above the EU animal welfare legislation (e.g. organic methods as a proxy) could be used.</p>

Food environment

Food messaging. Provide food information and labelling to empower consumers to make informed, healthy and sustainable food choices

Document	Farm to Fork Strategy
	No adequate data is available at the moment to assess this objective.

Food availability. Improve availability of sustainable food. Ensure that the healthy option is always the easiest one. Ensure food supply.

Document	Farm to Fork Strategy
Indicator	Ratio plant to total protein supply (Plant protein supply from vegetable product supply and animal protein supply from animal products supply) (Source: FAO)
Assessment	The ratio plant to total protein supply indicator is derived from FAO supply data. The closer the value is to 1, the higher the contribution of plant-based sources to protein supply; the average of the previous three years is taken to reduce error variation. This indicator examines the contribution of plant food sources to total protein (animal and plant) supply and can inform on the transition towards more plant-based food diets based on food supply data. Since 2012, a slight decrease has been observed across most EU countries (between 1 and 5%). The average ratio for the EU region has slightly decrease from 0.42 to 0.40 between 2012 and 2020. This change indicates that a transition towards increased supply of plant-based foods in the EU remains a challenge, possibly linked to a slow progress in the transition towards more plant-based diets in the region.

Trend	<p>Ratio plant to total protein supply in the EU, 2012-2020</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Ratio (approx.)</th> </tr> </thead> <tbody> <tr><td>2012</td><td>0.42</td></tr> <tr><td>2013</td><td>0.42</td></tr> <tr><td>2014</td><td>0.42</td></tr> <tr><td>2015</td><td>0.42</td></tr> <tr><td>2016</td><td>0.42</td></tr> <tr><td>2017</td><td>0.42</td></tr> <tr><td>2018</td><td>0.44</td></tr> <tr><td>2019</td><td>0.44</td></tr> <tr><td>2020</td><td>0.41</td></tr> </tbody> </table>	Year	Ratio (approx.)	2012	0.42	2013	0.42	2014	0.42	2015	0.42	2016	0.42	2017	0.42	2018	0.44	2019	0.44	2020	0.41
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<p><i>Source:</i> JRC elaboration based on data from FAO. Note: The closer to 1 the highest is the contribution of plant-based sources to protein supply.</p>																					

Food affordability. Ensure affordability to sufficient, nutritious and sustainable food.													
Document	Farm to Fork Strategy												
Indicator	Percent of the population who cannot afford a healthy diet in the EU (<i>Source:</i> FAO)												
Assessment	The percent population who cannot afford a healthy diet is reported by FAO and the World Bank for global monitoring. A healthy diet is considered unaffordable when its cost exceeds 52 percent of income per capita per day. This percentage accounts for a portion of income that can be credibly reserved for food, based on observations that the population in low-income countries spend, on average, 52 percent of their income on food. The estimated proportion of the population who cannot afford a healthy diet in Europe has dropped 40% from 2.5% in 2017 to 1.5% in 2021. Across EU countries, values ranged between <1% for several countries and 7% in Romania in 2021. The indicator does not account for non-food spending and likely underestimates food affordability issues in the context of the EU region.												
Trend	<p>Percent of the population who cannot afford a healthy diet in EU, 2017-2021</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Percent (approx.)</th> </tr> </thead> <tbody> <tr><td>2017</td><td>1.8</td></tr> <tr><td>2018</td><td>1.5</td></tr> <tr><td>2019</td><td>1.5</td></tr> <tr><td>2020</td><td>1.5</td></tr> <tr><td>2021</td><td>1.0</td></tr> </tbody> </table>	Year	Percent (approx.)	2017	1.8	2018	1.5	2019	1.5	2020	1.5	2021	1.0
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<p><i>Source:</i> JRC elaboration based on data from FAO.</p>													

Properties of food. Increase reformulation of food products in line with guidelines for healthy and sustainable diets	
Document	Farm to Fork Strategy
	No adequate data is available at the moment to assess this objective.

Food heritage. Consider an extension of mandatory origin or provenance indications to certain product	
Document	Farm to Fork Strategy
	No adequate data is available at the moment to assess this objective.

Nutrition and health

<i>Nutrition and healthy, sustainable diets. Move to healthier and more sustainable diets</i>	
Document	Farm to Fork Strategy
Assessment	<p>EU diets are poorly aligned with dietary recommendations, as none of the EU Member States is on track to meet the dietary-related guidelines. In the EU, no country fulfils simultaneously the recommendations for healthy food consumption:⁹ the consumption of fruit, vegetables, legumes, whole grains nuts and seeds as well as milk and fish is lower than the recommended intake levels (when comparing to either national food based dietary guidelines¹⁰ or WHO and EAT-Lancet recommendations¹¹), while the consumption of red meat is above.</p> <p>However, at the moment there is no adequate indicator available to assess the progress on this objective. The lack of regular, consistent and methodologically harmonized surveys across the EU member states challenges the coverage and the comparability of such data, being an important gap for the use of these indicators. To overcome the lack of regularity and timeliness of the data, the development of food consumption indicators using data from national dietary surveys to monitor dietary components of healthy diets is being explored.</p> <p>A future indicator can be based on joint work by EU Member State and the JRC providing data to monitor the nutritional quality of the food offer.</p>

<i>Health impact of diets. Reversing of the rise in overweight and obesity rates across the EU by 2030</i>									
Document	Farm to Fork Strategy								
Indicator	Prevalence of overweight (including obesity, BMI equal or over 25) (<i>Source: Eurostat</i>)								
Assessment	The indicator as reported in Eurostat indicates that the proportion of overweight adults in the EU has slightly increased from 51% in 2014 to 53% in 2019. Reversing the prevalence of overweight in the EU remains a challenge considering the current trend observed.								
Trend	<p>Prevalence of overweight adults in EU, 2014-2019 (in percentage)</p> <table border="1"> <caption>Data for Prevalence of overweight adults in EU, 2014-2019</caption> <thead> <tr> <th>Year</th> <th>Prevalence (%)</th> </tr> </thead> <tbody> <tr> <td>2014</td> <td>51</td> </tr> <tr> <td>2017</td> <td>52</td> </tr> <tr> <td>2019</td> <td>53</td> </tr> </tbody> </table> <p><i>Source: JRC elaboration based on data from Eurostat.</i></p>	Year	Prevalence (%)	2014	51	2017	52	2019	53
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2014	51								
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2019	53								

<i>Food security</i>	
<i>Ensure food security and access to quality, safe, sustainable, nutritious food for all.</i>	
Document	Farm to Fork Strategy
Indicator	Prevalence of moderate or severe food insecurity in the EU population (<i>Source: FAO</i>)
Assessment	In 2022, the FAO estimated that 7.8% of the population in Europe experienced moderate or severe food insecurity. Among EU countries, values for 2022 ranged between 2% in Italy and 19% in Romania. Analysis of the trends indicate prevalence of food insecurity has slightly improved until 2019 but reversed in the last years.

	Figures below describe prevalence of moderate or severe food insecurity across EU countries between 2015 and 2022.																																																								
Trend	<p>Prevalence of moderate or severe food insecurity in the EU population, 2015-2022</p> <p>Source: JRC elaboration based on data from FAO.</p>																																																								
Chart	<p>Prevalence of moderate or severe food insecurity in the total population in 2022, by Member State (average 3 years 2021-2023)</p> <table border="1"> <thead> <tr> <th>Member State</th> <th>Prevalence (%)</th> </tr> </thead> <tbody> <tr><td>Romania</td><td>19.1</td></tr> <tr><td>Hungary</td><td>15.0</td></tr> <tr><td>Bulgaria</td><td>14.8</td></tr> <tr><td>Finland</td><td>12.6</td></tr> <tr><td>Portugal</td><td>12.3</td></tr> <tr><td>Latvia</td><td>10.2</td></tr> <tr><td>Czechia</td><td>10.0</td></tr> <tr><td>Estonia</td><td>9.3</td></tr> <tr><td>Slovakia</td><td>9.0</td></tr> <tr><td>Malta</td><td>8.2</td></tr> <tr><td>Slovenia</td><td>7.9</td></tr> <tr><td>France</td><td>7.9</td></tr> <tr><td>Croatia</td><td>7.9</td></tr> <tr><td>Europe</td><td>7.8</td></tr> <tr><td>Belgium</td><td>7.3</td></tr> <tr><td>Denmark</td><td>7.1</td></tr> <tr><td>Spain</td><td>6.9</td></tr> <tr><td>Greece</td><td>6.4</td></tr> <tr><td>Lithuania</td><td>6.1</td></tr> <tr><td>Sweden</td><td>6.0</td></tr> <tr><td>Netherlands</td><td>5.5</td></tr> <tr><td>Poland</td><td>5.4</td></tr> <tr><td>Austria</td><td>4.9</td></tr> <tr><td>Ireland</td><td>4.2</td></tr> <tr><td>Germany</td><td>4.0</td></tr> <tr><td>Luxembourg</td><td>2.6</td></tr> <tr><td>Italy</td><td>2.0</td></tr> </tbody> </table> <p>Source: JRC elaboration based on data from FAO. Note: Year estimates are the midpoint average of 3 years (2021-2023).</p>	Member State	Prevalence (%)	Romania	19.1	Hungary	15.0	Bulgaria	14.8	Finland	12.6	Portugal	12.3	Latvia	10.2	Czechia	10.0	Estonia	9.3	Slovakia	9.0	Malta	8.2	Slovenia	7.9	France	7.9	Croatia	7.9	Europe	7.8	Belgium	7.3	Denmark	7.1	Spain	6.9	Greece	6.4	Lithuania	6.1	Sweden	6.0	Netherlands	5.5	Poland	5.4	Austria	4.9	Ireland	4.2	Germany	4.0	Luxembourg	2.6	Italy	2.0
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Resilience

Strengthen the resilience of the EU food system. Build up resilience to climate change, possible future diseases and pandemics. Increasing the sustainability of food producers will ultimately increase their resilience.

Document	<u>Farm to Fork Strategy</u>
Assessment	Resilience, as a cross-cutting property of the food system highlights its capacity to withstand and recover from shocks while maintaining its core structure and adaptability to changes and pressures. To characterise resilience with a few metrics, it is necessary to aggregate the most relevant indicators. Resilience of the food system can be assessed as a whole, or according to specific aspects. Depending on the scope of the assessment, different indicators are selected for its calculation. For example, self-sufficiency rates of commodities, pressure on the available water resources, soil health, food loss attributed to disasters, income of farmers and consumers, food environment and health impact of diets are just a few factors that can be considered for calculating resilience of the food system or its specific parts. In absence of agreed categories and calculation methodology, currently, the resilience of food system cannot be described with single indicator.

Annex 6. PRESERVING AND PROTECTING BIODIVERSITY

Targets from legal acts (binding)

Many targets from the Nature Restoration Law (NRL) appear to lack the indicators or data necessary to quantify the state of progress towards the target. The NRL allows, in principle, Member States to use data sets alternative to the EU-level ones. These data sets will have to be scrutinised in the National Restoration Plans drafting process, and if deemed appropriate, Member States will be allowed to use them. Currently, such information is not available.

Habitats restoration

Terrestrial ecosystems

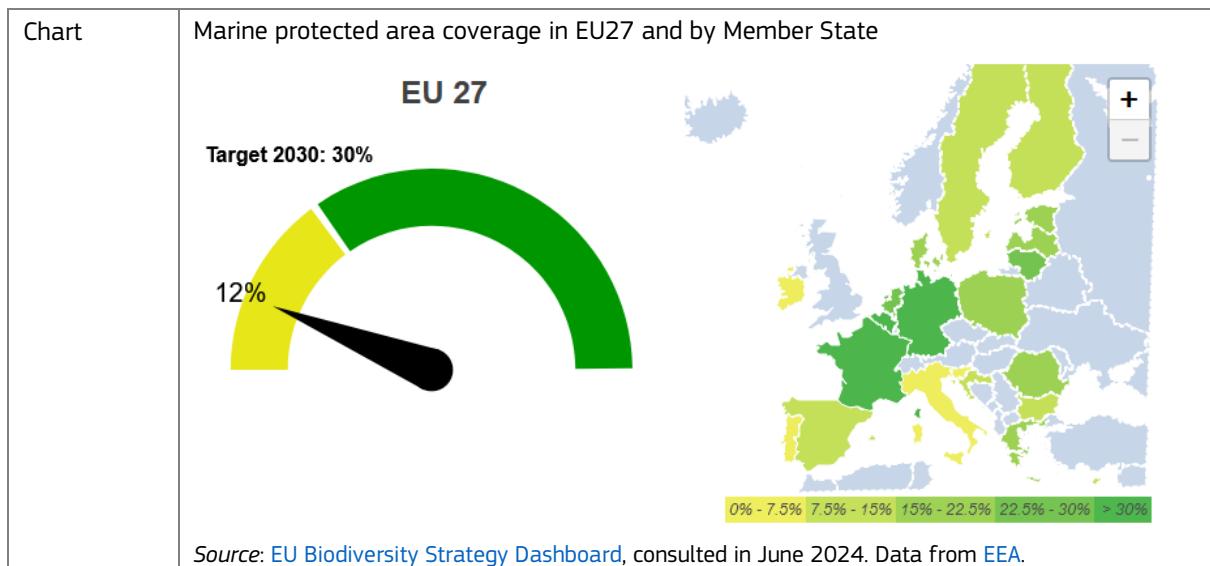
Member States shall put in place [...] measures [...] to jointly cover, as a Union target, throughout the areas and ecosystems [...] defined in Art. 2, **by 2030, at least 20 % of land areas in need of restoration and, by 2050, all ecosystems in need of restoration**

Document	Nature Restoration Law
Assessment	 The target cannot be assessed due to lack of data
	New target. Data on restoration has not been collected systematically at EU level yet.

Marine ecosystems

Member States shall put in place [...] measures [...] to jointly cover, as a Union target, throughout the areas and ecosystems [...] defined in Art. 2, **by 2030, at least 20% of sea areas in need of restoration and, by 2050, all ecosystems in need of restoration**

Document	Nature Restoration Law
Assessment	 The target cannot be assessed due to lack of data Data on restoration has not been collected systematically at the EU level yet. The EU has reached 12% of marine protected areas (MPA) and <1% are strictly protected. Could be partially achieved if the NRL will immediately be implemented (including a clear financial system), as well as other targets of the Biodiversity Strategy (i.e. 30% and 10% of MPA), and Member States react in time. The complete achievement of the target also depends on the restoration methods and the marine ecosystems to be restored. The length of the recovery period varies with the marine habitats to restore. In addition, there are other challenges that Member States have to face. Finally, the actual implementation of the Biodiversity Strategy target on effective marine protected areas (30% and 10% strictly protected by 2030), i.e. as passive restoration method, as well as the other directives (e.g. Water Framework Directive, Marine Strategy Framework Directive), and the 2023 Marine Action Plan would contribute to achieving the EDG target.



