

TARGETS SET BY EU ENVIRONMENT POLICY

The 7th EAP operates against a background of many existing targets, which provide a web of objectives for different policy areas. This Annex documents some of the main targets.

In the energy sector, major targets have been established for energy efficiency and renewable energy sources: the EU has made the commitment to reduce the consumption of primary energy by 20% by 2020, compared to energy consumption forecasts for 2020; this objective is part of the "20-20-20" targets. The 2020 target has not yet been fully translated into binding measures but some legislative steps have been taken on "zero-energy" buildings for instance.

Also part of the "20-20-20" targets: renewable energy sources should increase to 20% of final energy consumption, with specific targets on biofuels and electricity; and GHG emissions should be reduced by 20% by 2020 compared to 1990. Stronger reductions targets are set in strategic documents by 2030 and by 2050 (-40% and -80%). In this regard, the transport sector is subject to an extensive set of targets for the reduction of GHG emissions from cars and light commercial vehicles, but also from shipping and air transport. The Transport Roadmap in particular calls for airlines to increase their use of sustainable low-carbon fuels to 40% and shipping to reduce by 40% its carbon emissions by 2050 (compared to 2005 levels).

These targets also aim at improving air quality, with further strategic objectives for reduction of emissions by 2012 and 2020. Legislative measures set national emission ceilings for 4 relevant atmospheric pollutants (sulphur dioxide, nitrogen oxides, volatile organic compounds and ammonia), responsible for acidification, eutrophication and ground-level ozone pollution to be met by Member States by 2010.

Regarding waste, the EU waste policy aims at ensuring among other objectives that by 2020: waste is managed as a resource; waste generated per capita is in absolute decline; re-use and recycling of waste are economically attractive options for public and private actors; landfilling is virtually eliminated; illegal shipments are eradicated.

Such as turning waste into a resource, strategic objectives related to sustainable consumption and production are developed in the Roadmap to a Resource Efficient Europe for the transformation of the European economy by 2020. These non binding objectives include phasing out environmentally harmful subsidies, decoupling economic growth from resource use, setting of resource efficiency targets and indicators...

By 2020 again, water abstraction should stay below 20% of available renewable water resources, the impacts of droughts and floods should be minimised, with adapted crops, increased water retention in soils and efficient irrigation; alternative water supply should only be relied upon when all cheaper savings opportunities are taken. In the medium term, three important binding objectives prevail in the water sector: good ecological and chemical status of all surface and groundwater bodies by 2015; compliance with bathing water quality by 2015; and good environmental status in the marine environment by 2020.

The rapid adoption of the Regulation for the registration, evaluation, authorization and restriction of chemicals (REACH) was considered a milestone in the Review of the EU Sustainable Development Strategy which requires that by 2020 chemicals are produced and

used in ways that do not threaten human health and the environment. REACH provides compulsory measures on banning the manufacture, placing on the market or use of a chemical substance that poses an unacceptable risk to health or the environment.

As for biodiversity and nature, ambitious strategic objectives exist: halting the loss of biodiversity and the degradation of ecosystems by 2020; restoring at least 15% of degraded ecosystems; halting global forest loss by 2030; ensuring an objective of no net land take by 2050.

In terms of target development, The Roadmap to a Resource Efficient Europe (henceforth 'Roadmap')¹ announced that the European Commission would launch a joint effort with stakeholders to define indicators and targets for guiding actions and monitoring progress on the path to the 2050 resource efficiency vision.

