

EUROPE 2020 TARGETS: climate change and energy

Energy and climate change policies yield many macroeconomic benefits and contribute to **smart and sustainable ('green') growth**¹. By increasing energy efficiency, supporting research, and developing and commercialising innovative green technologies, Member States can also boost their competitiveness and create jobs. Realising the growth potential of the green economy will ensure that the EU remains a competitive player in this growing global market. Fiscal consolidation can be supported through increased revenues from policies addressing energy and climate issues, for example by shifting taxation to energy and other environmental taxes, or auctioning EU Emissions Trading System (ETS) allowances. Reducing energy dependency and spending on energy imports will also have a positive effect on the current account balance; in 2011 net imports of fuels to the EU amounted to EUR 388 billion, more than 3% of EU GDP. Investment in energy efficiency will not only reduce energy consumption costs, but also the social costs related to pollution caused by fossil fuels, such as health expenditures.

It is estimated that achieving the objective of the Europe 2020 Strategy to have 20% of the EU's energy supplied from renewable sources by 2020 will have a net effect of creating around 417 000 additional jobs and an extra 0.25 % of GDP, not only in the traditional energy sector but far beyond.² If we just take the potential of energy efficiency benefits, getting on track to achieve the 20 % energy efficiency target in 2020 is forecast to increase EU GDP by €34 bn in 2020 and boost net employment by 400 000 jobs.³ Despite economic downturn, the green economy has seen a rise in employment, and remains strong, investment in renewable energy infrastructure and energy efficiency creates jobs across sectors including in the construction sector which has been hard hit by the crisis⁴.

1. Key statistical indicators for climate and energy

(a) Climate indicators

In order to achieve the Europe 2020 target of a 20% reduction in greenhouse gas (GHG) emissions (compared to 1990) by 2020, Member States committed to reach legally binding national targets by 2020 (compared to the situation in 2005) for emissions not covered by the EU Emissions Trading System (EU ETS).⁵ The national targets for emissions not covered by the Emission Trading System, vary between countries and apply to each Member State individually; they range from limiting the increase in GHG emissions to 20% to reducing GHG emissions by 20%.

According to the latest emissions projections⁶ submitted by the Member States, based on existing policy measures, the EU27 will over-achieve its 2020 target by 0.9%. However, the projected performance is more variable across the individual Member States, with significant additional effort required in some countries for the targets to be met. Figure 1 below shows the projected distance to the 2020 emissions target for each Member State if only existing measures are taken into account (dark-shaded bars) and also with the inclusion of planned

¹ For a broader context see also related document RESOURCE EFFICIENCY.

² The impact of renewable energy policy on economic growth and employment in the European Union. Study financed by the European Commission, DG Energy and Transport. 2009.

³ http://ec.europa.eu/energy/efficiency/action_plan/action_plan_en.htm.

⁴ For more information see the document: GREEN JOBS: EMPLOYMENT POTENTIAL AND CHALLENGES.

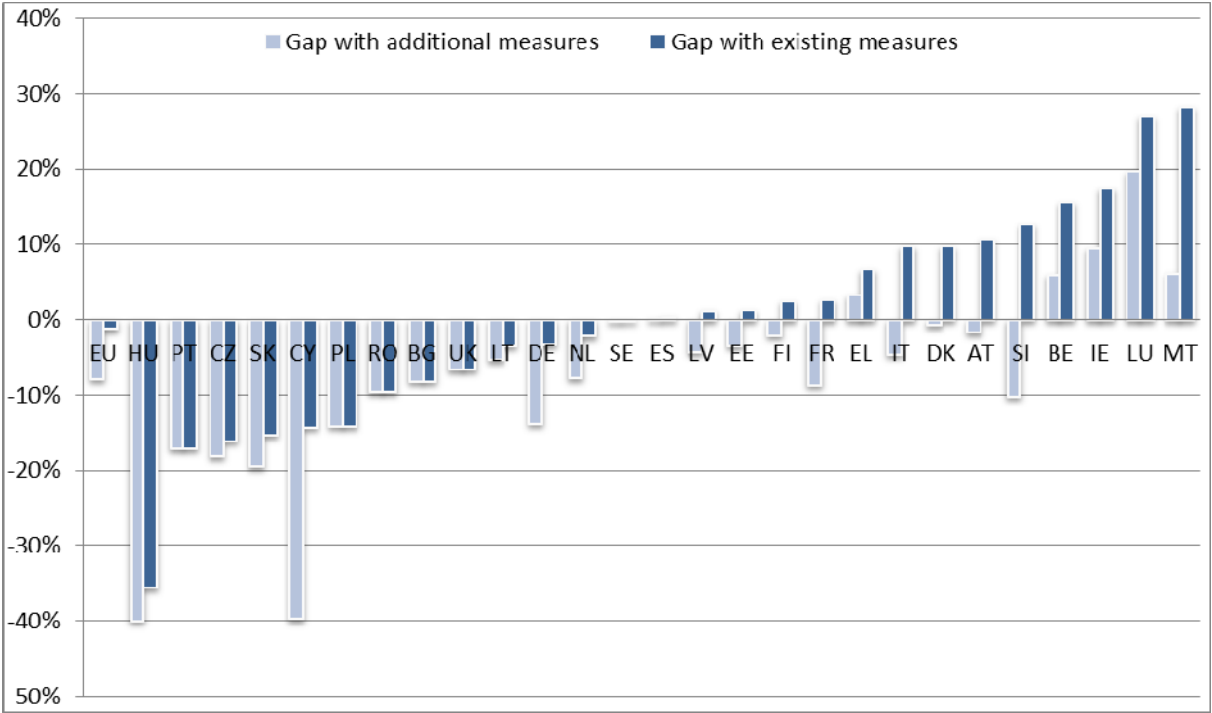
⁵ The national targets are laid down in the Effort Sharing Decision (ESD).