Terrestrial, coastal and freshwater ecosystems

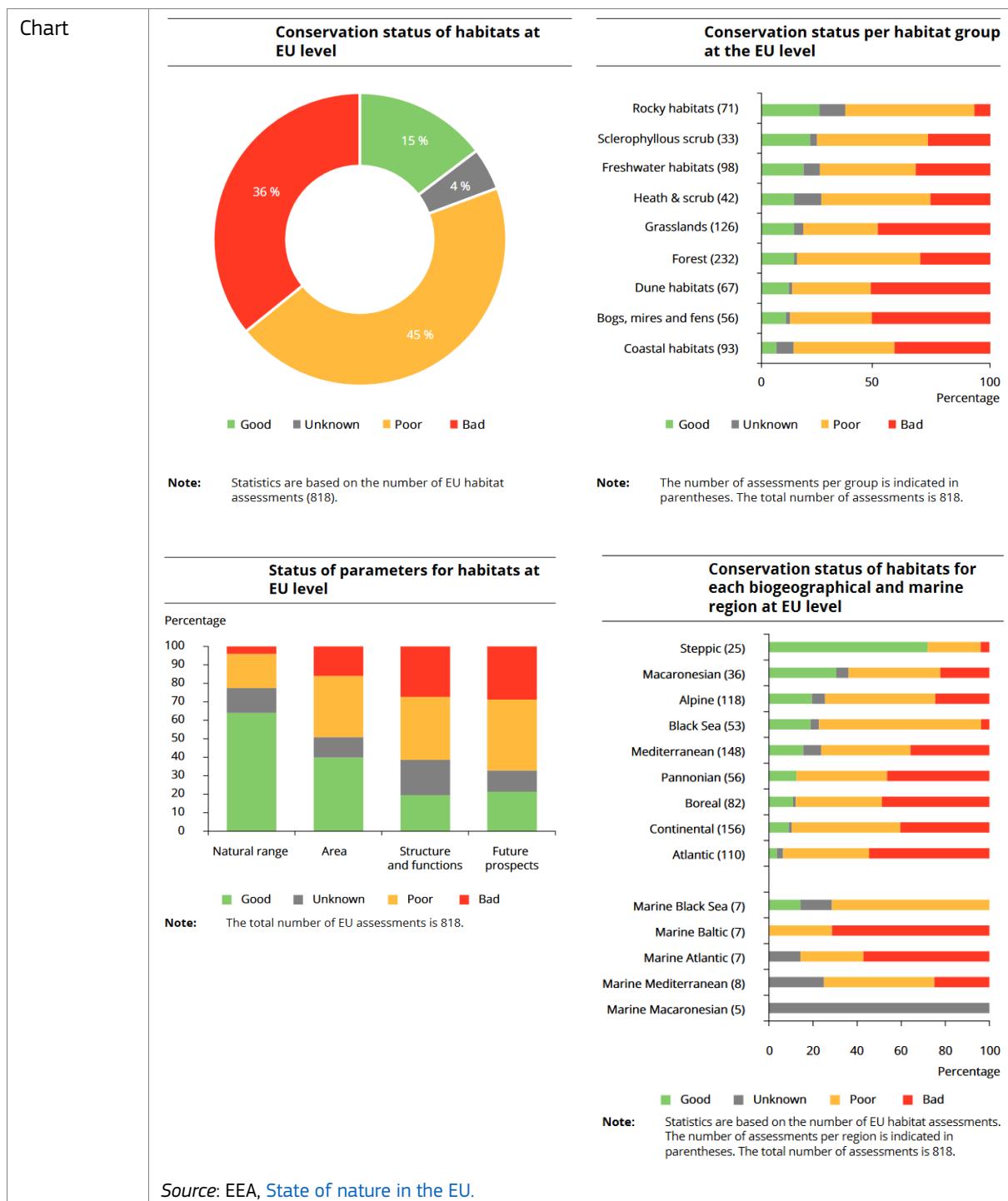
MSs shall put in place the restoration measures [...] to **improve to good condition areas of habitat types listed in Annex I** which are not in good condition. Such measures shall be in place: (a) on **at least 30 % by 2030** of the total area of all habitat types listed in Annex I that is not in good condition [...], and (b) on **at least 60 % by 2040 and on at least 90 % by 2050**.

Document	Nature Restoration Law
Assessment	<p> The target cannot be assessed due to lack of data</p> <p>Protected areas do not necessarily mean that they have a restoration programme. Currently, data on the extension of areas under restoration is not available at EU level.</p>

Terrestrial, coastal and freshwater ecosystems

MSs shall put in place the restoration measures [...] to **re-establish the habitat types listed in Annex I in areas not covered by those habitat types with the aim to reach their favourable reference area**. Such measures shall be in place on areas representing **at least 30 %** of the additional overall surface needed to reach the total favourable reference area of each group of habitat types listed in Annex I [...] **by 2030, at least 60% by 2040, and 100 % by 2050**.

Document	Nature Restoration Law
Assessment	<p> The target cannot be assessed due to lack of data</p> <p>Data on the extension of areas under restoration measures are not yet available at EU level. While complete data to access the target is not yet available, data on related indicators is available. We choose to show here the state of the related indicators. While this information is only partial, it might contribute to a future assessment of the target.</p>



Terrestrial, coastal and freshwater ecosystems

MSs shall put in place the **restoration measures for the terrestrial, coastal and freshwater habitats of the species listed in Annexes II, IV and V** to Directive 92/43/EEC and of the terrestrial, coastal and freshwater habitats of **wild birds** covered by Directive 2009/147/EC [...] to improve the quality and quantity of those habitats, including by re-establishing them, and to enhance connectivity, until sufficient quality and quantity of those habitats is achieved.

Document	Nature Restoration Law	
Assessment		The target cannot be assessed due to lack of data

	<p>Only passive restoration methods are available (i.e. no take of marine protected area), only 12% of MPA and <1% are strictly protected. In addition, for sea bird species connectivity, it is important to align the BDS and the REPowerEU targets and for habitat connectivity, it is important to develop a useful indicator in time for Member States reporting. Because of the current status of NRL, not enough data is available yet.</p> <p>While a specialised indicator and the related data is not available yet, we have data on passive restoration methods in the form of share of protected habitats and species (shown below).</p>																																								
Charts	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Share of habitats protected by the Habitats Directive (Annex I)</p> <table border="1"> <thead> <tr> <th>Habitat Type</th> <th>Share (%)</th> </tr> </thead> <tbody> <tr><td>Forests</td><td>35 %</td></tr> <tr><td>Grasslands</td><td>14 %</td></tr> <tr><td>Coastal habitats</td><td>12 %</td></tr> <tr><td>Freshwater habitats</td><td>9 %</td></tr> <tr><td>Dune habitats</td><td>9 %</td></tr> <tr><td>Heath and scrub</td><td>5 %</td></tr> <tr><td>Sclerophyllous scrub</td><td>5 %</td></tr> <tr><td>Bogs, mires and fens</td><td>5 %</td></tr> <tr><td>Rocky habitats</td><td>6 %</td></tr> </tbody> </table> </div> <div style="text-align: center;"> <p>Share of species protected by the Habitats Directive (Annexes II, IV and V)</p> <table border="1"> <thead> <tr> <th>Species Group</th> <th>Share (%)</th> </tr> </thead> <tbody> <tr><td>Vascular plants</td><td>47 %</td></tr> <tr><td>Fish</td><td>15 %</td></tr> <tr><td>Mammals</td><td>10 %</td></tr> <tr><td>Reptiles</td><td>8 %</td></tr> <tr><td>Amphibians</td><td>5 %</td></tr> <tr><td>Arthropods</td><td>9 %</td></tr> <tr><td>Non-vascular plants</td><td>3 %</td></tr> <tr><td>Other Invertebrates</td><td>0 %</td></tr> <tr><td>Molluscs</td><td>3 %</td></tr> </tbody> </table> </div> </div> <p><i>Source:</i> EEA, State of nature in the EU. Note: Shares based on total number of habitats covered by the Habitats Directive.</p>	Habitat Type	Share (%)	Forests	35 %	Grasslands	14 %	Coastal habitats	12 %	Freshwater habitats	9 %	Dune habitats	9 %	Heath and scrub	5 %	Sclerophyllous scrub	5 %	Bogs, mires and fens	5 %	Rocky habitats	6 %	Species Group	Share (%)	Vascular plants	47 %	Fish	15 %	Mammals	10 %	Reptiles	8 %	Amphibians	5 %	Arthropods	9 %	Non-vascular plants	3 %	Other Invertebrates	0 %	Molluscs	3 %
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Chart	<p>Conservation status and trends of habitats assessed as unfavourable, per biogeographic and marine region</p> <table border="1"> <thead> <tr> <th>Region</th> <th>Assessments</th> <th>Status</th> </tr> </thead> <tbody> <tr><td>Atlantic</td><td>111</td><td>Favourable</td></tr> <tr><td>Black Sea</td><td>51</td><td>Unfavourable-improving</td></tr> <tr><td>Boreal</td><td>82</td><td>Unfavourable-unknown</td></tr> <tr><td>Continental</td><td>153</td><td>Unknown</td></tr> <tr><td>Pannonian</td><td>56</td><td>Unfavourable-stable</td></tr> <tr><td>Mediterranean</td><td>139</td><td>Unfavourable-declining</td></tr> <tr><td>Alpine</td><td>117</td><td>Unfavourable-declining</td></tr> <tr><td>Macaronesian</td><td>36</td><td>Unfavourable-declining</td></tr> <tr><td>Steppic</td><td>24</td><td>Unfavourable-declining</td></tr> <tr><td>Marine Mediterranean</td><td>8</td><td>Unfavourable-declining</td></tr> <tr><td>Marine Baltic</td><td>7</td><td>Unfavourable-declining</td></tr> <tr><td>Marine Atlantic</td><td>7</td><td>Unfavourable-declining</td></tr> <tr><td>Marine Black Sea</td><td>7</td><td>Unfavourable-declining</td></tr> <tr><td>Marine Macaronesian</td><td>6</td><td>Unfavourable-declining</td></tr> </tbody> </table> <p><i>Source:</i> EEA. Note: The number of assessments is indicated in parentheses. The total number of assessments is 804.</p>	Region	Assessments	Status	Atlantic	111	Favourable	Black Sea	51	Unfavourable-improving	Boreal	82	Unfavourable-unknown	Continental	153	Unknown	Pannonian	56	Unfavourable-stable	Mediterranean	139	Unfavourable-declining	Alpine	117	Unfavourable-declining	Macaronesian	36	Unfavourable-declining	Steppic	24	Unfavourable-declining	Marine Mediterranean	8	Unfavourable-declining	Marine Baltic	7	Unfavourable-declining	Marine Atlantic	7	Unfavourable-declining	Marine Black Sea	7	Unfavourable-declining	Marine Macaronesian	6	Unfavourable-declining
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Terrestrial, coastal and freshwater ecosystems

Member States shall ensure that there is: (a) an increase of habitat area in good condition for habitat types listed in Annex I until **at least 90 % is in good condition** and until the favourable reference area for each habitat type in each biogeographic region of the Member State concerned is reached; (b) an **increasing trend towards the sufficient quality and quantity of the terrestrial, coastal and freshwater habitats of the species referred to in Annexes II, IV and V** to Directive 92/43/EEC and of the species covered by Directive 2009/147/EC.

Document	Nature Restoration Law	
Assessment	!	Progress needs to accelerate to reach the target value
	The EU has reached so far 26% terrestrial protected area and 12% of MPA.	
Chart	<p>The chart is a donut chart divided into three segments: dark purple (Species), light grey (Species trends), and red (Habitats). The segments are labeled with their respective data points:</p> <ul style="list-style-type: none"> SPECIES: 27 % of species have a good conservation status. HABITATS: 3/4 of habitats assessed are poor or bad. Species trends: 6 % of species show an improving trend in conservation status. Habitats: 9 % of habitats show improving trends. Habitat trends: Over 1/3 of habitats continue to deteriorate at EU level. 	
Source: EEA, State of nature in the EU .		

Natural connectivity of rivers and natural functions of the related floodplains

Member States shall make an inventory of artificial barriers and remove them to connectivity of surface waters and, taking into account their socio-economic functions, identify the barriers that need to be removed to contribute to the achievement of the restoration targets set out in Article 4 of this Regulation and of the objective of **restoring at least 25.000 km of rivers into free-flowing rivers in the Union**.

This target corresponds to target 11 of the Biodiversity Strategy for 2030: "At least 25.000 km of free-flowing rivers are restored"

Document	Nature Restoration Law	
Assessment	?	The target cannot be assessed due to lack of data
	The JRC and EEA are developing an indicator to characterise the number of free-flowing rivers, no data is available yet.	

Marine ecosystems

Member States shall put in place the restoration measures that are necessary to **improve to good condition areas of habitat types listed in Annex II which are not in good condition**. Such measures shall be in place: (a) on **at least 30% by 2030 of the total area of groups 1–6 of habitat types** listed in Annex II that is not in good condition, as quantified in the national restoration plan referred to in Article 12; (b) on **at least 60 % by 2040 and on at least 90 % by 2050 of the area of each of the groups 1–6 of habitat types listed in Annex II that is not in good condition**, as quantified in the national restoration plan referred to in Article 12; (c) on **at least two thirds of the percentage**, referred to in point (d), **by 2040 of the area of group 7 of habitat types listed in Annex II that is not in good condition**, as quantified in the national restoration plan referred to in Article 12 [...]

Document	Nature Restoration Law	
Assessment	?	The target cannot be assessed due to lack of data

	<p>The EU has reached only 12% of MPA, with less than 1% being strictly protected. The target could be partially achieved if the NRL is immediately implemented (including a clear financial system), along with the targets of the Biodiversity Strategy (i.e. 30% MPA and 10% strictly protected areas), and if Member States react in a timely manner.</p> <p>The complete achievement of the target is strictly dependent on the restoration methods and selected marine ecosystems to be restored. The timescale of the recovery period varies as diverse are the marine habitats to restore. Beyond this there are other challenges that Member States have to face (see Abelson et al., 2020).</p> <p>The actual implementation of the BDS target on effective marine protected areas (30% overall and 10% strictly protected by 2030), through passive restoration method, as well as the other directives (e.g. WFD and MSFD), and the 2023 Marine Action Plan would contribute to achieve this target.</p> <p>Regarding the condition and restoration, there are only two ways to judge this: (a) comparison with old large fully protected MPA, and (b) the use of indicators, some of which still need to be developed. There is no data on how impacted most areas are, but indicators such as present fishing activities altering food webs, or bottom trawling and dredging destroying benthic habitats, would contribute to the final assessment. However, the precautionary principle should be applied, assuming marine ecosystems everywhere are impacted unless evidence suggests otherwise.</p>
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Marine ecosystem

Member States shall put in place the restoration measures that are necessary to **re-establish the habitat types of groups 1-6** listed in Annex II in areas not covered by those habitat types with the aim to reach their favourable reference area. Such measures shall be in place on areas representing **at least 30% of the additional overall surface** needed to reach the total favourable reference area of each group of habitat types, as quantified in the national restoration plan referred to in Article 12, **by 2030, at least 60% of that surface by 2040, and 100 % of that surface by 2050.**

Document	Nature Restoration Law
Assessment	<p> The current trend runs counter to the desired direction or it is stagnant</p> <p>Considering the last report on the conservation status and trend in conservation status of marine habitats, most of the marine areas are between categories UNFAVOURABLE (U1/U2) and UNKNOWN (XX) status.</p> <p>There are some examples of restoration measures already put in place across European Sea, but without an immediate implementation of NRL, as well as other directives (e.g. BDBS, WFD, MSFD), the EGD target would not be achieved</p> <p>Additional observation: As mentioned before marine restoration can be achieved passively by no take MPA. Then the increase in area that is fully protected would be a reasonable indicator of restoration. No evidence that part-protection works to our knowledge, evidence of recovered species usually within 5 years but full recovery e.g., of urchin-kelp trophic cascades, may take 20 years. As restoration is by definition towards natural conditions then partly protected areas could not qualify as restoration.</p> <p>Regarding the condition and restoration, there are only two ways to judge this: (a) comparison to old large fully protected MPA, and (b) use indicators that in some case need to be developed (FYI potential ongoing discussion). To our knowledge, there is no data on how impacted most areas are but maybe indicators such as e.g. present fishing of any kind will alter food webs, or bottom trawling and dredging destroys benthic habitats, etc) would contribute in the final assessment. However, one should use the precautionary principle, assuming everywhere marine ecosystem is impacted unless there is evidence to the contrary.</p>

Marine ecosystem

Member States shall ensure, **by 2030** at the latest, that **the condition is known for at least 50% of the area distributed over all habitat types listed in groups 1–6** of Annex II. The condition of all areas of groups 1–6 of habitat types listed in Annex II shall be known by 2040. Member States shall also ensure, **by 2040** at the latest, that the condition is known for **at least 50%** of the area distributed over all habitat types listed in group 7 of Annex II. The condition of all areas of group 7 of habitat types listed in Annex II shall be known by 2050.