The following table presents a more comprehensive inventory of EU environmental policy targets for the period 2010-2050, according to the 7th EAP problem definition. It shows the timeline for implementation of **strategic objectives** (in blue) and **binding objectives** (in red) set by EU legislation.²

¹ COM(2011)571

² Tables are based on "EU Environmental and Resource Policies: Strategic Objectives and Binding Targets", Susanna Paleari, CERIS-CNR for the EEA (forthcoming)

Objectives	Sources	Deadline for implementation
Ensuring that Europe's natural capital is sufficiently resilient to pressure and change		
<i>Pressure on ecosystems (from air pollution, eutrophication)</i>		
Reduction in excess acid deposition of 74% and 39% in forest areas and surface freshwater areas respectively	Thematic Strategy on Air Pollution, COM(2005)446 final	⇒2020
43% reduction in areas or ecosystems exposed to eutrophication	Thematic Strategy on Air Pollution, COM(2005)446 final	⇒2020
<i>Conservation Status (safeguard EU's most important habitats and species)</i>		
Achieve a significant and measurable improvement in the status of species and habitats covered by EU nature legislation	COM(2011)244 final	⇒2020
Biodiversity in the marine environment is maintained	Directive 2008/56/EC	⇒2020
<i>Biodiversity (terrestrial and marine species and habitats)</i>		
Halt the loss of biodiversity	Review of the EU Sustainable Development Strategy, European Council, June 2006	⇒2010
Fishing within MSY	Review of the EU Sustainable Development Strategy, European Council, June 2006; COM(2011)571 final; COM(2011)244 final	⇒2015
Improve management and avoid overexploitation of renewable natural resources	Review of the EU Sustainable Development Strategy, European Council, June 2006	⇒2015
Halt the loss of biodiversity and the degradation of ecosystem services	COM(2011)571 final	⇒2020
Halt global forest cover loss	COM(2008)645 final	⇒2030
No net land take	COM(2011)571 final	⇒2050
Better protection/restoration of ecosystems and their services and greater use of green infrastructure	COM(2011)244 final	⇒2020
Better management of EU fish stocks	COM(2011)244 final	⇒2020
Tighter controls of invasive alien species	COM(2011)244 final	⇒2020
Greater EU contribution to averting global biodiversity loss	COM(2011)244 final	⇒2020
<i>Soil degradation (soil erosion)</i>		
Reduce soil erosion and the rate of land take, increase soil organic matter	COM(2011)571 final	⇒2020
Natural capital and ecosystem services are properly valued	COM(2011)571 final	⇒2020
EU policies take into account their direct and indirect impact on land use	COM(2011)571 final	⇒2020
More sustainable agriculture and forestry	COM(2011)244 final	⇒2020
<i>Water quality (ecological and chemical status)</i>		
Surfaces and groundwater bodies in river basins achieve "good status" as required by the WFD	Directive 2000/60/EC	⇒2015
"Good environmental status" is achieved or maintained in the marine environment	Directive 2008/56/EC	⇒2020
Priority hazardous substances under Directive 2008/105/EC are eliminated from surface waters in accordance with the WFD	Directive 2008/105/EC	⇒2028
<i>Water pollution (from point sources and bathing water quality)</i>		
Bathing waters achieve a classification of at least "sufficient"	Directive 2006/7/EC	⇒2015
Extension of IPPC requirements to new activities	Directive 2010/75/EU	⇒2015