⁶ Member States will provide new emission projections on 15 March 2013.

additional measures (light-shaded bars).⁷ Negative and positive values respectively indicate over-delivery or shortfall of the targets.

According to these projections, **significant extra efforts** will be needed by Member States to reach their Europe 2020 climate targets: only ten Member States are expected to meet their commitments based on existing measures.

Figure 1: Projected gap to 2020 targets for non-ETS sectors. Negative and positive values respectively indicate overdelivery and shortfall.



Source: Annual report on progress towards achieving the Kyoto objectives, Communication (COM(2012)626), European Commission

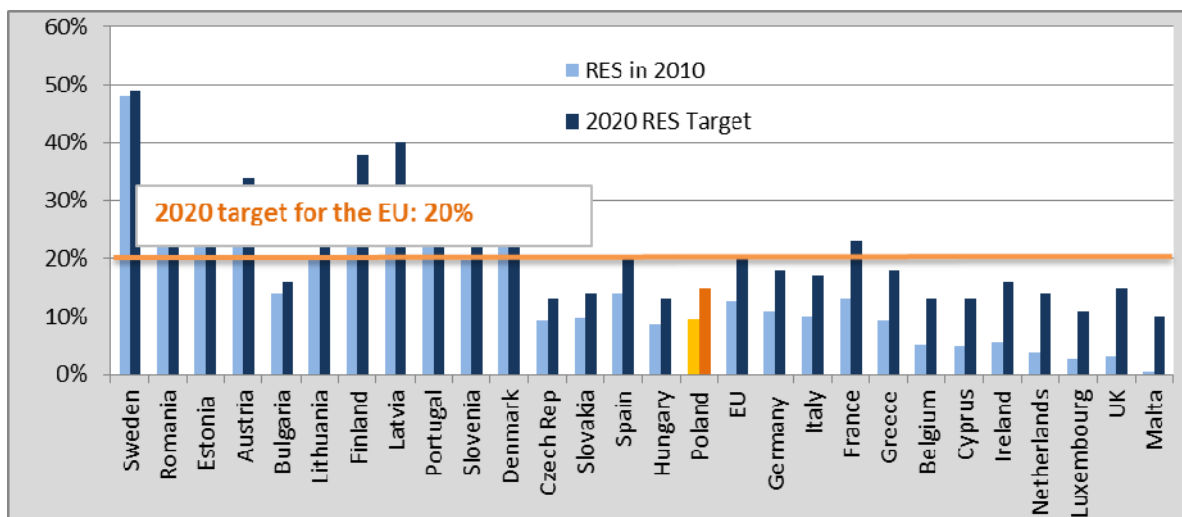
(b) Energy indicators

20% of renewable energy sources in energy consumption

Chart 2: Share of renewables in gross final energy consumption

The indicators in the chart below show the efforts still to be made by Member States towards achieving their 2020 targets for renewable energy sources.