Document	Nature Restoration Law
Assessment	 The current trend runs counter to the desired direction or it is stagnant In the last report on the conservation status and trend in conservation status of marina habitats, there is still a quite important percentage of UNKNOWN status (either XX or U1/U2). Member States should implement more effective monitoring program to assess the status of marine habitats in order to achieve the EGD target. MS should implement more effective monitoring program to assess the status of marine habitats in order to achieve the EGD target.

Urban ecosystems

Member States shall ensure that there is **no net loss in the total national area of urban green space, and of urban tree canopy cover in urban ecosystem areas**. Member States may exclude from that total national area the urban ecosystem areas in which the share of urban green space in the urban centres and urban clusters exceeds 45% and the share of urban tree canopy cover therein exceeds 10%

Document	Nature Restoration Law
Assessment	 The target cannot be assessed due to lack of data Recent EU-wide data to measure this target according to the baseline year of the regulation is not available yet. However, national data from member states might be available.

Member States shall achieve thereafter an **increasing trend in the total national area of urban green space**, including through integration of urban green space into buildings and infrastructure, in urban ecosystem areas, determined in accordance with Article 11(2b), measured every six years after 31 December 2030, until a satisfactory level identified in accordance with Article 11(3) is reached

Document	Nature Restoration Law
Assessment	 The target cannot be assessed due to lack of data Data on urban green space is not available yet, as well as the implementing act providing a methodology to identify satisfactory levels.

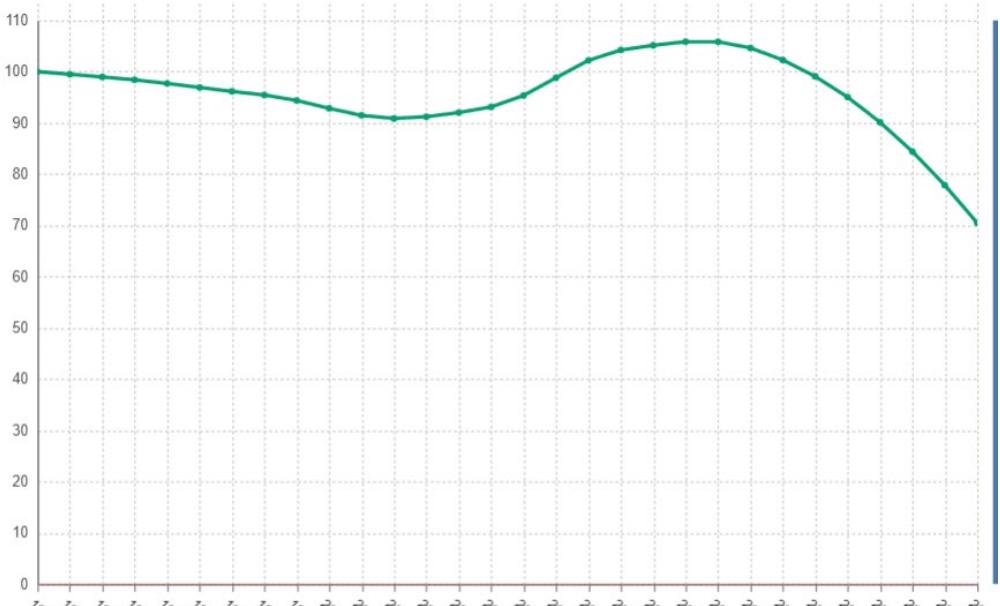
Member States shall achieve, in each urban ecosystem area, determined in accordance with Article 11(2b), an **increasing trend of urban tree canopy cover**, measured every six years after 31 December 2030, until the satisfactory level identified in accordance with Article 11(3) is reached

Document	Nature Restoration Law
Assessment	 The target cannot be assessed due to lack of data Data on urban green space is not available yet, as well as the implementing act providing a methodology to identify satisfactory levels.

Pollinators

Member States shall, by putting in place appropriate and effective measures, **improve pollinator diversity and reverse the decline of pollinator populations** at the latest by 2030 and achieve thereafter an increasing trend of pollinator populations, following the entry into force of the Regulation and measured every six years after 2030, until satisfactory levels are achieved, as set out in accordance with Article 11(3)

This target corresponds to target 5 of the Biodiversity Strategy for 2030: "The decline of pollinators is reversed"

Document	Nature Restoration Law																																																														
Assessment	X The current trend runs counter to the desired direction or it is stagnant Based on trends in the grassland butterfly index, pollinators are still declining. Another indicator that would include more pollinators is under development to better characterise the decline of pollinators.																																																														
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Source: [Eurostat Statistics](#) (sdg_15_61)

Forest ecosystems

Member States shall achieve an **increasing trend at national level of at least six out of seven of the following indicators in forest ecosystems**, as further set out in Annex VI, chosen on the basis of their ability to demonstrate the enhancement of biodiversity of forest ecosystems within the Member State concerned. The trend shall be measured in the period from the date of entry into force of this Regulation until 31 December 2030, and every six years thereafter, until the satisfactory levels identified in accordance with Article 11(3) are reached: **(a) standing deadwood (b) lying deadwood (c) share of forests with uneven-aged structure; (d) forest connectivity; (e) stock of organic carbon; (f) share of forests dominated by native tree species; (g) tree species diversity**

Document	Nature Restoration Law
Assessment	? The target cannot be assessed due to lack of data New target, sufficient data not yet available.

Member States shall achieve an increasing trend at national level of the **common forest bird index**, as further set out in Annex VI, measured in the period from the date of entry into force of this Regulation until 31 December 2030, and every six years thereafter, until the satisfactory levels **identified in accordance with Article 11(3) are reached**

This target corresponds to target 4 of the Biodiversity Strategy: "By 2030, significant areas of degraded and carbon-rich ecosystems are restored. Habitats and species show no deterioration in conservation trends and status; and at least 30% reach favourable conservation status or at least show a positive trend."

Document	Nature Restoration Law																																																																																																																																									
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1997	96.25	78.36	93.02																																																																																																																																							
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2000	91.27	72.07	90.6																																																																																																																																							
2001	90.6	70.81	90.13																																																																																																																																							
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2004	90.79	65.13	92.01																																																																																																																																							
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When identifying and implementing the restoration measures to meet the objectives and obligations set out in Articles 4, 6, 7, 8, 9 and 10, Member States shall aim to contribute to the commitment of **planting at least three billion additional trees by 2030 at Union level**

This target corresponds to target 9 of the Biodiversity Strategy for 2030: "Three billion trees are planted in the EU, in full respect of ecological principles".

Document	Nature Restoration Law	
Assessment		Progress needs to accelerate to reach the target value
Over 20 000 000 trees have been planted, but this represents only 0.7% of the desired target. Unless the rate of planting trees is massively increased, the target will not be reached by 2030.		
Indicator	Number of trees planted in the EU as part of the 3 Billion Trees Pledge	

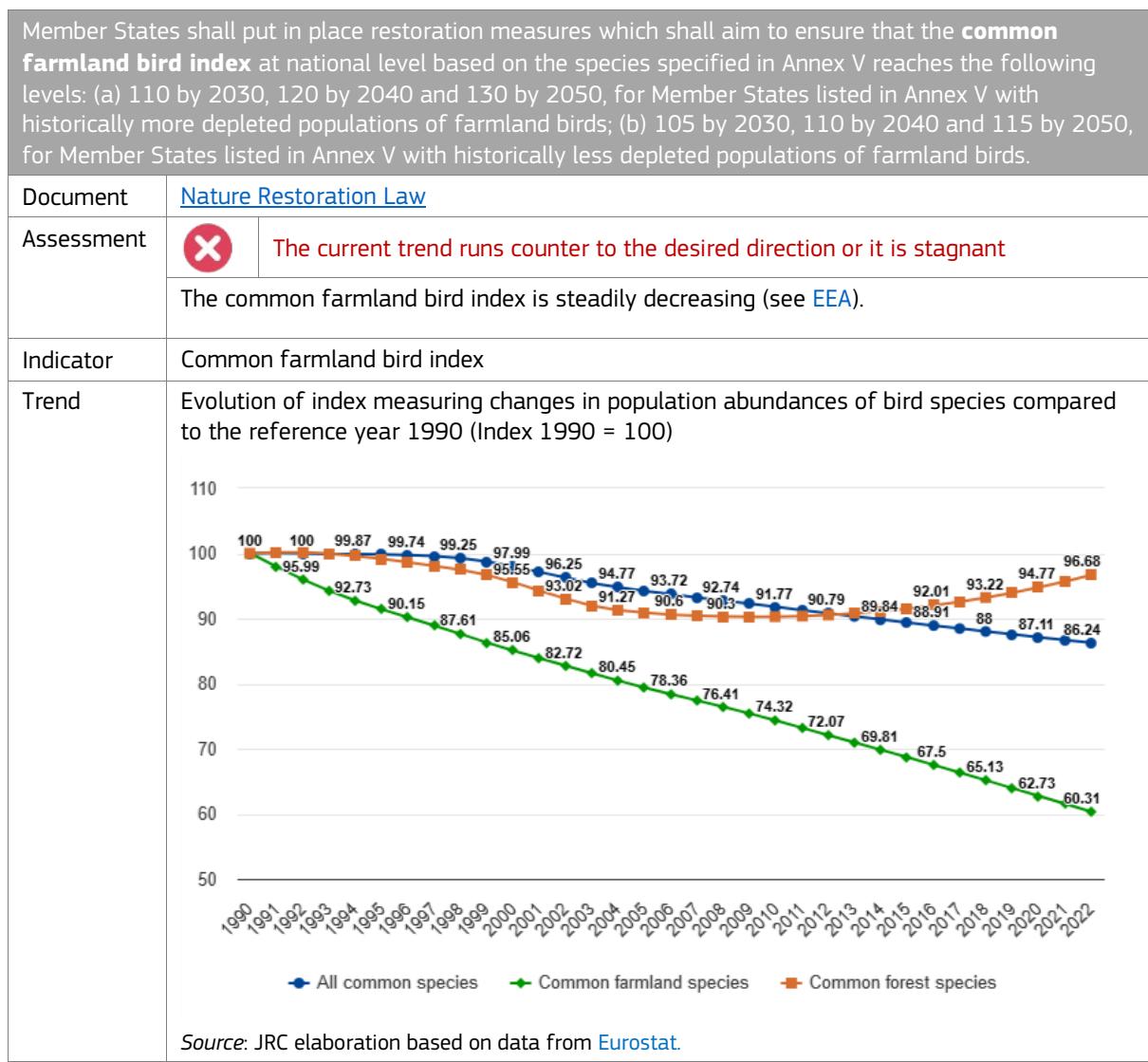
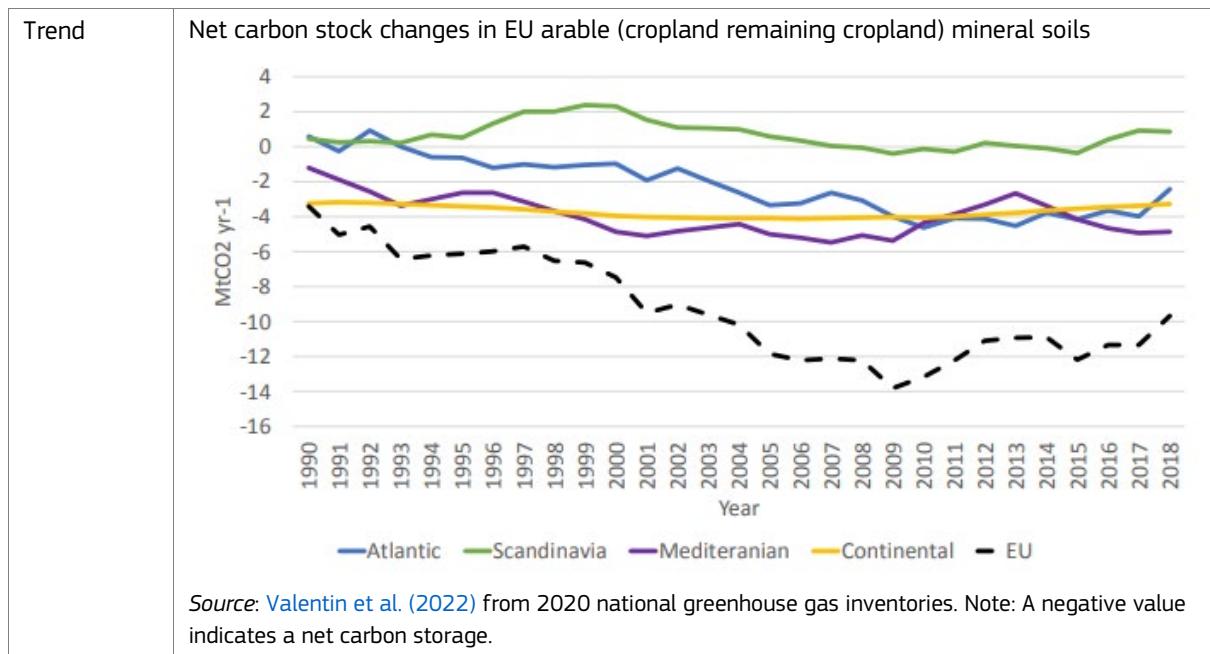
Chart	<p>Number of trees planted in the EU, by Member State</p> <p>EU 27</p> <p>Target 2030: 3000000000</p> <p>Source: EU Biodiversity Strategy Dashboard, consulted in June 2024. Data from EEA.</p>
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Agricultural ecosystems

Member States shall put in place measures which shall aim to achieve an **increasing trend** at national level of at least two out of the three **following indicators in agricultural ecosystems**, as further specified in Annex IV, measured in the period from the date of entry into force of this Regulation until 31 December 2030, and every six years thereafter, until the satisfactory levels, identified in accordance with Article 11(3), are reached: **(a) grassland butterfly index; (b) stock of organic carbon in cropland mineral soils; (c) share of agricultural land with high-diversity landscape features.**

Document	Nature Restoration Law																					
Assessment	<p> The current trend runs counter to the desired direction or it is stagnant</p> <p>At the moment the trend in the grassland butterfly index is still declining. The carbon stocks in EU agricultural soils have declined by 0.75% in the period 2009–2018 based on measured LUCAS data (see De Rosa et al., 2024). So at the moment at least 2 out of three indicators are moving against the desired direction</p>																					
Chart	<p>Emissions and removals by land use category for managed mineral and organic soils (ktCO₂)</p> <table border="1"> <thead> <tr> <th>Land Use Category</th> <th>Mineral soil (ktCO₂)</th> <th>Organic soil (ktCO₂)</th> </tr> </thead> <tbody> <tr> <td>Forest land</td> <td>-44,251</td> <td>15,611</td> </tr> <tr> <td>Cropland</td> <td>10,213</td> <td>31,842</td> </tr> <tr> <td>Grassland</td> <td>-34,935</td> <td>45,361</td> </tr> <tr> <td>Wetlands</td> <td>437</td> <td>12,134</td> </tr> <tr> <td>Settlements</td> <td>24,509</td> <td>3,428</td> </tr> <tr> <td>Other lands</td> <td>100</td> <td>73</td> </tr> </tbody> </table> <p>Source: EEA, accessed in July 2024. Note: Emissions are positive numbers and removals are negative numbers.</p>	Land Use Category	Mineral soil (ktCO ₂)	Organic soil (ktCO ₂)	Forest land	-44,251	15,611	Cropland	10,213	31,842	Grassland	-34,935	45,361	Wetlands	437	12,134	Settlements	24,509	3,428	Other lands	100	73
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Map	<p>Share of woody landscape features on agricultural areas in NUTS3 regions</p>
Trend	<p>Land-related emissions in the EU 27 as reported in national greenhouse gas inventories</p> <p>Source: EEA, accessed in July 2024.</p> <p>Source: Valentin et al. (2022). Note: A negative value indicates a net carbon storage.</p>



Member States shall put in place measures which shall aim to **restore organic soils in agricultural use** constituting drained peatlands. Those measures shall be in place on at least: (a) 30% of such areas by 2030, of which at least a quarter shall be rewetted; (b) 40% of such areas by 2040, of which at least a third shall be rewetted; (c) 50% of such areas by 2050, of which at least a third shall be rewetted.