Objectives	Sources	Deadline for implementation
Ensuring that Europe's economy is highly resource efficient and low-carbon emitting		
<i>GHG emissions</i>		
EU-15 shall cut its aggregate GHG emissions by 8% compared to 1990 levels(2008-2012)	Kyoto Protocol approved by the EU in 2002	⇒2012
Stop to production of HCFCs	Regulation 1005/2009/EC	⇒2019
Reduce GHG emissions by 20% compared to 1990 levels	Proposals of the European Commission approved by the European Council in 2007	⇒2020
Reduce GHG emissions by approximately 10% compared to 2005 levels in sectors not covered by ETS, excluding LULUCF	Decision 406/2009/EC	⇒2020
Reduce GHG emissions by 40% compared to 1990 levels	COM(2011)112 final	⇒2030
Reduce GHG emissions by 80% compared to 1990 levels	COM(2011)21 final and COM(2011)112 final	⇒2050
Phase out of MAC designed to use F-gases with global warming potential >150 for new types of vehicles	Directive 2006/40/EC	⇒2011
Fleet average CO ₂ emissions from for new cars: 120g/km	Review of the EU Sustainable Development Strategy, European Council, June 2006	⇒2012
1% yearly reduction in transport GHG emissions on average	COM(2011)571 final	⇒2012
Fleet average CO ₂ emissions from new cars: 130g/km (2012-2015)	Regulation 443/2009/EC	⇒2015
Phase out of MAC designed to use F-gases with global warming potential >150 for new vehicles	Directive 2006/40/EC	⇒2017
Fleet average CO ₂ emissions from new light commercial vehicles: 175g/km (2014-2017)	Regulation 510/2011/EU	⇒2017
Fleet average CO ₂ emissions from new light commercial vehicles: 147g/km	Regulation 510/2011/EU	⇒2020
Fleet average CO ₂ emissions from new cars: 95g/km	COM(2010)186 final	⇒2020
95 g CO ₂ /km as average emissions for the new car fleet	Regulation 443/2009/EC	⇒2020
Reduce life cycle GHG emissions x unit of energy from fuel and energy supplied by at least 6% compared to a fuel baseline standard	Directive 98/70/EC, consolidated version	⇒2020
Reduce CO ₂ emissions from the transport sector by 20% compared to 2008 levels	COM(2011)144 final	⇒2030
Reduce conventionally fuelled cars in cities by 50%	COM(2011)144 final	⇒2030
Major urban centers achieve essentially CO ₂ -free city logistics	COM(2011)144 final	⇒2030
30% of road freight over 300 km shifts to rail/waterborne transport	COM(2011)144 final	⇒2030
Reduce CO ₂ emissions from the transport sector by 60% compared to 1990 levels	COM(2011)144 final	⇒2050
Phase petrol cars out in cities	COM(2011)144 final	⇒2050
Shift 50% of road freight over 300 km to rail/waterborne transport	COM(2011)144 final	⇒2050
Shift to rail the majority of long and medium distance passenger road transport	COM(2011)144 final	⇒2050
Airlines increase their use of low carbon fuels by 40%	COM(2011)144 final	⇒2050
Reduce EU carbon emissions from shipping by 40% compared to 2005 levels	COM(2011)144 final	⇒2050
<i>Energy efficiency</i>		
Overall national indicative energy saving target	Directive 2006/32/EC	⇒2016

of 9% of the annual average amount of final energy consumption		
Reduce by 20% the consumption of primary energy compared to energy consumption forecasts for 2020	COM(2006)545 final; Proposals of the European Commission approved by the European Council in 2007; COM(2010)2020	⇒2020
All new buildings, occupied and owned by public authorities, are nearly-0-E- buildings	Directive 2010/31/EU	⇒2019
All new buildings are nearly-0-E-buildings	Directive 2010/31/EU	⇒2020
<i>Renewable energy sources</i>		
Increase RES to 12 % of total energy consumption	Decision 1600/2002/EC; Review of the EU Sustainable Development Strategy, European Council, June 2006	⇒2010
Increase biomass use by over 50% compared to 2003	COM(2005)628 final	⇒2010
Increase RES to 15% of total energy consumption	Review of the EU Sustainable Development Strategy, European Council, June 2006	⇒2015
Increase RES to 20% of final energy consumption	Proposals of the European Commission approved by the European Council in 2007; COM(2010)2020 final	⇒2020
Increase RES to 20% of final energy consumption	Directive 2009/28/EC	⇒2020
Increase electricity from RES to 21% of total electricity consumption	Review of the EU Sustainable Development Strategy, European Council, June 2006; Directive 2001/77/EC	⇒2010
Achieve a percentage of 22% of the electricity production from renewable energies	Decision 1600/2002/EC	⇒2010
Increase biofuels to 5,75% of all petrol and diesel for transport purposes placed on the market by 31 December 2010	Directive 2003/30/EC	⇒2010
Increase biofuels to 8 % of all petrol and diesel for transport purposes placed on the market	Review of the EU Sustainable Development Strategy, European Council, June 2006	⇒2015
Increase biofuels to 10% of the overall EU transport petrol and diesel consumption	COM(2006)848 final; Proposals of the European Commission approved by the European Council in 2007	⇒2020
Increase the share of energy from RES to 10% of the final consumption of energy in transport	Directive 2009/28/EC	⇒2020
<i>Decoupling (resource use from economic growth)</i>		
Achieve an EU average level of GPP equal to the one of the best performing Member States	Review of the EU Sustainable Development Strategy, European Council, June 2006	⇒2010
50% of all tendering procedures should be green	COM(2008)400 final	⇒2010
Phase out environmentally harmful subsidies and substantially increase the share of environmental taxes	COM(2011)571 final	⇒2020
Price signals and environmental information in place to stimulate citizens and public authorities to choose the most resource efficient products and services	COM(2011)571 final	⇒2020
Market and policy incentives that reward business investments in efficiency are in place	COM(2011)571 final	⇒2020
Resource efficiency targets and indicators guide public and private decision-makers	COM(2011)571 final	⇒2020

