Energy Efficiency Directive in Figures

5-year assessment of Annual Reports submitted by Member States

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Joint Research Centre



European Commission

Annual reports under the Energy Efficiency Directive

Progress made at national level is tracked annually by European Commission through reports notified by Member States in accordance with Article 24:

a) estimate of various energy-related indicators, including a discussion of the reasons if stable and growing energy consumptions were observed
b) updates on major legislative and non-legislative measures implemented in previous year, which contribute towards overall national 2020 energy efficiency targets
c) total building floor area of the buildings with a total useful floor area over 500 m^2 and as of 9 July 2015 over 250 m^2 owned and occupied by the Member States' central government that, on 1 January, did not meet the minimum energy performance requirements referred to in Article 5(1);
d) total building floor area of heated and/or cooled buildings owned and occupied by the Member States' central government that was renovated in the previous year referred to in Article 5(1) or amount of energy savings in eligible buildings owned and occupied by central government as referred to in Article 5(6)
e) energy savings achieved through the national energy efficiency obligation schemes referred to in Article 7(1) or the alternative measures adopted in application of Article 7(9).

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What do the numbers tell us?

CHANGE IN FINAL ENERGY CONSUMPTION IN 2011-2016

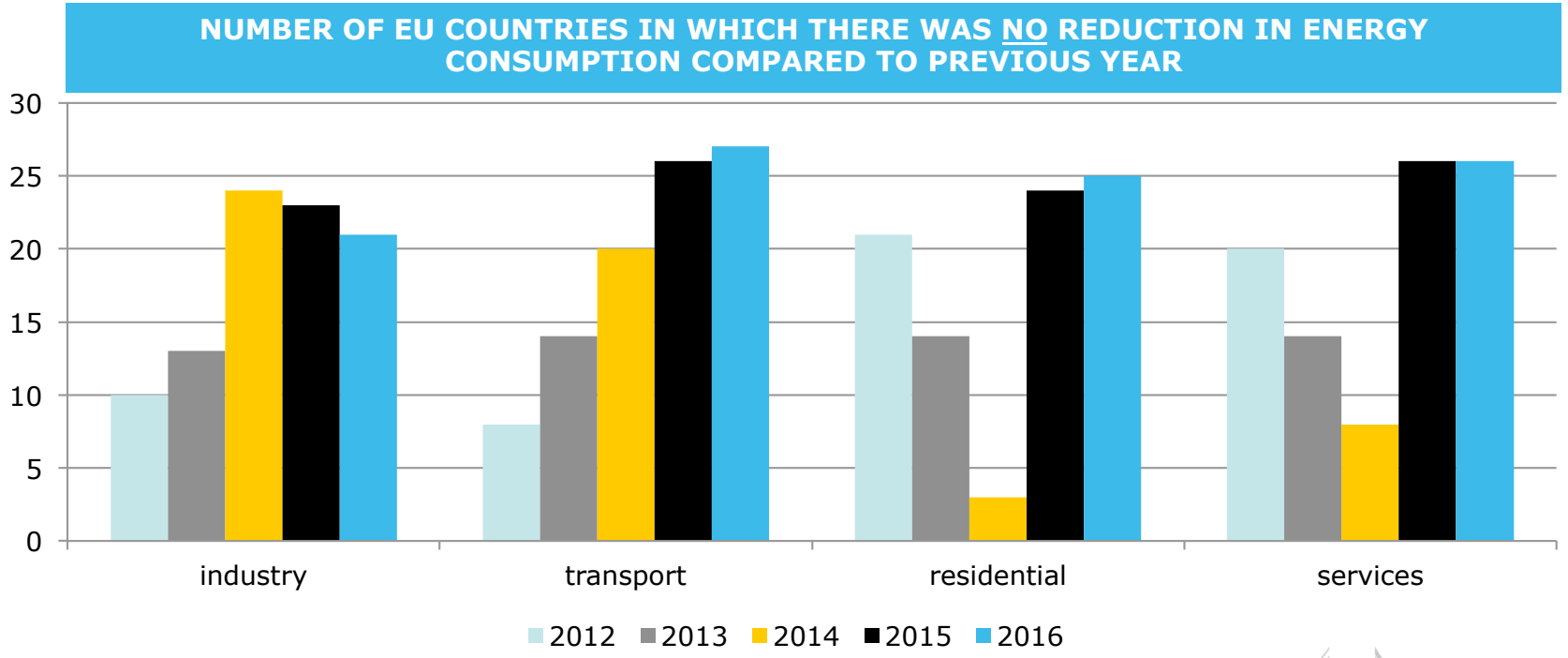
EU	0%

AT	+4%	IT	-6%
BE	+4%	LV	-1%
BG	+4%	LT	+7%
HR	-5%	LU	-6%
CY	-8%	MT	+18%
CZ	+1%	NL	-4%
DK	-2%	PL	+3%
EE	-1%	PT	-7%
FI	+1%	RO	-2%
FR	+2%	SK	-3%
DE	+4%	SI	-3%
EL	-11%	ES	-5%
HU	+1%	SE	+1%
IE	+6%	UK	+1%

- Since 2005 absolute energy consumption has declined for almost all Member States except Estonia, Lithuania, Malta and Poland
- Over the period 2011-2016 only 11 Member States reduced significantly (i.e. more than 1%) their total final energy consumption
- At the EU level consumption remained stable in 2011-216, but has been on rising trend since 2014

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A growing or stable trend was registered for most sectors by majority of Member States



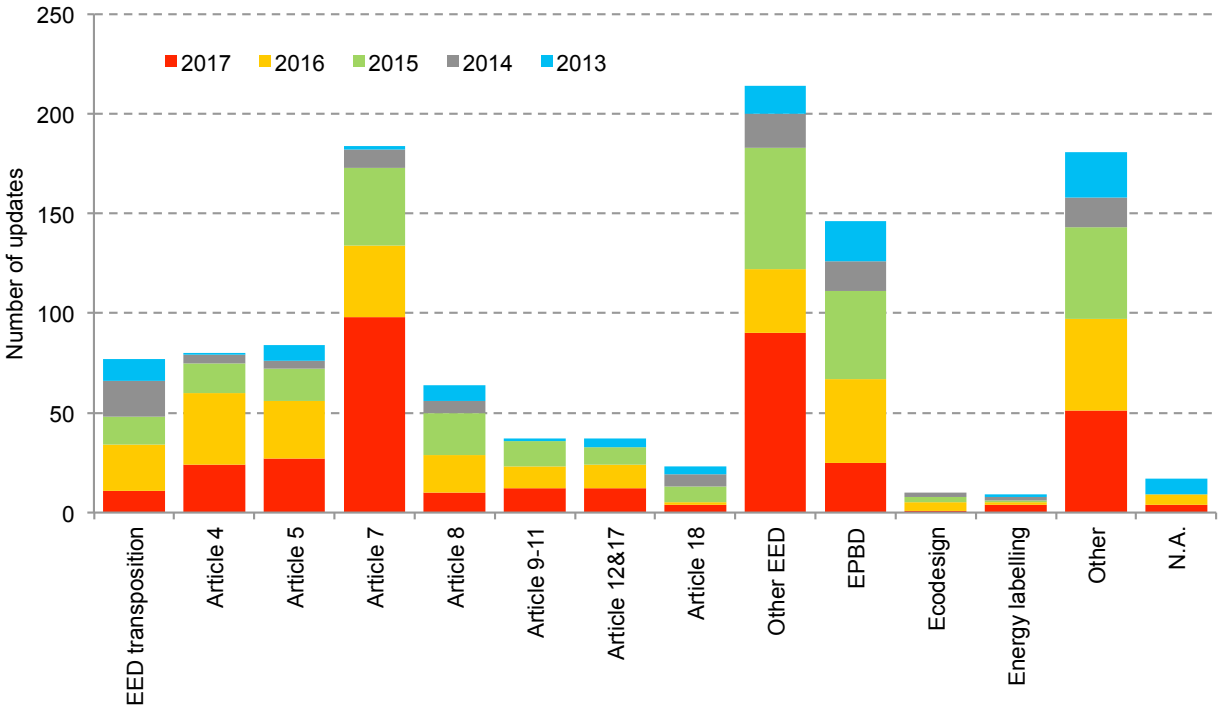
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Reasons provided in Annual Reports (sorted from high to low recurrence) to justify growing or stable consumption