⁷ In relation to Member States reporting of emission under the EU Monitoring Mechanism Decision, the With Existing Measures (WEM) scenario includes the effect of adopted and implemented policies, whereas the With Additional Measures (WAM) Scenario also includes the effect of planned policies.



Source: Eurostat June 2012 and Directive 2009/28/EC for targets

While most Member States have already reached their 2011/2012 interim target (see annex), there is no room for complacency. The indicative trajectory contained in the Renewable Energy Directive is relatively flat early on in the period up to 2020, and rises more sharply towards the end. Nevertheless, three Member States have by now almost reached their 2020 target: Sweden, Romania and Estonia. On the other hand, in terms of progress towards interim targets, three Member States (Malta, the Netherlands and the UK) still need to make particular efforts (based on 2010 data). Cyprus, Ireland, Latvia and Luxembourg have also not reached yet their interim target, but the gap is much smaller.

20% increase in energy efficiency

Member States have committed to achieving 2020 targets for energy efficiency.⁸

Table 1: Energy efficiency — 2020 targets

AT	BE	BG	CY	CZ	DE	DK	EE	GR	ES	FI	FR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	UK	EU27
7,2	9,8	3,2	0,5	n.a.	38,3	0,8	0,7	2,7	25,2	4,2	34,0	3,0	2,8	27,9	1,1	0,2	0,7	0,2	n.a.	14,0	6,0	10,0	12,8	n.a.	1,6	n.a.	206,9

The above figures correspond to primary energy savings in million tonnes of oil equivalent. National projections vary as to the base year against which savings are estimated. The energy efficiency target as put forward in 2007 relates to absolute primary energy savings of 368 Mtoe against the projected consumption of 1 842 Mtoe in 2020, leading to a targeted EU energy consumption of 1 474 Mtoe. The current projections show that energy savings of only 206.9 Mtoe could be achieved in 2020.

By 30 April 2013, Member States will define or revise their targets in line with the agreed methodology on target setting laid out in article 3(3) of the Energy Efficiency Directive adopted by Council on 4 October 2012. This will allow for a more quantitative assessment of the progress on energy efficiency in Member States.

⁸ http://ec.europa.eu/europe2020/pdf/ags2012_annex1_en.pdf.

2. Assessment of the main challenges in the Member States

(a) Climate

According to the 2012 projected emission data presented in Figure 1 and in the annex, much effort will still be needed by individual Member States to deliver on their 2020 targets.

Only 10 Member States are expected to reach these commitments with existing policies and measures. However, a further 10 Member States would meet their targets with planned additional policies and measures. This leaves 7 Member States that are unlikely to be able to deliver on their commitments even after accounting for additional planned measures. However, as regards EU-27, the estimates show that the overall target⁹ would be delivered.

According to the latest projections, the Member States that are furthest from reaching the 2020 targets are **Luxembourg, Malta, Ireland, Belgium, and Greece**.

These Member States will need to either design additional policies or make use of flexibility mechanisms in order to avoid non-compliance with their target.

With a view to further progress towards achievement of the Europe 2020 climate target, Member States are facing the following key challenges: (i) lack of consistency in the domestic climate policy framework, (ii) energy intensity, and (iii) lack of investment security for innovative green technologies. Member States need to address these challenges in order to be able to meet their 2020 GHG emission reduction targets.

(b) Renewable sources of energy

With respect to progress towards the 2020 target, on the basis of commitments given by Member States in their National Renewable Energy Action plans, all Member States are expected to meet their 2020 targets. However, two Member States have indicated that they would use cooperation mechanisms to achieve their 2020 targets¹⁰.

Overall, although the vast majority of Member States have made significant investments in renewable sources of energy, some countries still have to make additional efforts in the short and medium term to completely implement the EU Renewable Energy Directive and to ensure a coherent, stable and predictable legislative framework for supporting and financing renewable energy development. These countries include in particular **Malta, the Netherlands and the UK**.

The Commission will continue to assess the progress made in Member States¹¹ and will take all appropriate measures, including infringement procedures, in the event of any member State's failure to comply with their own national action plans and renewable energy growth trajectories, or failure to fully implement any element of the Directive.

(c) Energy efficiency

Once implemented, the Energy Efficiency Directive will allow for a monitoring of the energy consumption impact of the energy efficiency targets. The **Czech Republic, the Netherlands, Slovenia** and the **UK** have still not set their 2020 national energy efficiency targets. They will have to do so by April 2013.