Economic growth and wellbeing is decoupled from resource inputs	COM(2011)571 final	⇒2020
Economy grows respecting resource constraints	COM(2011)571 final	⇒2050
Waste generation		
Waste is managed as a resource	COM(2011)571 final	⇒2020
In absolute decline of waste generated per capita	COM(2011)571 final	⇒2020
No heavy metals (Pb, Hg, Cd, hexavalent Cr, PBB and PBDE) in new electrical and electronic equipment	Directive 165/2011/EU	⇒2019
20% reduction in the food chain's resource inputs	COM(2011)571 final	⇒2020
Disposal of edible food waste is halved	COM(2011)571 final	⇒2020
Waste management		
Ensure high quality recycling	COM(2011)571 final	⇒2020
Limit energy recovery to non recyclable materials	COM(2011)571 final	⇒2020
Virtually eliminate landfilling	COM(2011)571 final	⇒2020
Eradicate illegal shipments of waste	COM(2011)571 final	⇒2020
Recycling targets for batteries (by average weight): – 65% of lead acid batteries, – 75% of nickel cadmium batteries, – 50% of other batteries	Directive 2006/66/EC	⇒2011
Targets for end of life vehicles (by average weight per vehicle per year): – Reuse + Recovery: 95% – Reuse + Recycling: 85%	Directive 2000/53/EC	⇒2015
Recycling+ Reuse: 70% by weight of non hazardous construction & demolition waste	Directive 2008/08/EC	⇒2020
Recycling+ Reuse: 50% by weight paper, plastic, glass, metal from households	Directive 2008/08/EC	⇒2020
Landfilling of biodegradable municipal waste: reduction to 50% of total 1995 biodegradable municipal waste	Directive 1999/31/EC	⇒2010
Decontamination or disposal of equipment with PBC volumes > 5 dm ³	Directive 96/59/EC	⇒2010
Collection target for batteries: 25%	Directive 2006/66/EC	⇒2012
Separate collection for glass, plastic, metal, paper	Directive 2008/98/EC	⇒2015
Collection target for batteries: 45%	Directive 2006/66/EC	⇒2016
Disposal of biodegradable municipal waste: reduction to 35% of total 1995 biodegradable municipal waste	Directive 1999/31/EC	⇒2016
Water stress (water exploitation)		
Keep water abstraction below 20% of available renewable water resources	COM(2011)571 final	⇒2020
Alternative water supply options are only relied upon when all cheaper savings opportunities are taken	COM(2011)571 final	⇒2020
The impacts of droughts and floods are minimised	COM(2011)571 final	⇒2020