Sector	Reasons
INDUSTRY	- Economic growth, established by an increase of the Gross Value Added (GVA) of industry or by the Gross Domestic Product (GDP). - Increase of employment. - Increase of production.
TRANSPORT	- Activity growth, established by an increase of the total mileage, the flows of freight and passengers or the exports' amount. - Decline of international fuel prices. - Global economic growth (GDP). - Increase of the number of vehicles.
RESIDENTIAL	- Winter climatic conditions, established by an increase of the Heating Degree Days (HDD). - Increase of the population or the number of households. - Growth of the disposable income of households. - Increase of electric appliances and electronic equipment of households. - Decline of international fuel prices.
SERVICES	- Economic growth, established by an increase of the Gross Value Added (GVA) of industry or by the Gross Domestic Product (GDP). - Winter climatic conditions, established by an increase of the Heating Degree Days (HDD). - Increase of employment. - Decline of international fuel prices.

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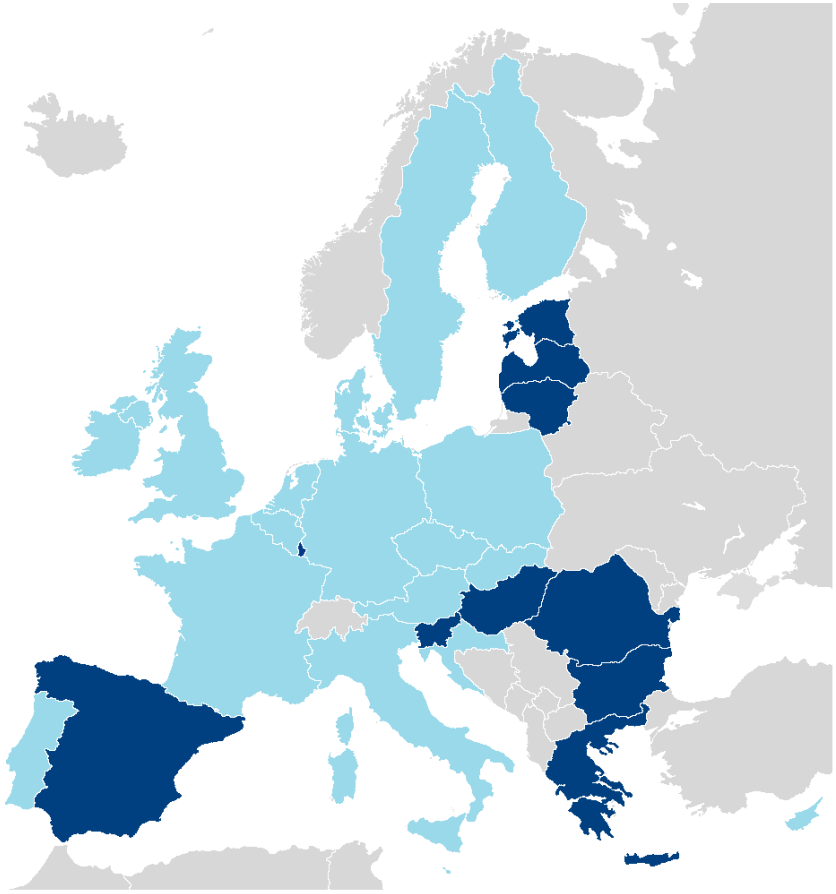
Policy updates reported over the last 5 years



- Majority of concerned updates were claimed under Article 7, general transposition and other EED provisions such as Article 4 on renovation strategies, Article 5 on central government, Article 8 on energy audits, etc.
- Few updates stemmed from other directives such as the Ecodesign, Energy labelling and EPBD, highlighting broad range of EU policy contributing to energy efficiency

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Central government renovations (Article 5)



Default approach

- Renovation of 3% of central government floor area per year

Alternative approach

- Energy savings equivalent to the default approach
- Plans to implement a mixture of renovation, behavioural change and other measures
- Demolition, disposal and replacement of existing buildings are also reported in certain cases (e.g. BE-WAL, DK, FR)
- The depth of the renovations to be undertaken often remains unclear

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Default approach: more progress is needed