Document	Nature Restoration Law
Assessment	 The target cannot be assessed due to lack of data The EU Soil Observatory (EUSO) established that over 60% of the EU land is affected by soil degradation. This is considered an underestimation due to the lack of data currently available.

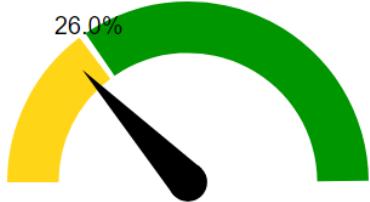
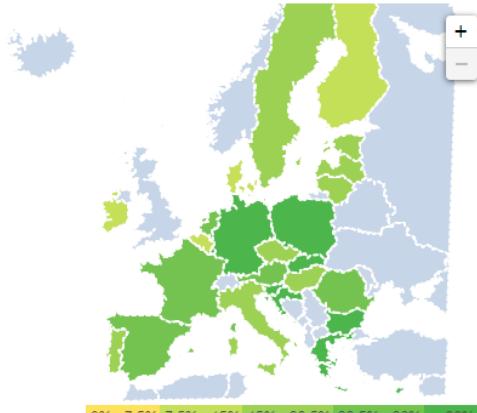
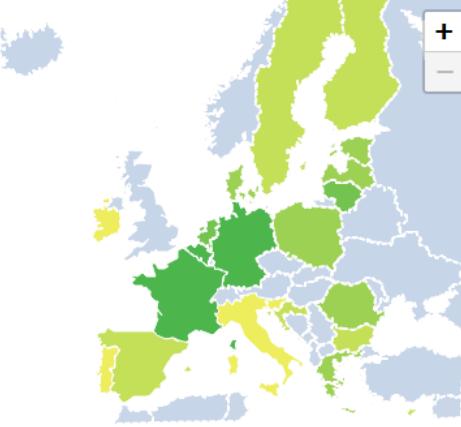
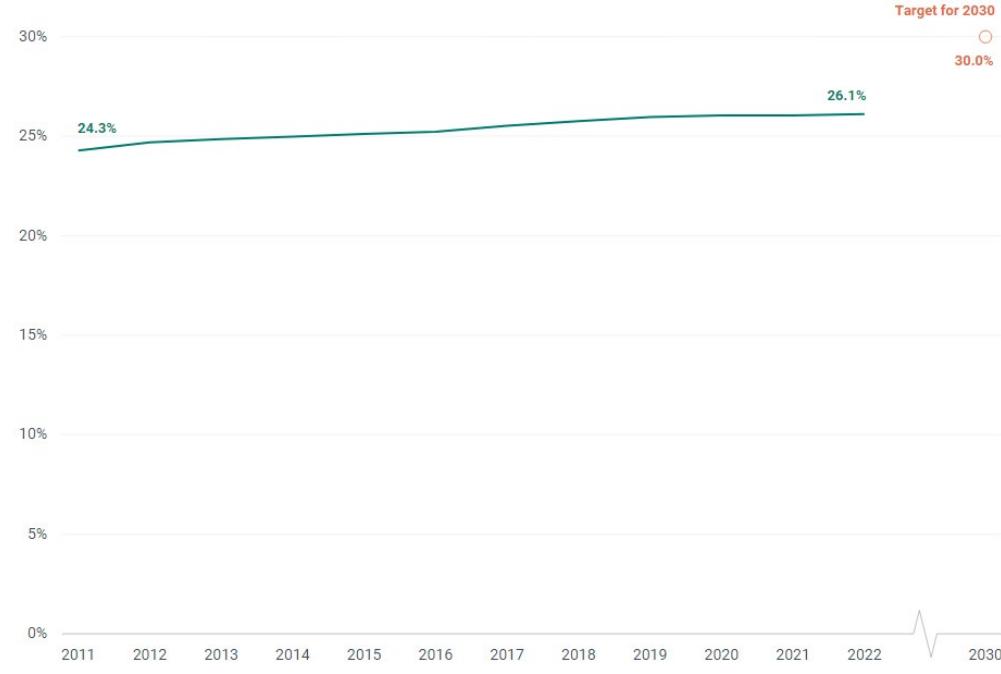
Targets from Communications (non-binding)

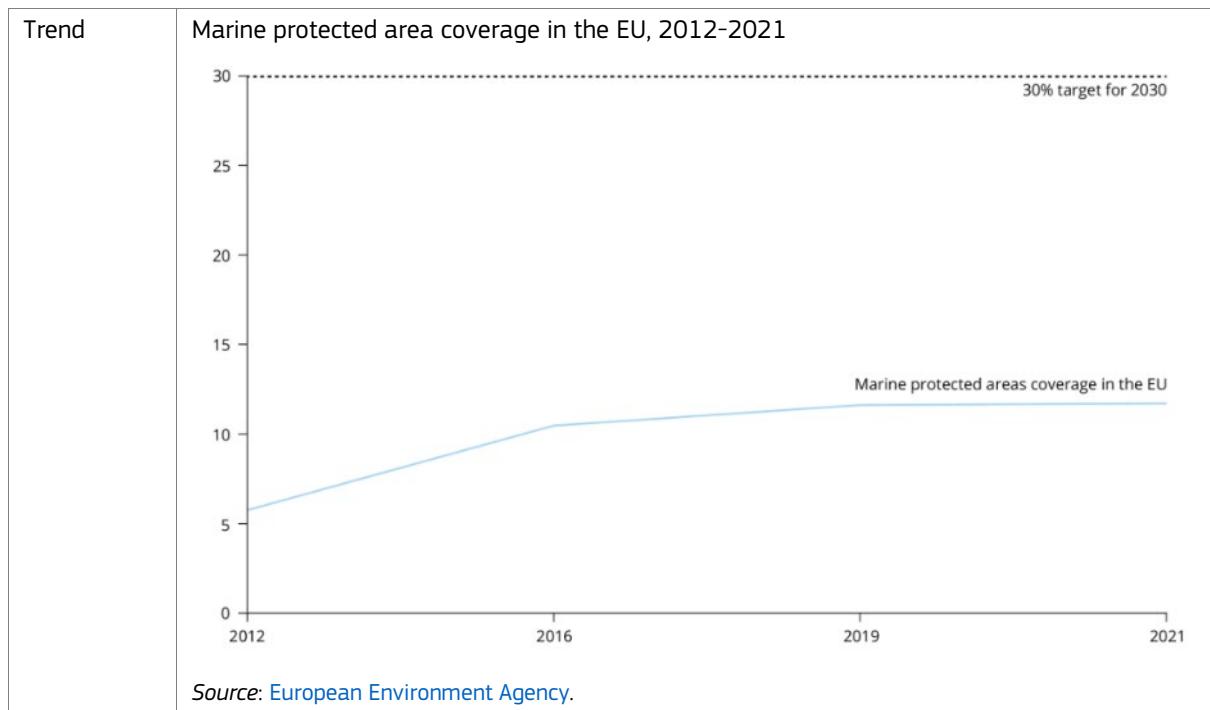
Considering that specific Biodiversity Strategy targets have been turned into binding targets by the Nature Restoration Law, their assessment is reported also here for completeness, but they are counted only once in the general overview, to avoid double counting.

The numbering of the Biodiversity Strategy targets make reference to the [EU Biodiversity Strategy Dashboard](#).

Habitats protection

1. Legally protect a minimum of 30% of the EU's land area and of 30% of the EU's sea area	
Document	EU Biodiversity Strategy for 2030
Assessment	 Progress needs to accelerate to reach the target value 26% of EU's land area is covered by protected areas, including 18.6% by Natura 2000 designated protected areas and 17.3% by nationally designated protected areas. If the designation of protected areas continues at the rate seen in the past decade (1.7 percentage points increase since 2011), the target will not be met.
	Over the last decade, the total area covered by marine protected areas in the EU has increased substantially (from 5.9% in 2012 to 12.1% in 2021), mainly due to the expansion of the Natura 2000 network. The current 12.1% of EU's sea area covered by protected areas include 9% covered by Natura 2000 designated sites and 4.5% covered by nationally designated protected areas, with some overlap between the different types of designation. According to the 8EAP progress report, it is unlikely that the 2030 target will be met. The starting point is low, and the annual rate of increase will need to increase by almost 30% compared to that observed over the past nine years to meet the target.
Indicator	Terrestrial and marine protected area coverage in EU27

Chart	<p>Terrestrial protected area coverage in EU27 and by Member State</p> <p>EU 27</p> <p>Target 2030: 30%</p>  <p>26.0%</p>  <p>Source: EU Biodiversity Strategy Dashboard, consulted in June 2024. Data from EEA.</p>																										
Chart	<p>Marine protected area coverage in EU27 and by Member State</p> <p>EU 27</p> <p>Target 2030: 30%</p>  <p>12%</p>  <p>Source: EU Biodiversity Strategy Dashboard, consulted in June 2024. Data from EEA.</p>																										
Trend	<p>Terrestrial protected area coverage in the EU, 2011-2022</p>  <p>Target for 2030: 30.0%</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Coverage (%)</th> </tr> </thead> <tbody> <tr> <td>2011</td> <td>24.3%</td> </tr> <tr> <td>2012</td> <td>24.5%</td> </tr> <tr> <td>2013</td> <td>24.8%</td> </tr> <tr> <td>2014</td> <td>25.0%</td> </tr> <tr> <td>2015</td> <td>25.2%</td> </tr> <tr> <td>2016</td> <td>25.4%</td> </tr> <tr> <td>2017</td> <td>25.6%</td> </tr> <tr> <td>2018</td> <td>25.8%</td> </tr> <tr> <td>2019</td> <td>26.0%</td> </tr> <tr> <td>2020</td> <td>26.1%</td> </tr> <tr> <td>2021</td> <td>26.1%</td> </tr> <tr> <td>2022</td> <td>26.1%</td> </tr> </tbody> </table> <p>Source: European Environment Agency.</p>	Year	Coverage (%)	2011	24.3%	2012	24.5%	2013	24.8%	2014	25.0%	2015	25.2%	2016	25.4%	2017	25.6%	2018	25.8%	2019	26.0%	2020	26.1%	2021	26.1%	2022	26.1%
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2022	26.1%																										



2.a Strictly protect at least a third of the EU'S protected areas

Document	EU Biodiversity Strategy for 2030	
Assessment	!	Progress needs to accelerate to reach the target value Indicators are lacking to check whether the target is on track or not. Seven out of the nine actions set in the EU BDS to foster biodiversity protection in the EU still need to be implemented by 2030, but they all appear on track so far. Member States did not report official information reported to EEA. An independent scientific assessment shows that currently only 3.5 % of protected areas are strictly protected.

Forest ecosystems

2b. Strictly protect all remaining EU primary and old-growth forests

Target in common with the EU Forest Strategy

Document	EU Biodiversity Strategy for 2030	
Assessment	✓	The pace of progress is sufficient to reach the target value Strict protection of primary and old-growth forests is planned to begin in 2029. The Commission and Member States are working closely to achieve this target. The target has been welcomed and endorsed by the Council, which is crucial for its success. The Commission issued Guidelines for defining, mapping, monitoring and strictly protecting EU Primary and Old-Growth Forests in 2023. However, there is still a lack of a clear, uniform definition of what constitutes primary and old-growth forests. As a result, while it is likely that the target will be met, it remains unclear whether all forests that should be protected will actually receive protection.

9. Three billion trees are planted in the EU

Target in common with the 'Nature Restoration Law'

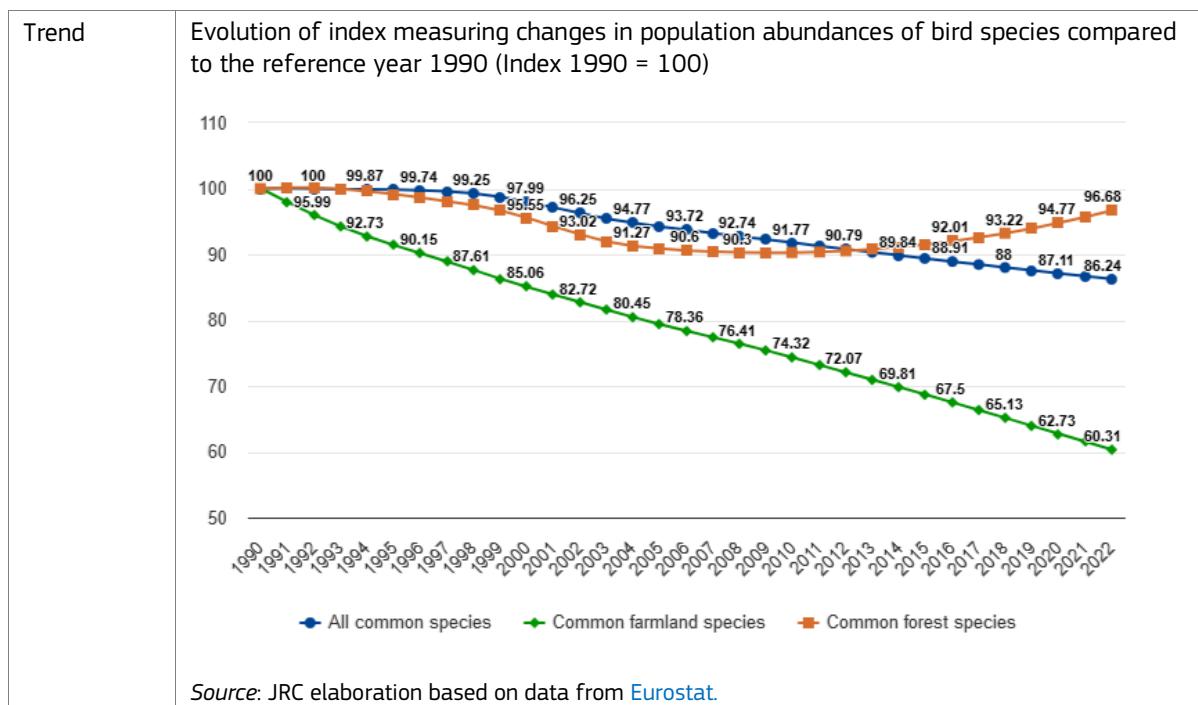
Document	Nature Restoration Law
Assessment	! Progress needs to accelerate to reach the target value Over 20 000 000 trees have been planted, but this represents only 0.7% of the desired target. Unless the rate of planting trees is massively increased, the target will not be reached by 2030.
Indicator	Number of trees planted in the EU as part of the 3 Billion Trees Pledge
Chart	<p>EU 27</p> <p>Target 2030: 3000000000</p> <p>Source: EU Biodiversity Strategy Dashboard, consulted in June 2024. Data from EEA.</p>

Habitats restoration

4. By 2030, significant areas of degraded and carbon-rich ecosystems are restored. Habitats and species show no deterioration in conservation trends and status; and at least 30% reach favourable conservation status or at least show a positive trend

Target in common with the 'Nature Restoration Law'

Document	EU Biodiversity Strategy for 2030
Assessment	✓ The pace of progress is sufficient to reach the target value After a steady decline over the period 1992-2010, common forest bird populations have stopped deteriorating and started showing some signs of recovery since 2010 (source: EEA). Next data points for the common forest bird index will be crucial to confirm this recent increasing trend.
Indicator	Common forest bird index



Source: JRC elaboration based on data from [Eurostat](#).