Objectives	Sources	Deadline for implementation
Ensuring that the health and wellbeing of EU citizens continue to benefit from high degrees of environmental protection		
<i>Transboundary air pollution</i>		
PM _{2,5} and ozone target values	Directive 2008/50/EC	⇒2010
National emission ceilings for SO ₂ , NO _x ; VOC, NH ₃	Directive 2001/81/EC	⇒2010
Second set of VOCs limit values for paints and varnishes	Directive 2004/42/EC	⇒2010
Target values for concentration of As, Cd, Hg, Ni, benzo(a)pyrene in air	Directive 2004/107/EC	⇒ 2012
New PM _{2,5} limit value + exposure concentration obligation	Directive 2008/50/EC	⇒2015
Extension of IPPC requirements to new activities	Directive 2010/75/EU	⇒2015
New ELV for selected VOCs and halogenated VOCs	Directive 2010/75/EU	⇒2015
New ELV for existing large combustion plants and for combustion plants which co-incinerate waste	Directive 2010/75/EU	⇒2016
Service stations with a throughput > 3,000 m ³ shall install PVRII technology	Directive 2009/126/EC	⇒2018
Emissions reductions: -82% of SO ₂ , -60% of NO _x , -51% of VOC _s , -27% of NH ₃ , -59% of primary PM _{2,5} compared to the year 2000	Thematic Strategy on Air Pollution, COM(2005)446 final	⇒2020
PM _{2,5} indicative limit value and exposure reduction target	Directive 2008/50/EC	⇒2020
Marine fuels with a sulphur content of over 0.1% by mass are prohibited at berth in EU ports and in Sulphur Emission Control Areas	Directive 1999/32/EC consolidated version	⇒2010
<i>Air quality in urban areas</i>		
47% reduction in loss of life expectancy as a result of exposure to particulate matter	Thematic Strategy on Air Pollution, COM(2005)446 final	⇒2020
10% reduction in acute mortalities from exposure to ozone	Thematic Strategy on Air Pollution, COM(2005)446 final	⇒2020
When purchasing road transport vehicles contracting authorities shall take into account energy and environmental aspects	Directive 2009/33/EC	⇒2010
Euro 5 standard for registration and sale of new types of cars	Regulation 715/2007/EC	⇒2011
Euro VI standard for new types of heavy vehicles	Regulation 595/2009/EC	⇒2012
Euro VI standard for all new heavy vehicles	Regulation 595/2009/EC	⇒2013
Euro 6 standard for approval of light vehicles	Regulation 715/2007/EC	⇒2014
Euro 6 standard for registration and sale of new types of cars	Regulation 715/2007/EC	⇒2015
<i>Chemicals</i>		
REACH restrictions concerning tri-substituted organostannic compounds, PHAs, DEGME, DEGBE, MDI, cyclohexane and ammonium nitrate	Regulation 1907/2006/EC and amendments	⇒2010
Phase out of several active substances contained in selected biocidal product types ³	Regulation 1451/2007/EC and Directive 98/8/EC consolidated version	⇒2010
Ban on the export of metallic mercury	Regulation 1102/2008/EC	⇒2011
Phase out of several active substances contained in selected biocidal product types	Regulation 1451/2007/EC and Directive 98/8/EC consolidated version	⇒2011

³ The complete list of active substances and the related dates by which products containing these active substances shall no longer be placed on the market for the relevant product-types is available at: http://ec.europa.eu/environment/biocides/pdf/list_dates_product_2.pdf

REACH restrictions concerning DOT compounds, Cd, dichloromethane (final deadline), acrylamide	Regulation 1907/2006/EC and amendments	⇒2012
Phase out of several active substances contained in selected biocidal product types	Regulation 1451/2007/EC and Directive 98/8/EC consolidated version	⇒2012
Phase out of several active substances contained in selected biocidal product types	Regulation 1451/2007/EC and Directive 98/8/EC consolidated version	⇒2013
Biocidal products containing “existing active substances” (on the market in the EU on 14 May 2000)not included in Annex I shall no longer be placed on the market	Directive 98/8/EC consolidated version	⇒2014
General principles of integrated pest management are implemented by all professional users	Directive 2009/128/EC	⇒2014
“Sunset date” for the following SVHC: 5-ter-butyl-2,4,6-trinito-m-xylene and MDA	Regulation 1907/2006/EC and amendments	⇒2014
“Sunset date” for the following SVHC: HBCDD, DEHP, BBP, DBP, DIBP, diarsenic trioxide, diarsenicpentaoxide, lead chromate, lead sulfochromate yellow, lead chromate molbydatesulphate red, TCEP and 2,4-DNT	Regulation 1907/2006/EC and amendments	⇒2015
REACH restrictions concerning DBT compounds (final deadline)	Regulation 1907/2006/EC	⇒2015
Ensure that chemicals are produced and used without threats to humans and the environment	Review of the EU Sustainable Development Strategy, European Council, June 2006	⇒2020