MS	Progress in terms of renovated floor area [m2]				Progress in terms of ratio between renovated floor area and annual requirement			
	2014	2015	2016	2017	2014	2015	2016	2017
BG	0	72 000	n.a.	28 101	0%	46%	n.a.	42%
EE	17 022	56 321	n.a.	40 701	n.a.	205%	n.a.	133%
EL	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
ES	306 550	382 581	248 695	302 209	96%	120%	86%	110%
HU	18 200	11 184	0	0	120%	85%	0%	0%
IT	386 992	468 243	559 737	459 045	n.a.	108%	130%	111%
LT	n.a.	24 586	45 559	77 610	n.a.	76%	141%	161%
LU	n.a.	4 281	n.a.	16 043	n.a.	168%	n.a.	709%
LV	232 635	136 155	n.a.	136 155	299%	206%	n.a.	227%
RO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
SI	0	0	11 307	23 514	n.a.	n.a.	49%	102%

- Only Latvia and Luxembourg achieved overall renovation requirement for reporting period 2014-2017
- 2014 was first implementation year, with insufficient or uncertain progress in most Member States
- If 2014 is excluded, Estonia, Spain, Italy and Lithuania also met their requirement
- Lack of information in some cases does not enable a complete picture

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Alternative approach: higher level of compliance but still more efforts are needed

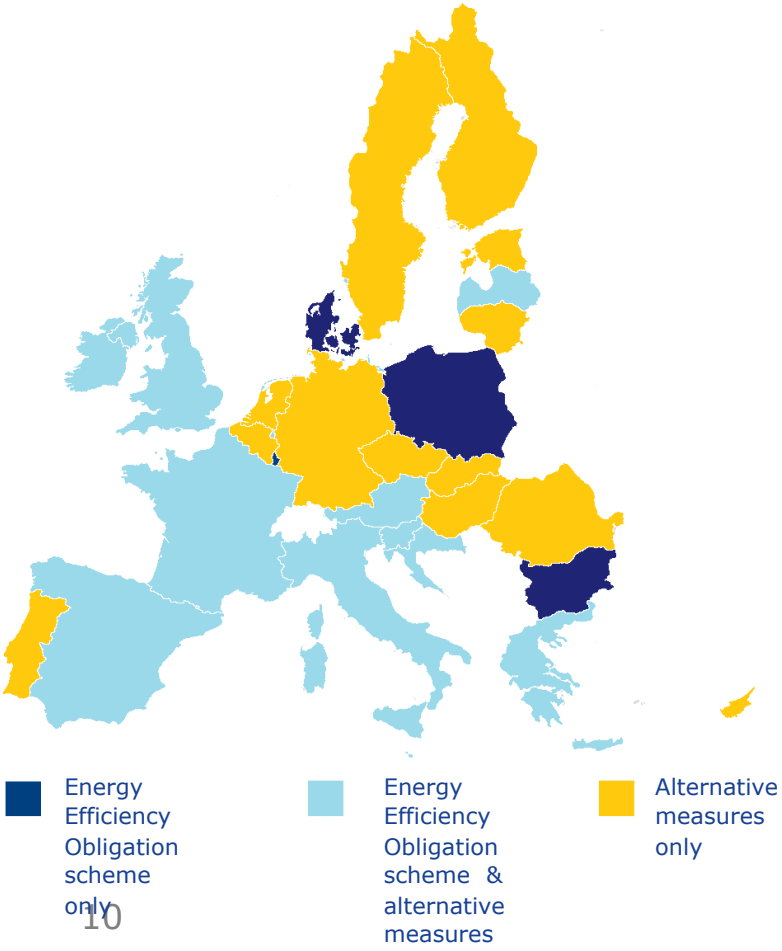
MS	Progress in terms of energy saved from new measures implemented in the reference year [ktoe]				Progress in terms of ratio between energy saved from new measures and annual requirement			
	2014	2015	2016	2017	2014	2015	2016	2017
AT	0.318	0.540	0.170	n.a.	54%	92%	29%	n.a.
BE	0.520	0.465	4.060	n.a.	n.a.	100%	871%	n.a.
CY	0.299	0.295	0.261	0.268	105%	103%	92%	94%
CZ	0.173	0.251	0.170	0.592	51%	74%	50%	176%
DE	0.760	1 030	0.950	0.404	110%.	151%	141%	62%
DK	n.a.	n.a.	n.a.	0	n.a.	n.a.	n.a.	0%
FI	0.759	0.427	n.a.	n.a.	687%	386%	n.a.	n.a.
FR	49.000	118.659	n.a.	120.378	138%	334%	n.a.	339%
HR	0.262	1.466	0.703	0.789	224%	1255%	602%	675%
IE	0.757	0.040	0.054	0.149	677%	36%	48%	133%
MT	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
NL	2 723	8.837	7.595	n.a.	65%	211%	182%	n,a,
PL	0.374	0.374	0.468	0.577	103%	100%	125%	154%
PT	0	n.a.	0.035	0.011	n.a.	n.a.	n.a.	n.a.
SE	0.621	1.582	n.a.	n.a.	224%	589%	n.a.	n.a.
SK	0.073	4.709	1.979	4.145	2%	105%	44%	92%
UK	23.388	10.000	2.244	2.089	665%	284%	64%	59%