11. At least 25.000 km of free-flowing rivers are restored

Target in common with the 'Nature Restoration Law'

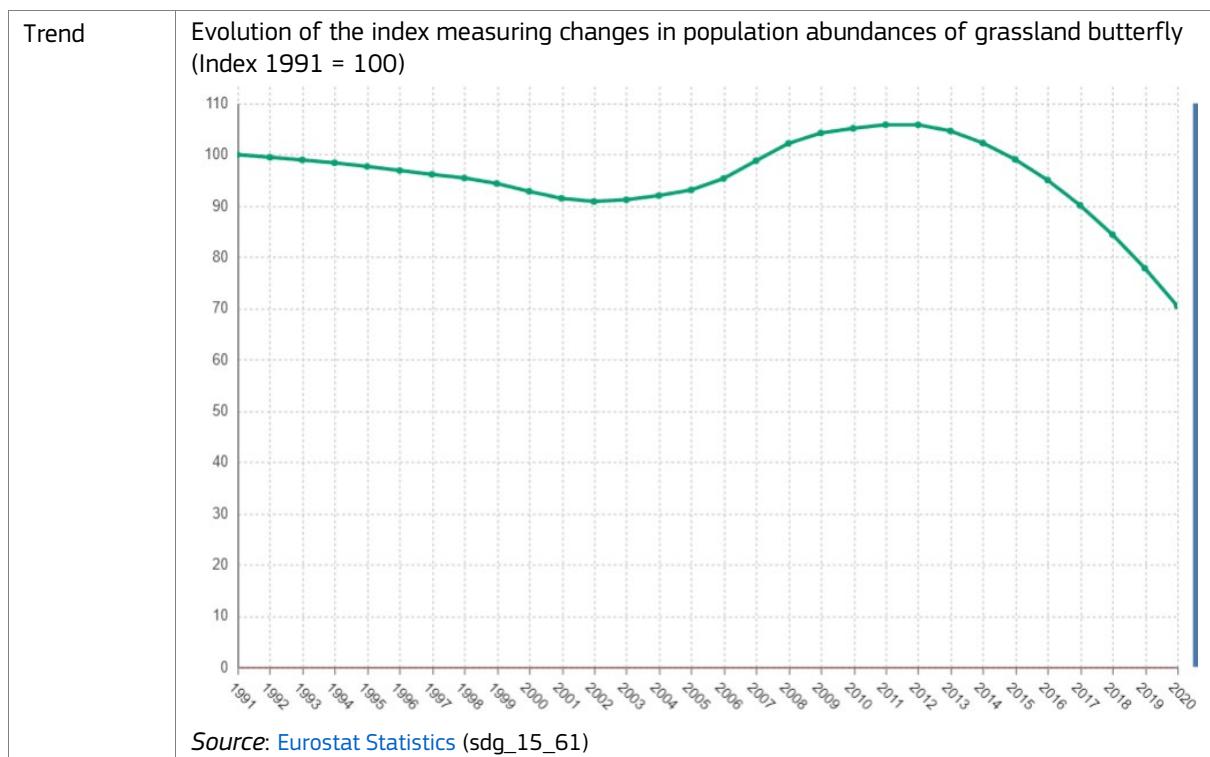
Document	EU Biodiversity Strategy for 2030	
Assessment	?	The target cannot be assessed due to lack of data
	The JRC and EEA are developing an indicator to characterise the number of free-flowing rivers, no data is available yet.	

Pollinators

5. The decline of pollinators is reversed

Target in common with the 'Nature Restoration Law'

Document	EU Biodiversity Strategy for 2030	
Assessment	×	The current trend runs counter to the desired direction or it is stagnant
	Based on trends in the grassland butterfly index, pollinators are still declining. Another indicator that would include more pollinators is under development to better characterise the decline of pollinators.	
Indicator	Grassland butterfly index	



Agricultural ecosystems

7. At least 10% of agricultural area is under high-diversity landscape features

Document	EU Biodiversity Strategy for 2030
Assessment	<p> The target cannot be assessed due to lack of data</p> <p>The JRC has developed an indicator to monitor progress in the share of agricultural area covered by landscape features, showing that currently, at EU level, 5.6% of agricultural land is covered by landscape features. However, this indicator does not capture high-diversity landscape features and no temporal trend is available, so at this stage no conclusion can be made regarding the likelihood to reach the target.</p>

8. At least 25% of agricultural land is under organic farming management, and the uptake of agroecological practise is significantly increased

Target in common with the Farm to Fork Strategy

Document	EU Biodiversity Strategy for 2030
Assessment	<p> Progress needs to accelerate to reach the target value</p> <p>Moderate progress rate, but not enough to reach the target by 2030. The compound annual growth rate (CAGR) is 6.7% per year (observed i.e. increased from 5.6% to 9.1% (2012–2020)), while 9.3% per year would be required to meet target.</p>
Indicator	Area under organic farming as percentage of the total utilised agricultural area (Source: Eurostat)

Chart	<p>Area under organic farming in EU 27 (% of the total utilised agricultural area)</p> <p>The chart displays the area under organic farming in the EU 27 as a percentage of the total utilised agricultural area. A gauge meter shows 9% against a target of 25%. A map of Europe shows color-coded organic farming areas by country.</p> <table border="1"> <thead> <tr> <th>Percentage Range</th> <th>Countries</th> </tr> </thead> <tbody> <tr> <td>0% - 6.3%</td> <td>Ireland, Malta, Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo</td> </tr> <tr> <td>6.3% - 12.5%</td> <td>Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo</td> </tr> <tr> <td>12.5% - 18.8%</td> <td>Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo</td> </tr> <tr> <td>18.8% - 25%</td> <td>Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo</td> </tr> <tr> <td>> 25%</td> <td>Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo</td> </tr> </tbody> </table> <p>Source: EU Biodiversity Strategy Dashboard, consulted in June 2024. Data from Eurostat (sdg_02_40). Note: This indicator measures the percentage of total utilised agricultural area, by Member State and at EU level, occupied by organic farming. It includes both existing organically-farmed areas and areas in the process of conversion. Values are calculated and provided every year by Eurostat based on data provided by the Member States.</p>	Percentage Range	Countries	0% - 6.3%	Ireland, Malta, Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo	6.3% - 12.5%	Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo	12.5% - 18.8%	Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo	18.8% - 25%	Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo	> 25%	Portugal, Spain, Italy, Greece, Bulgaria, Romania, Turkey, Moldova, Ukraine, Belarus, Poland, Czechia, Slovakia, Hungary, Austria, Slovenia, Croatia, Montenegro, North Macedonia, Albania, Kosovo		
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Trend	<p>Area under organic farming in EU 27 (% of the total), 2000-2020 and 2030 target</p> <p>The graph shows the trend of organic farming area in the EU 27 from 2000 to 2020, with a projected target for 2030. The area has increased steadily from approximately 2% in 2000 to about 9% in 2020, reaching the 2030 target of 25%.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Area under organic farming (%)</th> </tr> </thead> <tbody> <tr> <td>2000</td> <td>~2</td> </tr> <tr> <td>2005</td> <td>~3</td> </tr> <tr> <td>2010</td> <td>~4</td> </tr> <tr> <td>2015</td> <td>~6</td> </tr> <tr> <td>2020</td> <td>~9</td> </tr> <tr> <td>2030</td> <td>25</td> </tr> </tbody> </table> <p>Source: JRC elaboration based on data from Eurostat (sdg_02_40).</p>	Year	Area under organic farming (%)	2000	~2	2005	~3	2010	~4	2015	~6	2020	~9	2030	25
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2010	~4														
2015	~6														
2020	~9														
2030	25														

Pesticides and fertilisers

6. The risk and use of chemical pesticides is reduced by 50%, and the use of more hazardous pesticides is reduced by 50%

Target in common with the Farm to Fork Strategy and Zero Pollution Action Plan

Document	EU Biodiversity Strategy for 2030	
Assessment		Progress needs to accelerate to reach the target value

According to a trend analysis by DG SANTE, the use and risk of chemical pesticides decreased by 14% between the baseline period of 2015–2017 and 2020. The use and risk of chemical pesticides shows a decrease of 6% from 2020, and an overall decrease in the first four years of observation of 33% from the baseline period of 2015–2017. These overall downward trends shows that the first part of the target can be achieved by 2030¹⁰.

¹⁰ It should be noted that the current EU-wide indicator, which applies risk weightings to four different groups of chemical pesticides and is based on pesticide sales, is not considered scientifically robust by some. This indicator is based on a similar harmonised risk indicator, which, according to the European legislation (Commission Directive (EU) 2019/782), is considered hazard-based. This is due to the absence of statistics on the use of plant protection products needed to develop a risk indicator. The Commission is committed to developing more sophisticated indicators in future, such as improved weightings that take hazard properties into account in a more granular way or by using EU-level data on pesticide usage when it becomes available. An example of such an improvement is the new risk indicator assessing the toxicity of pesticide residues in soil from samples collected under the [LUCAS Soil Pesticide survey](#) coordinated by JRC. According to this indicator, in 2018, 14% of sites in the EU were at risk of negative effects on soil organisms due to pesticide

	<p>On the other side, according to data published by DG SANTE, the use of more hazardous pesticides fell by 21% between the baseline period of 2015–2017 and 2021. The use of more hazardous pesticides shows an increase of 5% from 2020 to 2021. Achievement of the 50% reduction target by 2030 remains challenging. It should be noted, while this indicator intends to monitor the use of the more hazardous pesticides, it does not take into account the exposure and hence the impact they might have on the environment and human health. In the future, this indicator should be complemented with a risk indicator showing changes in the actual risks¹¹.</p>																										
Indicator	<p>Use and risk of chemical pesticides (Source: DG SANTE) Use of more hazardous pesticides (Source: DG SANTE)</p>																										
Trend	<p>Trend in the use and risk of chemical pesticides in EU, 2011–2022 and 2030 target</p> <table border="1"> <caption>Data for Trend in the use and risk of chemical pesticides in EU (Index 100 = 2015-2017)</caption> <thead> <tr> <th>Year</th> <th>Index</th> </tr> </thead> <tbody> <tr><td>2011</td><td>116</td></tr> <tr><td>2012</td><td>105</td></tr> <tr><td>2013</td><td>101</td></tr> <tr><td>2014</td><td>105</td></tr> <tr><td>2015</td><td>106</td></tr> <tr><td>2016</td><td>101</td></tr> <tr><td>2017</td><td>92</td></tr> <tr><td>2018</td><td>93</td></tr> <tr><td>2019</td><td>85</td></tr> <tr><td>2020</td><td>73</td></tr> <tr><td>2021</td><td>65</td></tr> <tr><td>2022</td><td>54</td></tr> </tbody> </table>	Year	Index	2011	116	2012	105	2013	101	2014	105	2015	106	2016	101	2017	92	2018	93	2019	85	2020	73	2021	65	2022	54
Year	Index																										
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Trend	<p>Source: EU Trends - European Commission. Note: for the index the baseline period taken as reference (100) is 2015–2017 years.</p> <p>Trend in the use of more hazardous pesticides in EU, 2011–2022 and 2030 target</p> <table border="1"> <caption>Data for Trend in the use of more hazardous pesticides in EU (Index 100 = 2015-2017)</caption> <thead> <tr> <th>Year</th> <th>Index</th> </tr> </thead> <tbody> <tr><td>2011</td><td>98</td></tr> <tr><td>2012</td><td>94</td></tr> <tr><td>2013</td><td>97</td></tr> <tr><td>2014</td><td>100</td></tr> <tr><td>2015</td><td>103</td></tr> <tr><td>2016</td><td>103</td></tr> <tr><td>2017</td><td>94</td></tr> <tr><td>2018</td><td>95</td></tr> <tr><td>2019</td><td>83</td></tr> <tr><td>2020</td><td>74</td></tr> <tr><td>2021</td><td>79</td></tr> <tr><td>2022</td><td>75</td></tr> </tbody> </table> <p>Source: EU Trends - European Commission. Note: for the index the baseline period taken as reference (100) is 2015–2017 years.</p>	Year	Index	2011	98	2012	94	2013	97	2014	100	2015	103	2016	103	2017	94	2018	95	2019	83	2020	74	2021	79	2022	75
Year	Index																										
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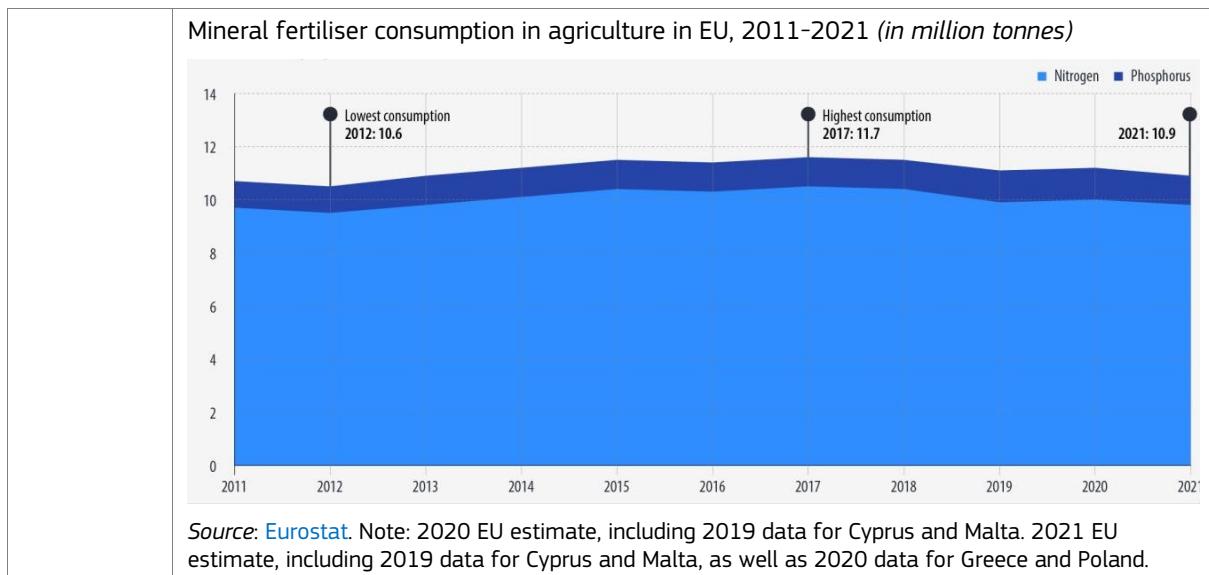
residues. The analysis of samples from 2022 is currently ongoing and will shed light on the EU's progress towards pesticide risk reductions. This indicator is relevant to only one compartment (soil) but is just one of many being examined for usefulness and relevance.