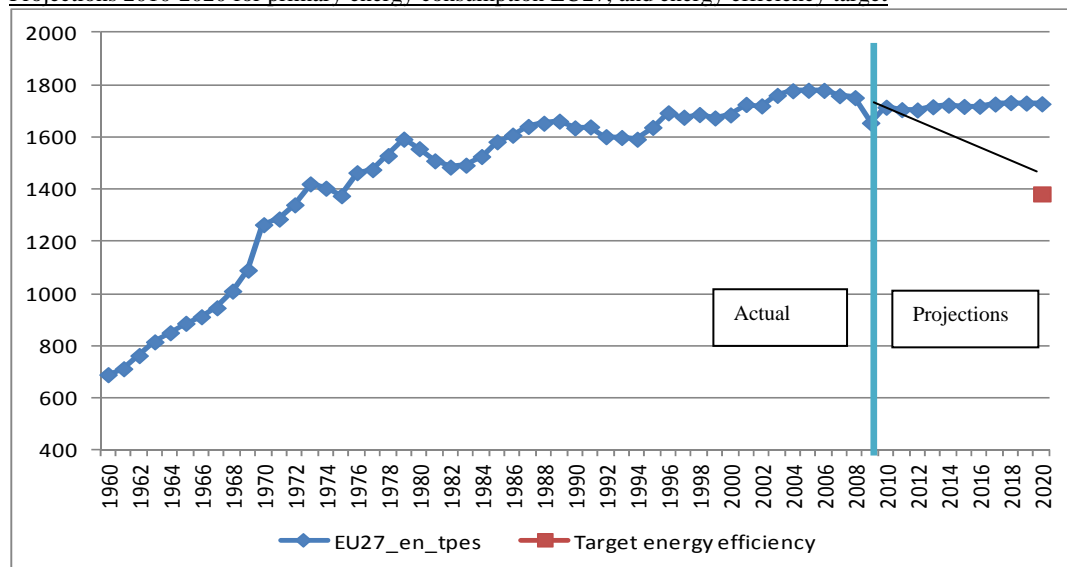
The EEA⁴ assessed the gaps to targets according to projected trends for the most critical targets by 2020 in 4 sectors: energy use, GHG emissions, air pollutants and waste. These targets are used as proxies for the transition towards a green economy. It shows a lack of structural break, which is needed for this economic transition, in the past and forecast trends, thus allowing to calculate a gap to target (see table below).

⁴ Towards a Green Economy in the EU, Gaps and macroprocesses, EEA, April 2012

Projected gap to target in energy use by 2020

Energy			
Target	Indicator	Projected trend towards 2020	Gap to target
Reduce by 20% the consumption of primary energy compared to energy consumption forecasts Saving target of 368 Mtoe of primary energy compared to projected consumptions of 1842 Mtoe	Total primary energy supply = total domestic energy supply + net imports (proxy for apparent consumption)	No significant break, energy consumption has increased steadily	2009: TPES= 1654 Mtoe Projection for 2020= > 1700 Mtoe Target= < 1400 Mtoe Gap = > 300 Mtoe

Projections 2010-2020 for primary energy consumption EU27, and energy efficiency target



Source: EEA elaborations on IEA data

Projected gap to target in GHG emissions by 2020

GHG emissions			
Target	Indicator	Projected trend towards 2020	Gap to target
<u>Binding target:</u> reduce emissions by 10% compared to 2005 levels	GHG emissions	Slowly decreasing trend in the 2000s. Target likely to be achieved but not the targets for 2030 and 2050, especially if economic recovery from crisis increases.	<u>Gap-to-binding target:</u> 237 million tons CO2
<u>Strategic target:</u> reduce GHG emissions by 20% compared to 1990 levels (-40% by 2030; - 80% by 2050)			<u>Gap-to-strategic target:</u> 389 million tons CO2