⁹ Reduction of total emissions by 20% compared to 1990 and reduction of non-ETS emissions by 9% compared to 2005

¹⁰ LU and IT, the latter, however, recently indicated that it may finally not need to use the mechanisms

¹¹ http://ec.europa.eu/energy/renewables/doc/communication/2012/staff_working.pdf

In spite of that, Member States are making headway in implementing more ambitious energy efficiency programmes and taking measures on the ground.¹² All the Member States plan to introduce further energy efficiency policies aimed at buildings. In **Denmark, Finland, Germany, the Netherlands** and the **UK**, more stringent requirements either have been set or will be set between now and 2014 for new buildings. In many countries, EU Cohesion Policy Funds are expected to be an important source of funding for investment in existing buildings. In some countries, measures have been taken to promote energy efficiency and at the same time help sectors that have been hard hit by the economic crisis. In **Malta, Austria, Greece, Ireland, Lithuania, Slovenia** and **Belgium**, new measures to promote energy efficiency in the public sector have been introduced. Some Member States also plan new measures to address energy efficiency in transport (e.g. **Sweden, Denmark, Ireland, Slovakia** and **Lithuania**). However, despite the high potential for savings in the public sector and in transport, policies and measures here remain relatively limited.

3. Horizontal issues

A number of policies would help in progressing towards the energy and climate change targets. These policies concern five key areas:

- Planning effective, growth-friendly use of the revenue from auctioning of EU ETS allowances to start in 2013,
- Realising the full potential for increasing energy efficiency, particularly in the buildings sector,
- Providing a stable, coherent and cost-efficient framework for investment in green technologies, in renewable energy sources and in energy infrastructure,
- Exploiting the emissions reduction potential of transport¹³
- Removing environmentally harmful subsidies

¹² Detailed Second National Energy Efficiency Action Plans (NEEAPs) were submitted to the Commission (by the end of) in 2011.

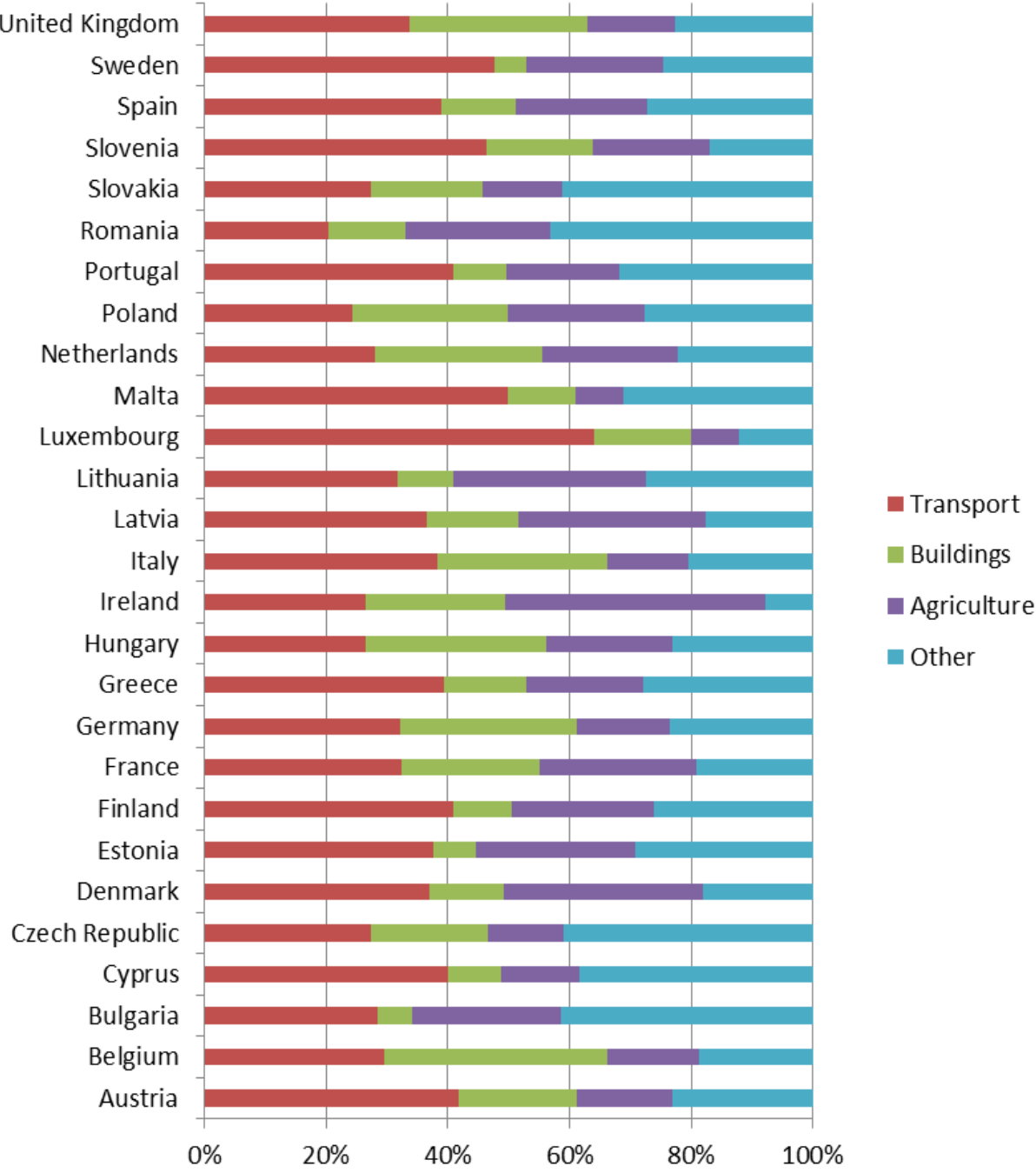
¹³ In most Member States, the transport sector represents the greatest share of GHG emissions among non-ETS sectors, with agriculture being the second largest source. When aiming at their targets, MS should therefore pay special attention whether they have sufficiently addressed and exploited the potential of the transport sector

