

Trends and projections in Europe 2014

Tracking progress towards Europe's climate and energy targets for 2020



Contents

Acknowledgements	7
Executive summary	8
1 Introduction	14
2 Climate and energy targets and policies in the EU	16
2.1 International commitments of EU and EEA countries under the UNFCCC and the Kyoto Protocol	16
2.2 Domestic commitments of the EU and its Member States	18
2.3 Methodological issues on coverage of GHG emission targets	19
2.4 Renewable energy targets	23
2.5 Energy efficiency targets	25
2.6 Outlook towards post-2020 targets	26
3 The EU Emissions Trading System (ETS)	28
3.1 Introduction	29
3.2 Coverage of the EU ETS	29
3.3 Emissions cap and allocation principles	32
3.4 Emission trends in the EU ETS by sectors	38
3.5 Supply and demand balance of EU allowances	39
4 Progress towards 2020 targets for greenhouse gas (GHG) emissions	42
4.1 Overall progress towards the EU's 2020 GHG target	43
4.2 Progress towards 2013–2020 EU ETS targets	46
4.3 Progress towards 2013–2020 ESD targets	47
4.4 Progress in the land use, land-use change and forestry (LULUCF) sector	59
4.5 Post-2020 GHG targets	60
4.6 Progress towards GHG targets in other EEA member countries	61
5 Progress towards 2020 targets for renewable energy sources (RES)	63
5.1 Progress towards the EU's 2020 RES target	64
5.2 Progress towards national 2020 RES targets	69
5.3 Post-2020 RES targets	74
6 Progress towards 2020 target for energy efficiency	75
6.1 Overall progress towards the EU's 2020 energy efficiency target	76
6.2 Ambition level of national 2020 energy efficiency targets	78
6.3 Contribution from energy efficiency obligation schemes	81
6.4 Progress towards national 2020 energy consumption targets	81
6.5 Progress towards the 2016 targets under the End-use Efficiency and Energy Services Directive	87
6.6 Post-2020 targets	87

7	Integrated progress towards the '20-20-20' climate and energy targets	88
7.1	Progress towards the EU's 2020 climate and energy objectives	89
7.2	Progress towards national 2020 climate and energy objectives at Member State level	90
7.3	Links between progress across the three policy objectives	93
7.4	Post-2020 climate and energy targets	97
	Acronyms, units and terms	98
	References	103
Annex 1	Data sources for greenhouse gas emissions energy consumption and targets	110
Annex 2	Detailed assessment results (progress under the Effort Sharing Decision)	115
Annex 3	Additional information on targets under the Effort Sharing Decision, the Kyoto Protocol and the UNFCCC	118

List of figures and tables

Figures

Figure 0.1	Progress of Member States towards 2020 climate and energy targets	12
Figure 0.2	Evolution of progress towards climate and energy targets, 2011–2013	13
Figure 2.1	National 2013 and 2020 GHG emission limits under the ESD, relative to 2005 emissions levels	19
Figure 2.2	National targets for renewable energies for 2020	24
Figure 2.3	National indicative primary and final energy consumption targets.....	26
Figure 3.1	EU ETS caps up to 2020 and policy proposals up to 2050	32
Figure 3.2	Free allocation and verified emissions in 2013	34
Figure 3.3	Planning for allowance auctioning, 2013–2020.....	35
Figure 3.4	Planned supply of allowances, 2013–2020	36
Figure 3.5	Use of Kyoto credits (CERs and ERUs), 2008–2013	37
Figure 3.6	Emission trends by EU ETS sector.....	38
Figure 3.7	Supply and demand balance for stationary installations in the EU ETS, 2005–2013.....	40
Figure 3.8	Price trends for EUAs and CERs, 2005–2013.....	41
Figure 4.1	EU GHG emission trends and projections	44
Figure 4.2	Emission changes by sector, 1990–2013 (top) and projected changes under the 'with existing measures' scenario, 2013–2020 (bottom)	45
Figure 4.3	Stationary EU ETS emissions, cap and available credits, 2005–2020	46
Figure 4.4	Sectoral trends and projections in the EU ETS, 2005–2020.....	47
Figure 4.5	EU GHG emission trends and projections in the ESD sectors	48
Figure 4.6	Sector trends and projections of GHG emissions in ESD sectors	49
Figure 4.7	Progress in meeting national ESD targets in 2013	51
Figure 4.8	Projected ESD emissions and targets in 2020 compared to 2005 base-year levels	53
Figure 4.9	Cumulated surplus AEAs in 2020 of each Member State under WEM and WAM projections	56
Figure 4.10	EU emissions and removals from LULUCF in 2010 and 2020	60
Figure 4.11	EU GHG emission trends and projections, and long-term targets.....	61
Figure 4.12	GHG emission trends and projections in other EEA member countries, 1990–2030	62
Figure 5.1	EU progress to interim and 2020 RES targets	65
Figure 5.2	Breakdown of EU renewable energy share into RES-E, RES-H/C and RES-T, and comparison with NREAP 2020.....	67
Figure 5.3	Historic and expected contributions from renewable energy technologies	69
Figure 5.4	2012 share of renewable energy in gross final energy consumption in EEA countries and RES targets	70
Figure 5.5	Trends, targets, and long-term scenarios for renewable energy in the EU.....	74
Figure 6.1	Trends and projections of EU's primary and final energy consumption, 2005–2020	77
Figure 6.2	Primary energy consumption baseline in the EU-27 (PRIMES 2007, PRIMES 2009) in comparison with the 2020 energy efficiency target	78
Figure 6.3	Overall ambition level of national targets for primary and final energy consumption by 2020 ..	79
Figure 6.4	2012 primary energy consumption and 2020 national targets compared to 2005 levels	80
Figure 6.5	Average annual change in energy consumption between 2005 and 2012, in comparison with 2005–2020 target linear trajectories	83
Figure 7.1	Current and projected progress of the EU-28 towards 20/20/20 targets	89
Figure 7.2	Interaction between the '20-20-20' targets	94
Figure 7.3	Additional gross avoided emissions from RES in ETS and non-ETS sectors, compared to 2005 levels	95

Tables

Table 2.1	Emission reduction commitments by EU and EEA countries for the Kyoto Protocol's second commitment period, 2013–2020	17
Table 2.2	Overview of EU climate and energy targets	22
Table 3.1	Activities and sectors covered under the EU ETS	31
Table 3.2	Maximum free allocation for electricity generators under Article 10c of the EU ETS Directive...	33
Table 4.1	Main GHG emission trends and projections in the EU	43
Table 4.2	EU key policies and measures in ESD sectors in place, 2012	50
Table 4.3	Projected annual difference to ESD targets in Member States, 2013–2020	54
Table 4.4	Overall assessment of Member State progress, based on 2013 and projected 2020 ESD emissions	57
Table 4.5	Evolution of progress on GHG targets between the 2013 and 2014 assessments	58
Table 5.1	Gross final consumption by renewable energy carriers (electricity, heating/cooling, transport)...	66
Table 5.2	Breakdown by RES technologies for electricity (E), heating and cooling (H/C) and transport (T) for EU-28	68
Table 5.3	Member State progress towards interim RES targets in 2012	71
Table 5.4	Evolution of progress on RES targets between the 2013 and 2014 assessments	72
Table 6.1	Member States progress towards their 2020 energy efficiency targets	85
Table 6.2	Evolution of progress on energy efficiency targets	86
Table 7.1	Criteria for assessing progress towards 2020 climate and energy targets	91
Table 7.2	Member State progress towards national 2020 climate and energy targets	92
Table 7.3	Progress in meeting 2020 climate and energy targets, compared to previous year	93