Total GHG emissions in EU27 (000 tonne of CO2 eq.): projections 2009-2020 compared to policy targets



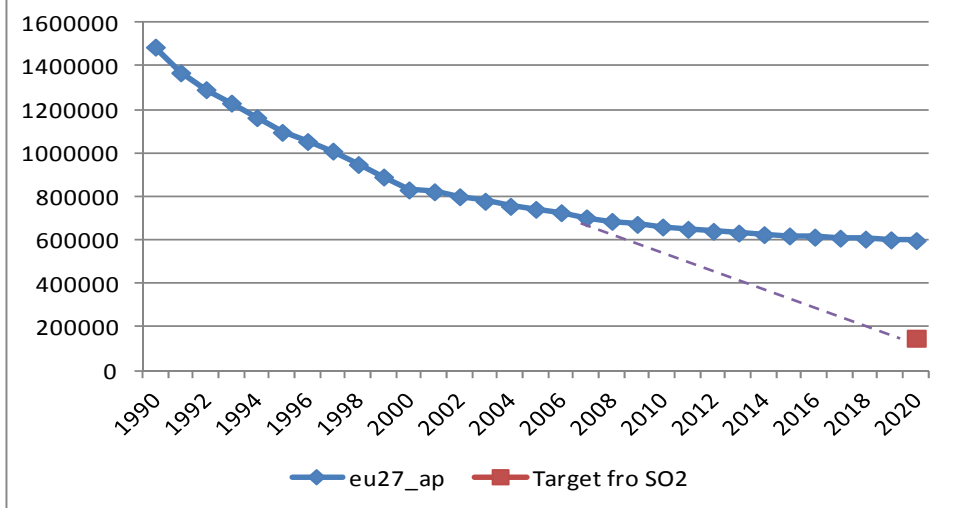
Source: EEA elaborations on EDGAR-HYDE 1.4; Van Aardenne et al. (2001) adjusted to Olivier and Berdowski (2001). CO2, CH4 and N2O included (for 1970-1989) and Eurostat (for 1990-2008)

Note: Significant structural breaks: 1980-1981 and 1986-1990 (1%). Actual data 1970-2008; projected data 2009-2020 based on autoregressive model AR (1) on the differences (1991-2008) (with three terms moving average)

Projected gap to target in air pollution by 2020

<i>Air pollutants</i>			
Target	Indicator	Projected trend towards 2020	Gap to target
Emissions reductions: -82% of SO ₂ , -60% of NO _x , -51% of VOC _s , -27% of NH ₃ , -59% of primary PM _{2.5} compared to the year 2000	Projections for group of substances (comparison with target for specific substance imprecise)	Targets could be met for tropospheric ozone potential, but not for SO ₂ : current trend of slowdown in SO ₂ reduction	See graph below

EU27 projections 2008-2010 for acidifying substances (tons of SO₂ equivalent) assuming the % target 2020 for SO₂



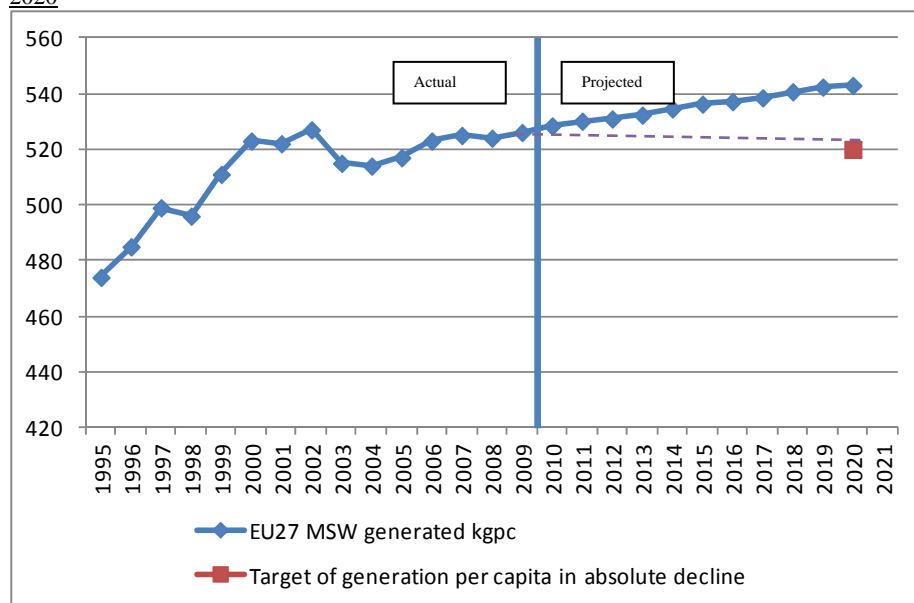
Source: EEA elaborations on Eurostat data