¹¹ Options include better grouping of substances, group weighting reflecting substances' toxicities, standardisation of sales data with recommended application rates and utilisation of pesticide use data instead of the sales data as the basis for a new indicator.

13. The losses of nutrients from fertilisers are reduced by 50%, resulting in the reduction of the use of fertilisers by at least 20%

Target in common with the EU Soil Strategy for 2030

Document	EU Biodiversity Strategy for 2030
Assessment	! Progress needs to accelerate to reach the target value <p>The average river nitrate concentration in Europe decreased steadily over the period 1992–2009 but has levelled off since then. Agriculture remains the main contributor to nitrogen pollution, but the EU Nitrates Directive and national measures have contributed to lower concentrations. However, the apparent stabilisation in recent years calls for further measures.</p>
Indicator	Concentration of nitrate and phosphate in ground water, rivers, lakes
Charts	<p>Marine waters affected by eutrophication, EU, 2000–2023</p> <p>(km²)</p> <p>Source: Eurostat, Monitoring report on progress towards the SDGs in an EU context, 2024.</p>
Trends	<p>Nitrate concentrations in European rivers and groundwater, 1992–2021 (in milligrams of NO₂ per litre: mgNO₂/l)</p> <p>Groundwater: Milligrams of NO₂ per litre (mgNO₂/l)</p> <p>Rivers: Milligrams of NO₂-N per litre (mgNO₂-N/l)</p> <p>Source: EEA.</p>
	<p>Phosphorus in European lakes and rivers, 1992–2021 (in milligrams of P per litre: mgP/l)</p> <p>Lakes: Milligrams of P per litre (mgP/l)</p> <p>Rivers: Milligrams of PO₄-P per litre (mgPO₄-P/l)</p>



Invasive Alien Species

12. There is a 50% reduction in the number of Red List species threatened by invasive alien species

Document	EU Biodiversity Strategy for 2030
Assessment	? The target cannot be assessed due to lack of data The expected acceleration in the number of alien species introductions and establishment due to global trade (including web trade), travel, and climate change, can lead to increased adverse impacts on biodiversity and ecosystems, human health and the economy. The Regulation (EU) 1143/2014 (IAS Regulation) includes a set of measures to be taken across the EU in relation to IAS, aiming to prevent, minimise and mitigate their adverse impacts. The implementation is underpinned by EASIN (European Alien Species Information Network), which also hosts the European early warning system on IAS of Union concern. The actions fostered by the EU biodiversity Strategy for 2030 aim at stepping up the IAS Regulation and other relevant legislation and international agreements with the objective of managing established IAS, decreasing the number of Red List species they threaten.

Urban ecosystem

14. Cities with at least 20.000 inhabitants have an ambitious Urban Greening Plan

Document	EU Biodiversity Strategy for 2030
Assessment	? The target cannot be assessed due to lack of data No data is yet available.

Soil

Reach no net land take	
Document	EU Biodiversity Strategy for 2030
Assessment	X The current trend runs counter to the desired direction or it is stagnant <p>Over the 2012-2018 period, the majority (78%) of the net land take happened in commuting zones. The net land take in urban areas during 2012-2018 amounted to 2 696km², corresponding to 450km² annually. 1 415km² or 47% of all land take took place in arable lands, impacting food security, carbon sequestration and the maintaining of biodiversity. The second largest land take took place in pastures — a loss of 945km² or 36% of all land take. Pastures are among Europe's most important biodiversity hotspots and soil carbon sinks.</p>
Indicator	Land use overview by NUTS 2 regions
Trend	<p>Total land use overview in EU, 2009-2018 (<i>in square kilometre</i>)</p> <p>Source: Eurostat</p>

Fisheries and Aquaculture

In accordance with the CFP, it is crucial to continue and accelerate the work of rebuilding and keeping fish stocks above MSY levels (Maximum Sustainable Yield)	
Document	The common fisheries policy today and tomorrow
Assessment	! Progress needs to accelerate to reach the target value <p>In the Northeast Atlantic (both EU and non-EU waters), stock status has significantly improved from 2003 to 2021, but still an important share of stocks is overexploited.</p>
Indicator	Fishing pressure (F/Fmsy): values below 1 indicate sustainable fishing levels (F Fmsy).

Chart	<p>Estimated trends in fishing pressure, 2003–2022 (model-based median value of fishing pressure (F/FMSY))</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Sustainable fishing levels (EU total marine waters)</th> <th>EU total marine waters</th> <th>North East Atlantic (FAO area 27)</th> <th>Mediterranean and Black Sea (FAO area 37)</th> </tr> </thead> <tbody> <tr><td>2003</td><td>1.57</td><td>1.57</td><td>1.50</td><td>1.65</td></tr> <tr><td>2006</td><td>1.57</td><td>1.57</td><td>1.45</td><td>1.70</td></tr> <tr><td>2016</td><td>1.13</td><td>1.13</td><td>0.85</td><td>1.65</td></tr> <tr><td>2021</td><td>0.88</td><td>0.88</td><td>0.70</td><td>1.25</td></tr> </tbody> </table> <p>Source: Eurostat, Monitoring report on progress towards the SDGs in an EU context, 2024. Note: Estimated data; data for Mediterranean and Black Sea (FAO area 37) are only available until 2021. Estimates from Joint Research Centre (JRC) - Scientific, Technical and Economic Committee for Fisheries (STECF) (Eurostat online data code: sdg_14_30).</p>	Year	Sustainable fishing levels (EU total marine waters)	EU total marine waters	North East Atlantic (FAO area 27)	Mediterranean and Black Sea (FAO area 37)	2003	1.57	1.57	1.50	1.65	2006	1.57	1.57	1.45	1.70	2016	1.13	1.13	0.85	1.65	2021	0.88	0.88	0.70	1.25
Year	Sustainable fishing levels (EU total marine waters)	EU total marine waters	North East Atlantic (FAO area 27)	Mediterranean and Black Sea (FAO area 37)																						
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2021	0.88	0.88	0.70	1.25																						
Trend	<p>Estimated trends in fish stock biomass, 2003–2022 (index 2003 = 100)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>EU total marine waters</th> <th>North East Atlantic (FAO area 27)</th> <th>Mediterranean and Black Sea (FAO area 37)</th> </tr> </thead> <tbody> <tr><td>2003</td><td>100</td><td>100</td><td>100</td></tr> <tr><td>2006</td><td>77</td><td>90</td><td>90</td></tr> <tr><td>2016</td><td>74</td><td>135</td><td>70</td></tr> <tr><td>2021</td><td>77</td><td>138</td><td>70</td></tr> </tbody> </table> <p>Source: Eurostat, Monitoring report on progress towards the SDGs in an EU context, 2024. Note: Estimated data; data for Mediterranean and Black Sea (FAO area 37) are only available until 2021. Also note that the visualisation of the trends is affected by indexing the data to the year 2003. Estimates from Joint Research Centre (JRC) - Scientific, Technical and Economic Committee for Fisheries (STECF) (Eurostat online data code: sdg_14_21).</p>	Year	EU total marine waters	North East Atlantic (FAO area 27)	Mediterranean and Black Sea (FAO area 37)	2003	100	100	100	2006	77	90	90	2016	74	135	70	2021	77	138	70					
Year	EU total marine waters	North East Atlantic (FAO area 27)	Mediterranean and Black Sea (FAO area 37)																							
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Non quantifiable targets

Biodiversity

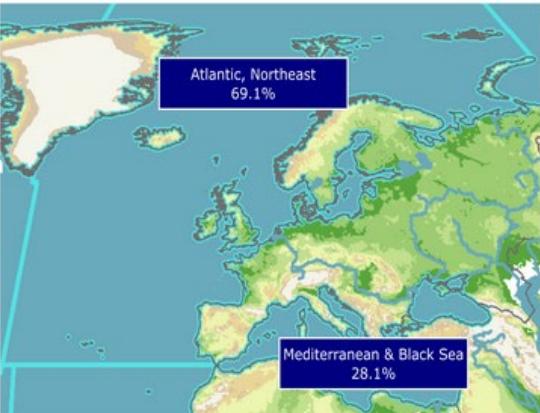
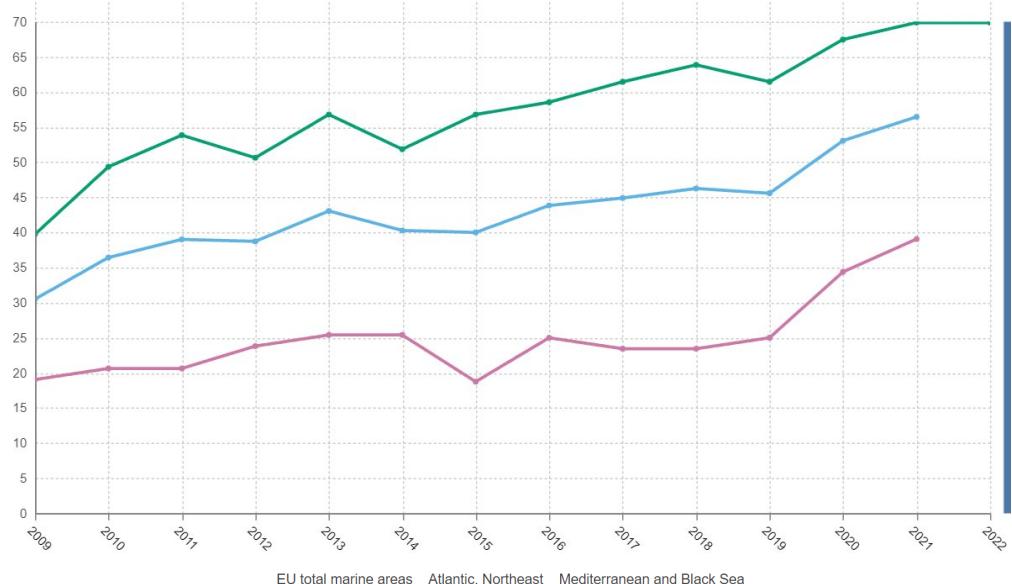
3. Effectively manage all protected areas, defining clear conservation objectives and measures, and monitoring them appropriately

Document	EU Biodiversity Strategy for 2030
Assessment	? The target cannot be assessed due to lack of data Indicators are lacking to characterise effective management of EU protected areas, but EEA is investigating how the information reported by Member State can be used to that purpose. It is too early to draw any conclusion.

10. Significant progress in the remediation of contaminated soil sites

Document	EU Biodiversity Strategy for 2030												
Assessment	! Progress needs to accelerate to reach the target value With existing national implementation structures and funding, countries' progress in detecting, investigating and remediating contaminated sites varies considerably, from 20 sites/year to 3,000 sites/year. The total numbers of sites under remediation in 2006, 2011 and 2016 were 6,269, 12,073 and 10,539, respectively. To remediate all expected contaminated sites, it would take between 10 years (based on the average current remediation rate of 614 sites/year per country) and 47 years (based on a median remediation rate per country of 129 sites/year).												
Indicator	Increase in the number of remediated sites												
Chart	Increase in the number of remediated sites, by Member State and at EU27 level <p>The chart displays the total number of remediated sites across the EU27 member states. A large circular callout on the left side of the map shows the total count of 57,110 sites. The map itself uses a color-coded legend to represent different ranges of site counts, with darker shades indicating higher numbers of sites.</p> <table border="1"> <thead> <tr> <th>Site Count Range</th> <th>Number of Member States</th> </tr> </thead> <tbody> <tr> <td>0 - 6368</td> <td>10</td> </tr> <tr> <td>6368 - 12737</td> <td>10</td> </tr> <tr> <td>12737 - 19105</td> <td>10</td> </tr> <tr> <td>19105 - 25474</td> <td>7</td> </tr> <tr> <td>> 25474</td> <td>1</td> </tr> </tbody> </table> <p>Source: EU Biodiversity Strategy Dashboard, consulted in June 2024. Data from EEA.</p>	Site Count Range	Number of Member States	0 - 6368	10	6368 - 12737	10	12737 - 19105	10	19105 - 25474	7	> 25474	1
Site Count Range	Number of Member States												
0 - 6368	10												
6368 - 12737	10												
12737 - 19105	10												
19105 - 25474	7												
> 25474	1												

15. The negative impacts on sensitive species and habitats, including on the seabed through fishing and extraction activities, are substantially reduced to achieve good environmental status

Document	EU Biodiversity Strategy for 2030
Assessment	! Progress needs to accelerate to reach the target value The proportion of fish stocks sustainably exploited has increased from 29.32% in 2009 to 44.93% in 2019, so an increase of 1.6% per year. If the trend continues, around 60% of fish stocks will be sustainably exploited by 2030.
Indicator	Proportion of fish stocks sustainably exploited
Chart	Proportion of fish stocks sustainably exploited EU 27  
Trend	Proportion of fish stocks sustainably exploited, 2009-2022  <p>Source: EU Biodiversity Strategy Dashboard, consulted in June 2024. Note: This indicator provides the percentage of fish stocks, in North-East Atlantic and adjacent seas, the Mediterranean and Black Sea region and in EU waters overall, that is sustainably exploited. Values are calculated each year by the Joint Research Centre (Scientific, Technical and Economic Committee for Fisheries), and further provided by Eurostat.</p>

Source: JRC elaboration from [Eurostat](#). Data from European Commission - Joint Research Centre (JRC); Scientific, Technical and Economic Committee for Fisheries (STECF).

16. The by-catch of species is eliminated or reduced to a level that allows species recovery and conservation

Document	EU Biodiversity Strategy for 2030	
Assessment		The target cannot be assessed due to lack of data
		No data (there is no indicator yet as threshold levels for by-catch have not been defined).

Forests

Ensuring forest restoration and reinforced sustainable forest management for climate adaptation and forest resilience

Document	New EU Forest Strategy for 2030	
Assessment		<p>Progress needs to accelerate to reach the target value</p> <p>With the NRL politically agreed, there is a binding legal basis for reaching restoration targets in the EU. Assuming no major obstacles in definitive political adoption, it will be mid 2024 until the law is in force, hence there is not much time.</p> <p>On the reinforced SFM, guidelines have been adopted this year (SWD(2023) 284 final, SWD(2023)61). These non-legally binding documents and in particular the Closer-to-Nature Forest Management guidelines were heavily discussed. There are very ample definition and documents are rather unspecific, certainly no limiting or labelling a management as non SFM for specific regions.</p>

Providing financial incentives for forest owners and managers for improving the quantity and quality of EU forests

Document	New EU Forest Strategy for 2030	
Assessment		<p>The pace of progress is sufficient to reach the target value</p> <p>The Sustainable Carbon Cycles Communication and the legal proposal for a carbon removal certification framework lay the foundation for financial incentives for forest owners and managers. Also soft law has been adopted, such as guidelines for public and private Payment schemes for Ecosystem services (SWD(2023) 285 final). As the target does not say how much money should be leveraged, this target will likely be achieved, but it remains open whether the financial incentives will be sufficient to raise the quality and quantity of EU forests at the level that is needed.</p>

Annex 7. ZERO POLLUTION

Targets from legal acts (binding)

Water quality

Member States shall take the measures necessary to ensure that water intended for human consumption is wholesome and clean. For the purposes of the minimum requirements of this Directive, water intended for human consumption shall be wholesome and clean if all the following requirements are met: (a) that water is free from any micro-organisms and parasites and from any substances which, in numbers or concentrations, constitute a potential danger to human health; (b) that water meets the minimum requirements set out in Parts A, B and D of Annex I; (c) Member States have taken all other measures necessary to comply with Articles 5 to 14.