ANNEX: Additional statistical indicators

Current Trends and Projections in GHG emissions (non-ETS sectors) by MS

MS	Ranking according to total GHG gas emissions (2011, 1 = highest value)	Ranking according to total GHG emissions per capita (2010, 1= highest value)	ESD target (reduction or limit, compared to 2005)	% Change 2005 – 2011	2020 projected emissions (based on existing measures)	2020 projected emissions (including additional measures)
AT	12	18	-16%	-13%	11%	-2%
BE	10	6	-15%	-9%	16%	6%
BG	14	13	+20%	17%	-8%	-8%
CY	26	15	-5%	-24%	-14%	-40%
CZ	8	3	+9%	7%	-16%	-18%
DE	1	4	-14%	-7%	10%	-1%
DK	19	12	-20%	8%	1%	-3%
EE	22	2	+11%	-8%	2%	-2%
FI	15	8	-16%	-7%	3%	-9%
FR	3	20	-14%	-8%	-3%	-14%
GR	11	17	-4%	-6%	7%	3%
HU	16	21	+10%	-17%	-36%	-40%
IE	18	5	-20%	-11%	17%	10%
IT	4	23	-13%	-11%	10%	-5%
LT	21	10	+15%	12%	1%	-4%
LU	24	1	-20%	-2%	-3%	-5%
LV	25	19	+17%	-2%	27%	20%
MT	27	27	+5%	-7%	28%	6%
NL	7	7	-16%	-9%	-2%	-8%
PL	5	14	+14%	15%	-14%	-14%
PT	13	26	+1%	-8%	-17%	-17%
RO	9	16	+19%	-4%	-10%	-10%
SE	17	24	-17%	-2%	-15%	-19%
SI	23	22	+4%	-1%	13%	-10%
SK	20	9	+13%	-7%	0%	0%
SP	6	25	-10%	-6%	0%	0%
UK	2	11	-16%	-13%	-7%	-7%
EU27	-	-	-9%	-7%	-1%	-8%

Share of the non-ETS emissions by Member State and Sector



Additional data on energy targets

1) Renewables

With a view to achieving, by 2020, the 20% renewable energy target in the EU, the Renewable Energy Directive establishes legally binding individual targets for the share of renewable energy in final energy consumption for each Member State. It also establishes a legally binding target of for each Member State to achieve a share of 10% renewable energy in the transport sector.