Note: Significant structural break: no. Actual data 1990-2007; projected data 2008-2020 based on autoregressive model AR (1) on levels

Projected gap to target in waste by 2020

Waste			
Target	Indicator	Projected trend towards 2020	Gap to target
Waste generated per capita in absolute decline; landfilling virtually eliminated	Level of per capita Municipal Solid Waste (MSW)	Increasing generation (increasing solid waste generation per capita for EU12) Decreasing trend in landfill use and increasing incineration to converge towards parity of the two in 2020	2008: MSW=524 kg per capita Projection for 2020= 542 kg/cap 2008: landfilled MSW = 207 kg/cap Projection for 2020 = 175 kg/cap

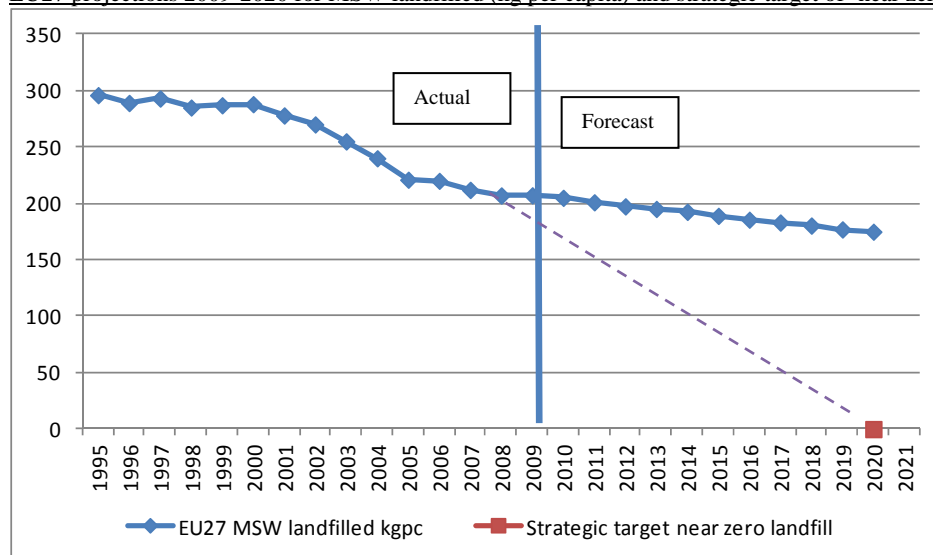
EU27 projections 2009-2020 for MWS generation (kg per capita) and objective of 'waste generated per capita in absolute decline' in 2020



Source: EEA elaborations on Eurostat data.

Note: significant structural breaks (1%): no. Significant structural breaks (5%): no. Actual data 1995-2008; projected data 2009-2020 based on autoregressive model AR (1) on the differences

EU27 projections 2009-2020 for MSW landfilled (kg per capita) and strategic target of 'near zero landfill' in 2020



Source: EEA elaborations on Eurostat data.

Note: significant structural breaks (1%): no. Significant structural breaks (5%): 2001. Actual data 1995-2008; projected data 2009-2020 based on autoregressive model AR (1) on the differences