[1] New information regarding energy saving obligation have been provided by Belgium, so the ratio between energy saved from new measures and annual requirement may have to be revised.

- Collectively, savings requirement over period 2014-2017 is met by Belgium, Germany, Finland, France, Croatia, Ireland, Poland, Sweden and the UK.
- Cyprus, the Netherlands and Slovakia were short of reaching their requirement on average by 4%, 18% and 20%, respectively.
- In 2015-2017, Czech Republic also reached its energy savings requirement.

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Energy Efficiency Obligations (Article 7)



- Member States set up an EEOs to ensure energy distributors and/or retail energy sales companies achieve a cumulative end-use energy savings target by 31 December 2020: at least new savings from 1 January 2014 to 31 December 2020 of 1,5 % of the annual energy sales to final customers (exceptions/reductions applied)

- Member States opted to generate savings either through EEOs, alternative measures or combination of two, provided that these options generated enough savings to meet target provided and met certain criteria

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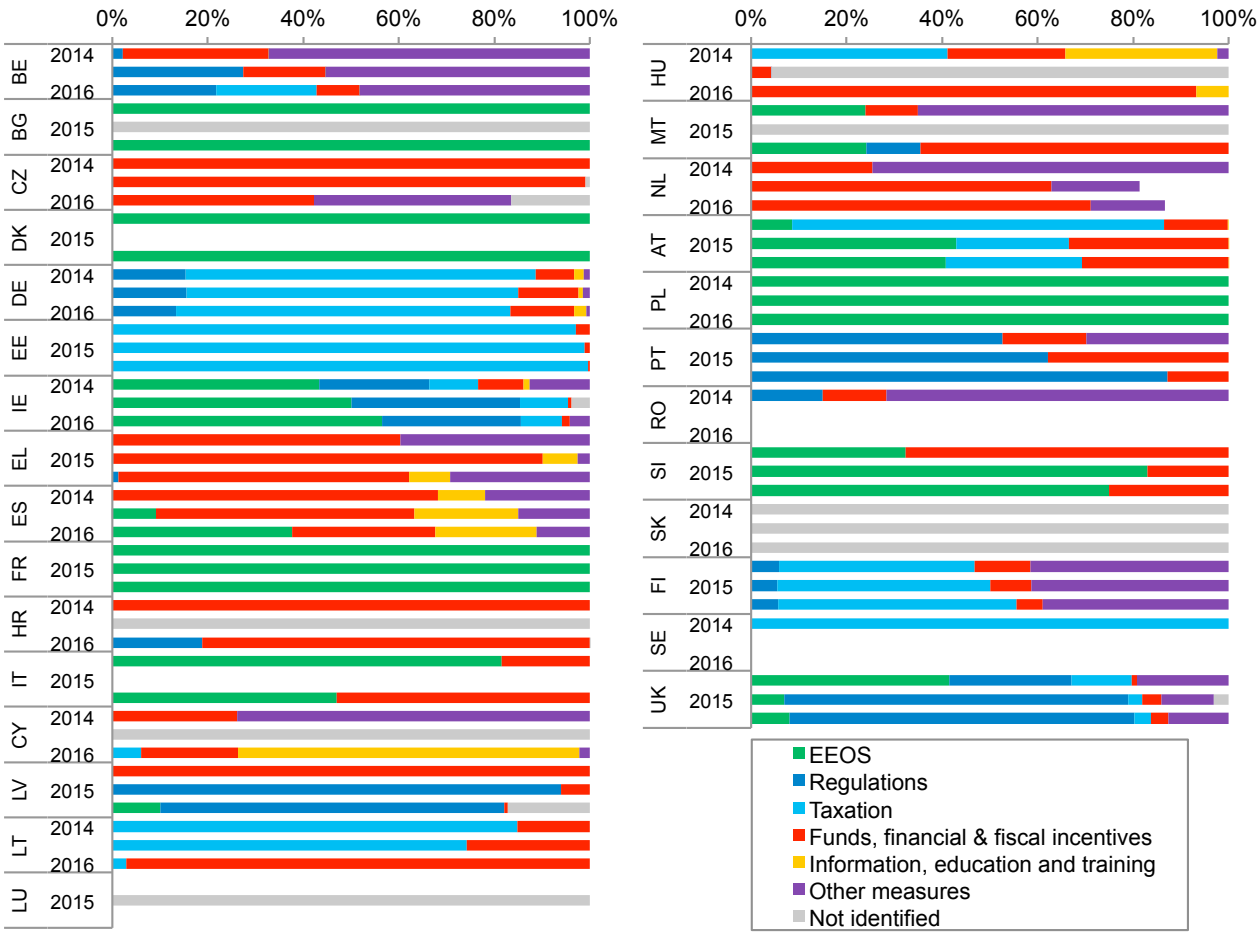
Progress made so far at implementing Article 7