Member States progress towards 2020 targets in renewable energy

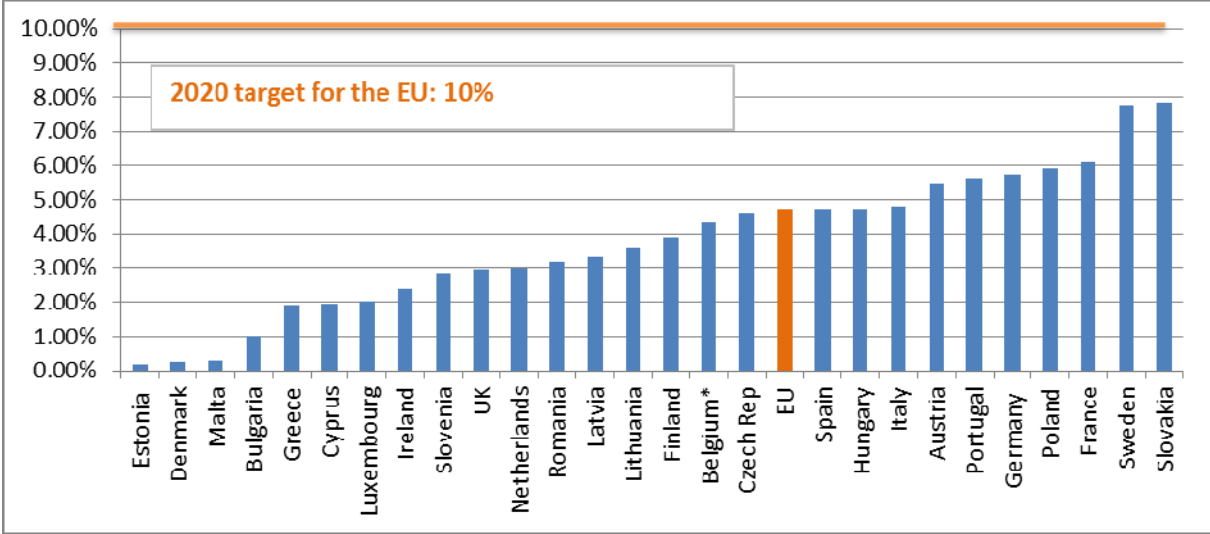
MS	RES in consumption in 2010 (1)	2011/2012 RES interim target (1)	2020 RES Target (1)	RES in Transport (2010) (2)	2020 RES target in transport (2)
EU	12.5%	10.7%	20.0%	4.3%	10.0%
Belgium	5.15%	4.4%	13%	4.33%	10%
Bulgaria	13.79%	10.7%	16%	1.00%	10%
Czech Republic	9.24%	7.5%	13%	4.58%	10%
Denmark	22.22%	19.6%	30%	0.27%	10%
Germany	11.00%	8.2%	18%	5.73%	10%
Estonia	24.32%	19.4%	25%	0.17%	10%
Ireland	5.46%	5.7%	16%	2.39%	10%
Greece	9.24%	9.1%	18%	1.93%	10%
Spain	13.83%	10.9%	20%	4.73%	10%
France	12.93%	12.8%	23%	6.10%	10%
Italy	10.11%	7.6%	17%	4.81%	10%
Cyprus	4.85%	4.9%	13%	1.97%	10%
Latvia	32.57%	34.0%	40%	3.32%	10%
Lithuania	19.72%	16.6%	23%	3.59%	10%
Luxembourg	2.83%	2.9%	11%	2.04%	10%
Hungary	8.68%	6.0%	13%	4.74%	10%
Malta	0.36%	2.0%	10%	0.30%	10%
Netherlands	3.76%	4.7%	14%	3.01%	10%
Austria	30.05%	25.4%	34%	5.45%	10%
Poland	9.41%	8.8%	15%	5.94%	10%
Portugal	24.57%	22.6%	31%	5.59%	10%
Romania	23.36%	19.0%	24%	3.19%	10%
Slovenia	19.80%	17.8%	25%	2.87%	10%
Slovakia	9.76%	8.2%	14%	7.85%	10%
Finland	32.17%	30.4%	38%	3.90%	10%
Sweden	47.94%	41.6%	49%	7.75%	10%
UK	3.20%	4.0%	15%	2.96%	10%

Source: Eurostat June 2012 and Directive 2009/28/EC for targets

(1): Share of renewable energy in gross final energy consumption

(2): Share of renewable energy in the transport sector

Share of Renewable energy in the transport sector in 2010



Source: Eurostat June 2012 and Directive 2009/28/EC for targets

2) Energy Efficiency

The Commission Services estimate that the Directive as agreed by the co-legislators will not fully close the gap to reach the 20% energy efficiency target in 2020 but the text represents a significant success. With this Directive and the measures envisaged in the Transport White paper, the primary energy in 2020 will be reduced with about 17% compared to projections (and not with 9% as estimated under the business as usual scenario).