Document	Directive 2020/2184 (Drinking Water Directive)
Assessment	<p> The target cannot be assessed due to lack of data</p> <p>The level of access to clean drinking water in Europe is high according to the WASH database by the WHO and UNICEF. However, as reported by the EEA, the levels of treatment and accessibility are lower in rural areas than in urban locations. Disparities in access to safe drinking water among ethnic groups in Europe emerged as well.</p> <p>The revised Drinking Water Directive includes additional parameters than the 46 microbiological, chemical and indicator parameters of the first DWD. The new parameters include per- and polyfluorinated compounds (PFAS) and bisphenol A, setting limit values for their presence in drinking water. Data in 2011 and 2013 are the most updated according to EEA.</p> <p>The Directive Impact Assessment referred to it to calculate the "Population Potentially at Health Risk" (PPHR) indicator, estimating the share of the population that could potentially suffer from health problems because of the presence of contaminants in drinking water. According to the PPHR, in 2015 22.7 million people were potentially at health risk due to non-safe drinking water, equivalent to 4 % of the EU population. The option for the revised Directive is expected to have impacts on the drinking water quality. However, estimated data for 2015 is not sufficient to assess the status of drinking water quality with respect to its evolution over time and new additional parameters by the revised directive, as confirmed by EEA. Member States have started for complying with the reporting requirements in 2023.</p>

The Water Reuse Regulation aims to encourage and facilitate water reuse in the EU by harmonised minimum water quality requirements for the safe reuse of treated urban wastewaters in agricultural irrigation. Further requirements are set for monitoring, permitting, risk management, transparency and permits on production and supply of reclaimed water for agricultural irrigation

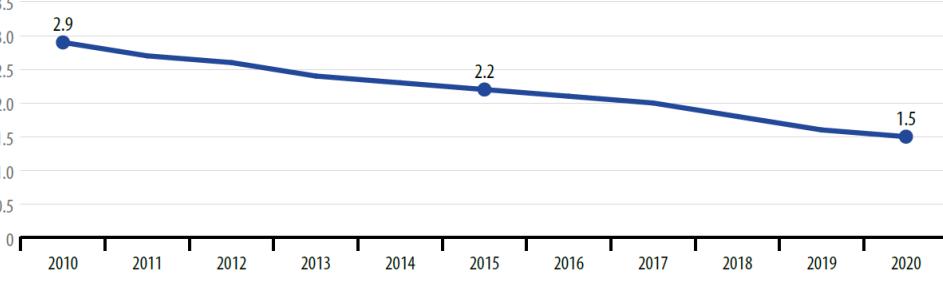
Document	Regulation 2020/741 on minimum requirements (Water reuse Regulation)
Assessment	<p> The target cannot be assessed due to lack of data</p> <p>Before the introduction of the Regulation, the EU was not equipped with a legislative framework for water reuse. More than 40 000 million m³ of wastewater is treated in the EU every year but only the 2.4% is further treated to be reused. As of April 2024, water reuse for agricultural irrigation is allowed in most Member States. Some Member States, where freshwater resources are abundant and irrigation demand is low, have planned not to allow water reuse for irrigation in their countries. Some Member States have not yet made a final decision, as resource and infrastructure costs still are being evaluated (source: WISE Freshwater website).</p>

The revised Urban Wastewater Treatment Directive (UWWTD) extend the scope of the 1991 UWWTD to improve and maintain **access to sanitation for all**, in particular for vulnerable and marginalised, while aligning with the ZPAP and EGD climate and energy objectives.

This will be ensured by a number of **new obligations on secondary treatment**, now extended to all agglomerations with at least 1 000 population equivalent, by 2035. Member States will ensure the application of:

- **Tertiary treatment**, for the removal of nitrogen and phosphorus (by 2039)
- **Quaternary treatment**, for the removal of a broad spectrum of micropollutants (by 2045)

These apply to larger plants of 150 000 p.e. (and above, with intermediate targets).

Document	Directive 2024/3019 concerning urban wastewater treatment																								
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>Access to sanitation. There is a positive trend in the access to basic sanitation and connection to secondary wastewater treatment. Overall, the share of population without a bath, shower, or indoor flushing toilet in their household has decreased from 2.2% in 2015 to 1.5% in 2020. However, in some Member States, there are still high shares of the population without access to basic sanitary facilities in 2020. The share of the EU population connected to secondary wastewater treatment has also increased continuously since 2000, reaching 81.1% in 2020. The ongoing revision of the Urban Wastewater Treatment Directive aims to bring additional improvements not only for water quality, but also for access to sanitation.</p> <p>Secondary treatment. Small agglomerations constitute a significant pressure on 11% of the EU's surface water bodies. Currently, the situation varies across the EU, with some Member States requesting all urban wastewater to be treated and others having set standards for small agglomerations beyond the requirements set in Directive 91/271/EEC.</p> <p>Tertiary treatment. In many cases, nitrogen and phosphorus are well removed from wastewater, but there are still regions where additional removal could bring a significant benefit to the environment. In many cases, the costs of additional removal are well below the benefits that could be achieved, and some wastewater treatment plants operate already beyond the requirements of Directive 91/271/EEC. The ongoing revision of the Directive aims to push nutrient removal further by imposing stricter standards. This would also contribute indirectly to the reduction of GHG emissions.</p> <p>Quaternary treatment. While secondary and tertiary wastewater treatment is being implemented compliant with Directive 91/271/EEC, several chemical micropollutants escape treatment plants and contribute to pollution of the receiving waters (e.g. pharmaceuticals and personal care products). The ongoing revision of the Directive aims to require quaternary treatment for all larger plants, also based on an extended producer responsibility (EPR) scheme that would help finance the corresponding treatment costs.</p>																								
Indicators	<p>EU SDG indicator 06_10: Population having neither a bath, nor a shower, nor indoor flushing in their household by poverty status</p> <p>EU SDG indicator 06_20: Population connected to at least secondary wastewater treatment</p>																								
Charts	<p>Population having neither a bath, nor a shower, nor indoor flushing toilet in their household, EU 2010-2020 (% of population)</p>  <table border="1"> <thead> <tr> <th>Year</th> <th>Percentage (%)</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>2.9</td> </tr> <tr> <td>2011</td> <td>2.8</td> </tr> <tr> <td>2012</td> <td>2.7</td> </tr> <tr> <td>2013</td> <td>2.6</td> </tr> <tr> <td>2014</td> <td>2.5</td> </tr> <tr> <td>2015</td> <td>2.2</td> </tr> <tr> <td>2016</td> <td>2.1</td> </tr> <tr> <td>2017</td> <td>2.0</td> </tr> <tr> <td>2018</td> <td>1.9</td> </tr> <tr> <td>2019</td> <td>1.8</td> </tr> <tr> <td>2020</td> <td>1.5</td> </tr> </tbody> </table>	Year	Percentage (%)	2010	2.9	2011	2.8	2012	2.7	2013	2.6	2014	2.5	2015	2.2	2016	2.1	2017	2.0	2018	1.9	2019	1.8	2020	1.5
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	<p>Population connected to at least secondary wastewater treatment, EU, 2000–2021 (% of population)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Percentage (%)</th> </tr> </thead> <tbody> <tr><td>2000</td><td>68</td></tr> <tr><td>2006</td><td>72.6</td></tr> <tr><td>2016</td><td>79.5</td></tr> <tr><td>2021</td><td>80.9</td></tr> </tbody> </table> <p><i>Source:</i> Eurostat, Monitoring report on progress towards the SDGs in an EU context, 2024. Note: Eurostat estimates (data code: sdg_06_20).</p>	Year	Percentage (%)	2000	68	2006	72.6	2016	79.5	2021	80.9
Year	Percentage (%)										
2000	68										
2006	72.6										
2016	79.5										
2021	80.9										

Industrial emissions

The Industrial Emission Directive (IED) includes aims at preventing or reducing emissions from large industrial installations and large pigs and poultry farms into the environment. The revised IED includes new provisions related to resource, energy and water efficiency and to the reduction of use and emissions of hazardous substances. The scope has been widened to include metal mining, batteries 'giga-factories', waste landfills and more pigs and poultry farms. The revised IED contains also a set of measures to facilitate and accelerate the uptake of innovative techniques by industry.

Document	Directive (EU) 2024/1785 on industrial emissions and the landfill of waste
Assessment	<p> The target cannot be assessed due to lack of data</p> <p>The IED is a key instrument to support the transition of the EU industry towards a climate neutral, clean and circular economy. The revised legislation will lead to a considerable reduction of pollution from industry and level the playing field. For example, it is expected to deliver, latest by 2050, up to 40% additional reduction of key air pollutants.</p>

Air quality

The Ambient Air Quality Directives set EU air quality standards for 12 air pollutants for Member States to not exceed: sulphur dioxide, nitrogen dioxide / nitrogen oxides, particulate matter (PM10, PM2.5), ozone, benzene, lead, carbon monoxide, arsenic, cadmium, nickel, and benzo(a)pyrene. With the revised Ambient Air Quality Directive, the annual limit value for the main pollutant – fine particulate matter (PM2.5) – is cut by more than half.

Document	Directive (EU) 2024/2881 on ambient air quality and cleaner air for Europe
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>In the European Union, air pollution is the single largest environmental health risk, causing cardiovascular and respiratory diseases that lead to the loss of healthy years of life and, in the most serious cases, premature deaths (about 240 000 reported in the European Union (EU) for 2021). Although emissions of air pollutants have been reduced over recent decades (primarily as a result of legislation), air quality remains a major concern in many parts of Europe. Air quality limits set by EU legislation for particulate matter, nitrogen dioxide and ozone continue to be exceeded, especially in many urban areas.</p>

Targets from Proposals (non-binding)

Water quality

By means of an updated and harmonised list of pollutants affecting surface and groundwater, updated existing quality standards, new monitoring requirements, improved and more accessible data, and a more flexible framework for addressing pollutants of emerging concerns, the proposal aims at setting new high standards for a series of chemical substances of concern to address chemical pollution in water

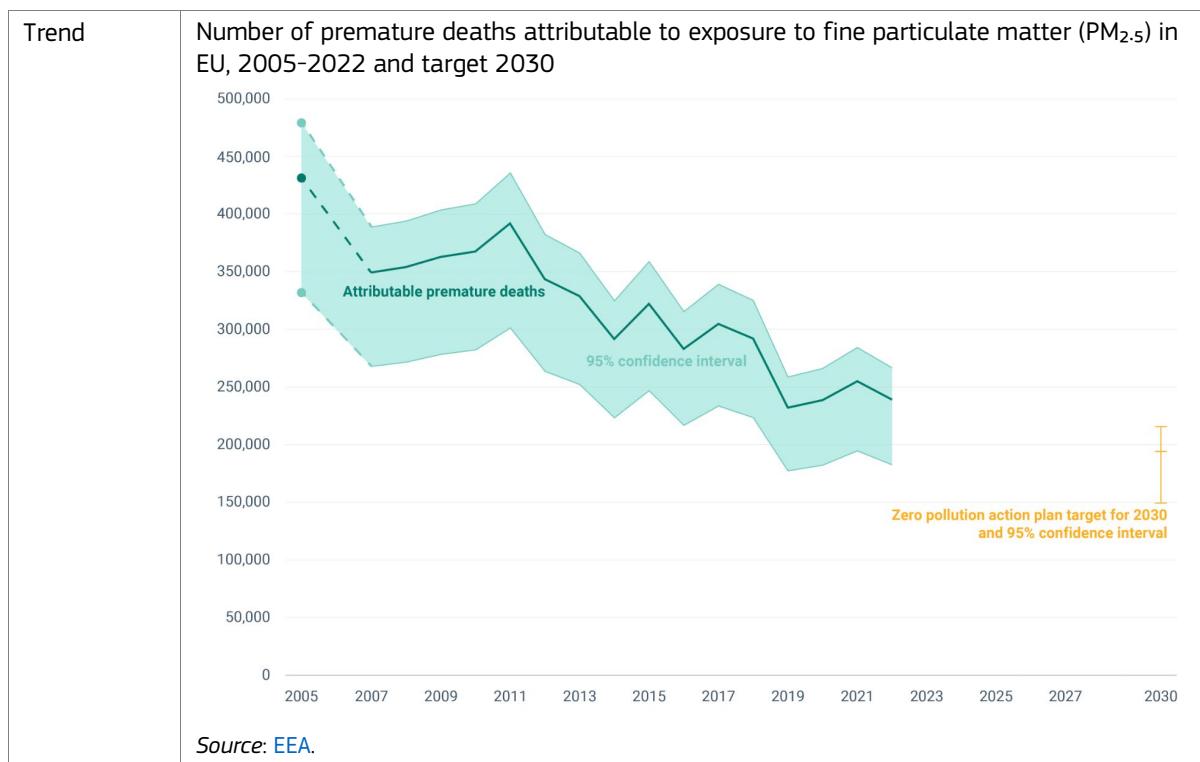
Document	Proposal for a Directive amending the Water Framework Directive, the Groundwater Directive, and the Environmental Quality Standards Directive
Assessment	 The target cannot be assessed due to lack of data <p>Micro-pollutants pose a significant challenge. The necessity of removing them at wastewater treatment facilities increases treatment costs, and complete removal is not always feasible. The proposal encourages more proactive measures upstream by reducing emissions at their source. By avoiding water pollution, the proposal will also benefit the potential for water reuse. The enhanced watch list mechanism requiring Member States to monitor new substances, will enable the Commission, with the support of the European Chemicals Agency and the Member States, to determine the need for additional or stricter quality standards.</p> <p>More frequent reporting of actual monitoring data, and its analysis by the EEA, will provide the EU Institutions, Member States, and the general public with a more precise and current understanding of the status of surface and groundwater bodies in the EU. The analysis of more regular monitoring and status data will effectively feed into the broader Zero Pollution Monitoring and Outlook framework.</p>

Targets from Communications (non-binding)

Environmental pollution

Improve air quality to reduce the number of premature deaths caused by air pollution by 55% (2030 target contributing to the 2050 ambition of a toxic-free environment)

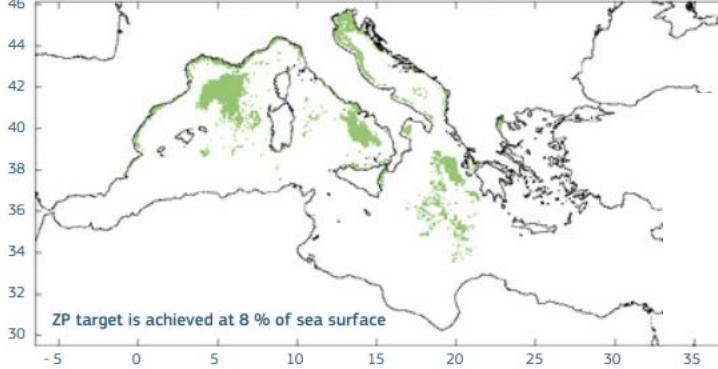
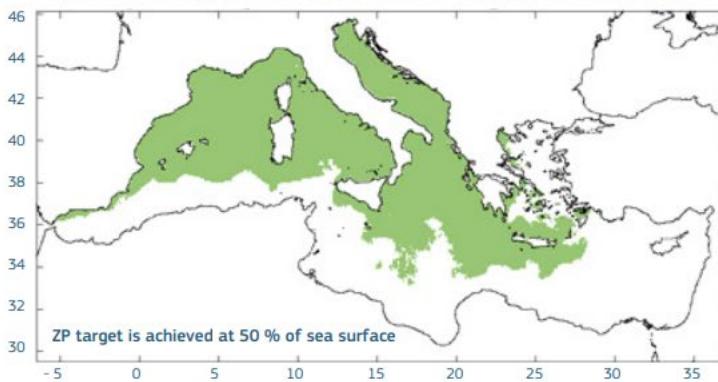
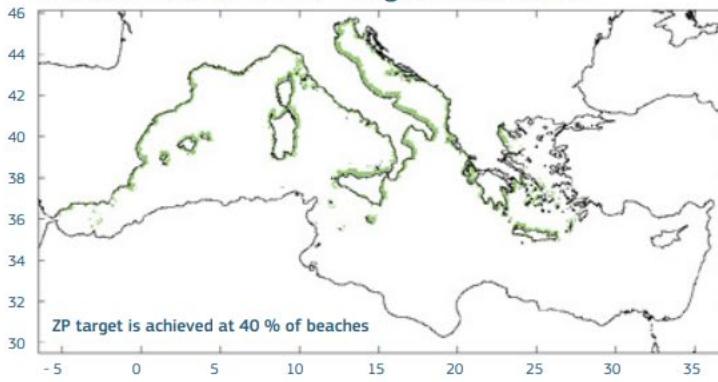
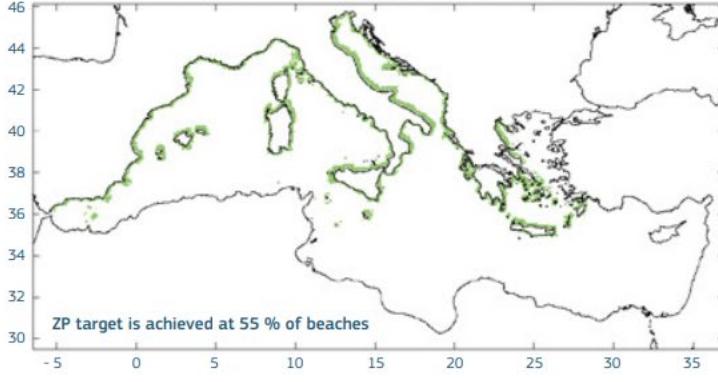
Document	Towards Zero Pollution for Air, Water and Soil
Assessment	 The pace of progress is sufficient to reach the target value <p>As a result of the revision to the Ambient Air Quality Directive, it is likely that reductions by over 70%, compared to 2005 levels, can be achieved in 2030.</p>
Indicator	Premature deaths attributable to exposure to total PM2.5, 55% reduction by 2030 as compared to 2005 (Source: Zero Pollution Outlook).



Improve water quality by reducing waste, plastic litter at sea (by 50%)

(2030 target contributing to the 2050 ambition of a toxic-free environment)

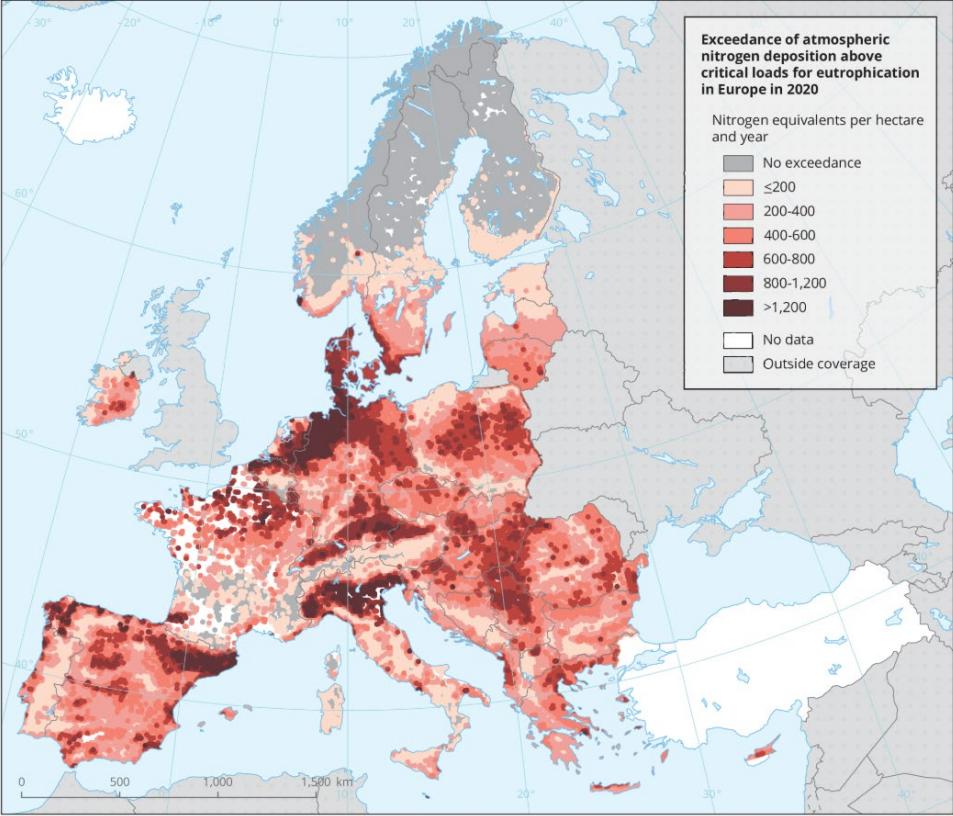
Document	Towards Zero Pollution for Air, Water and Soil
Assessment	! Progress needs to accelerate to reach the target value Concentration of plastic litter at sea: 14% reduction of plastic litter (in 8% of the basin surface of the Mediterranean Sea and 44% of all beaches) with a total ban on single-use-plastic items (Source: Zero Pollution Outlook).
Indicator	plastic litter at sea

Chart	Mediterranean Sea regions where the ZP target (reduction of litter by >50 %) is achieved for each management scenario tested
	Open sea regions where the ZP target is achieved
	 SUP ban ZP target is achieved at 8 % of sea surface
	 No litter @ EU ZP target is achieved at 50 % of sea surface
	Beaches where the ZP target is achieved
	 SUP ban ZP target is achieved at 40 % of beaches
	 No litter @ EU ZP target is achieved at 55 % of beaches
<i>Source:</i> JRC Zero Pollution Outlook 2022.	

Improve water quality by reducing microplastics released into the environment by 30%
(2030 target contributing to the 2050 ambition of a toxic-free environment)

Document	Towards Zero Pollution for Air, Water and Soil
Assessment	? The target cannot be assessed due to lack of data <p>Microplastics concentration in soils is expected to increase, mainly due to the incorporation through the disposal of the sewage sludge and other agricultural practices such as plastics greenhouse, mulching films, drip irrigation, polymer-controlled release fertilisers, silage films, etc. However, there is no standardized lab methodology for identification and quantification, and one should still be developed. The current database on soil pollution with plastics is still poor and no good prediction could be done.</p> <p>The EU has taken measures to combat microplastic pollution on all fronts, aiming at reducing microplastic releases to the environment by 30% by 2030.</p>

Reduce by 25% the EU ecosystems where air pollution threatens biodiversity (compared to 2005)
(2030 target contributing to the 2050 ambition of a toxic-free environment)

Document	Towards Zero Pollution for Air, Water and Soil
Assessment	✓ The pace of progress is sufficient to reach the target value <p>Current and proposed EU policies do not appear sufficient to enable the EU to reduce the area of EU ecosystems under threat from air pollution by 25% in 2030 compared to 2005. Nonetheless, with the implementation of the recently revised Ambient Air Quality Directives, this target could be achieved (Source: Zero Pollution Outlook).</p>
Indicator	Ecosystem area in the EU-27 where the critical loads for eutrophication are exceeded (km ²), 25% reduction by 2030 compared to 2005
Map	<p>Exceedance of atmospheric nitrogen deposition above critical loads for eutrophication in Europe, 2020</p>  <p>Exceedance of atmospheric nitrogen deposition above critical loads for eutrophication in Europe in 2020</p> <p>Nitrogen equivalents per hectare and year</p> <ul style="list-style-type: none"> No exceedance ≤200 200-400 400-600 600-800 800-1,200 >1,200 No data Outside coverage <p>Source: EEA.</p>

Reduce the share of people chronically disturbed by transport noise by 30% (compared to 2017) (2030 target contributing to the 2050 ambition of a toxic-free environment)

Document	Towards Zero Pollution for Air, Water and Soil
Assessment	! Progress needs to accelerate to reach the target value <p>Data suggest that the number of people exposed to harmful noise levels has not decreased significantly over time (source: EEA). Current estimates show that the number will not decline by more than 19% by 2030 (Source: Zero Pollution Outlook).</p>
Indicator	Number of people exposed to unhealthy noise levels
Trend	<p>Estimated percentage change in the number of people highly annoyed by noise from transport in the EU-27 from 2017 to 2030 under conservative and optimistic scenarios</p> <p>Source: JRC Zero Pollution Outlook 2022.</p>
Chart	<p>Estimated number of people exposed to unhealthy noise levels, in the EU in 2007, 2012 and 2017, inside and outside urban areas, in road, rail and air traffic, and in industry</p> <p>Source: EEA. Note: Number of people exposed to noise levels ≥ 55 L_{den} (dB) and to noise levels ≥ 50 dB L_{night} (dB). Estimates based on END thresholds, based on data officially reported by countries under the EU Environmental Noise Directive (2002/49/EC) up to 01/01/2021.</p>

Soil

Improve soil quality by reducing nutrient losses and chemical pesticides' use by 50%, by 2030

Pesticides in soils

Document	EU Soil Strategy for 2030
Assessment	<p> The pace of progress is sufficient to reach the target value</p> <p>Considering soil quality and pesticides, reduction of (more hazardous) pesticide concentration in soil due to increased organic farming (as well as other agricultural practices) and other farm-to-fork objectives. Under current legal limitations (28 kg of copper per hectare over 7 years), a potential risk of increased organic farming could be an accumulation of copper in soil.</p>

Improve soil quality by reducing nutrient losses and chemical pesticides' use by 50%, by 2030

Water quality and nutrient losses

Document	EU Soil Strategy for 2030																																				
Assessment	<p> Progress needs to accelerate to reach the target value</p> <p>Considering water quality and nutrient losses, there is a possible reduction of nutrient inputs into marine ecosystems under high ambitious scenario (revision UWWT, FitFor55 package, F2F and BD strategies targets, new CAP): nitrogen 32%, phosphorous 17%. 50% reduction of nutrient input could be achieved in four of ten examined regions for nitrogen and in two of ten for phosphorous.</p> <p>Considering water quality and chemical pesticides, and in particular chemicals load (diuron and terbutylazine, as examples of low- and high-persistence chemicals, respectively) in water: 56% reduction in pesticides concentration can be achieved in shelf seas, 12% in open seas, depending on the persistence of the pesticide (Source: Zero Pollution Outlook).</p>																																				
Chart	<p>Projected change in nutrient load for 2030 in the marine strategy framework directive regions</p> <p>MSFD marine Regions</p> <p>North West European Shelf</p> <table border="1"> <thead> <tr> <th>Area</th> <th>Nitrogen (%)</th> <th>Phosphorus (%)</th> </tr> </thead> <tbody> <tr> <td>Coastal areas</td> <td>-12.7</td> <td>-14.1</td> </tr> <tr> <td>Open sea</td> <td>0.51</td> <td>-30.1</td> </tr> </tbody> </table> <p>Baltic Sea</p> <table border="1"> <thead> <tr> <th>Area</th> <th>Nitrogen (%)</th> <th>Phosphorus (%)</th> </tr> </thead> <tbody> <tr> <td>Coastal areas</td> <td>-4.13</td> <td>2.07</td> </tr> <tr> <td>Open sea</td> <td>-20.2</td> <td>-15.2</td> </tr> </tbody> </table> <p>Black Sea</p> <table border="1"> <thead> <tr> <th>Area</th> <th>Nitrogen (%)</th> <th>Phosphorus (%)</th> </tr> </thead> <tbody> <tr> <td>Coastal areas</td> <td>25</td> <td>-11.8</td> </tr> <tr> <td>Open sea</td> <td>33.7</td> <td>8.2</td> </tr> </tbody> </table> <p>Eastern Mediterranean</p> <table border="1"> <thead> <tr> <th>Area</th> <th>Nitrogen (%)</th> <th>Phosphorus (%)</th> </tr> </thead> <tbody> <tr> <td>Coastal areas</td> <td>-16.9</td> <td>-25</td> </tr> <tr> <td>Open sea</td> <td>-47.9</td> <td>-30.7</td> </tr> </tbody> </table> <p>Source: JRC Zero Pollution Outlook 2022. Note: Depicted is the percentage change in nitrogen and phosphorous concentration for open and coastal waters under the high ambitious scenario (HAS).</p>	Area	Nitrogen (%)	Phosphorus (%)	Coastal areas	-12.7	-14.1	Open sea	0.51	-30.1	Area	Nitrogen (%)	Phosphorus (%)	Coastal areas	-4.13	2.07	Open sea	-20.2	-15.2	Area	Nitrogen (%)	Phosphorus (%)	Coastal areas	25	-11.8	Open sea	33.7	8.2	Area	Nitrogen (%)	Phosphorus (%)	Coastal areas	-16.9	-25	Open sea	-47.9	-30.7
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Improve soil quality by reducing nutrient losses and chemical pesticides' use by 50%, by 2030

Water quality and chemical pesticides

Document	EU Soil Strategy for 2030
Assessment	 Progress needs to accelerate to reach the target value Considering water quality and chemical pesticides, and in particular chemicals load (duoran and terbutylazine, as examples of low- and high-persistence chemicals, respectively) in water: 56% reduction in pesticides concentration can be achieved in shelf seas, 12% in open seas, depending on the persistence of the pesticide (Source: Zero Pollution Outlook).

Having all soils in healthy condition by 2050

Document	EU Soil Strategy for 2030
Assessment	 Progress needs to accelerate to reach the target value The EU Soil Health Assessment (EUSO Dashboard) estimated that 60-70% of EU soils are not in healthy condition, in accordance also with other reports (Panagos et al., 2024 ; Veerman et al., 2020). 25% of the EU soils and 33% of EU Agricultural soils have soil erosion rates higher than sustainability ones. Soil erosion has decreased by around 10% in the period 2000-2016, but future trends are alarming due to climate change. Soil loss by water erosion is projected to increase by 13-22.5 % in EU and UK by 2050.

Non quantifiable targets

Waste

Reduce significantly total waste generation																																	
Document	Towards Zero Pollution for Air, Water and Soil																																
Assessment	! Progress needs to accelerate to reach the target value <p>The amount of waste generated in the EU is approximately stable from 2004. It was 5074 kg per person in 2016 and decreased to 4813 kg per person in 2020 (-5%), likely as a result of the pandemic-related economic slowdown in 2020.</p>																																
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