MS	Savings achieved from new and older actions [ktoe]			Cumulative savings achieved in 2014-2016 against expected average savings on basis of linear delivery [%]
	2014	2015	2016	
BE	330	545	779	112%
BG	29	50	99	43%
CZ	50	160	310	50%
DK	219	496	758	179%
DE	2541	3316	4085	111%
EE	41	58	184	217%
IE	71	208	330	131%
EL	74	134	174	54%
ES	565	1079	1536	93%
FR	1410	2192	2887	96%
HR	3	21	n.a.	22%
IT	1298	1399	4565	133%
CY	2	4	6	24%
LV	8	17	32	31%
LT	45	53	86	86%
LU	0	10	14	22%
HU	75	274	292	81%
MT	4	7	8	129%
NL	666	1130	3416	211%
AT	245	637	1026	171%
PL	213	1661	3268	162%
PT	46	65	94	38%
RO	364	337	n.a.	n.a.
SI	18	87	180	141%
SK	72	185	n..a	n.a.
FI	561	580	n.a.	529%
SE	252	1264	n.a.	n.a.
UK	1195	2029	2984	104%

- Half Member States have overachieved their cumulative target in 2014-2016
- Very good results achieved by Finland, Austria, Poland, Estonia, Denmark and the Netherlands
- A total 7 Member States (Bulgaria, Croatia, Cyprus, Latvia, Luxembourg and Portugal) seem to be far away from their savings requirements

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Savings generated in 2014-2016 by new actions



- 12 Member States partially or fully generated their savings requirements through EEOs, representing 41% savings at EU level
- Alternative measures also play a relevant role: "Taxation" covered a substantial share of savings (24% in 2014-2016), "Funds, fiscal and financial incentives" measures (18%) and Regulatory measures (11%)

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Some concluding remarks

- Energy Efficiency Directive is one of the main EU policy instrument within climate and energy legislative package aimed to limit energy consumption
- Despite decrease in consumption since 2005 , several reasons were reported in Annual Reports to justify recent rising trends, mainly linked to economic activity and weather fluctuations
- A harmonised method through the application of 'heating-degree-days-based' correction factors could be considered in future reporting templates to normalise yearly climatic variations.
- While it is difficult to link the outcomes of Articles 5 and 7 with the overall efforts to limit the growth of final energy consumption, the EED energy savings obligation related to Article 5 and Article 7 are crucial
- Nearly two thirds of Member States opted for alternative approach under Article 5 and over four fifths of Member States implemented Article 7 alternative measures, demonstrating popularity of alternative options given in the Directive
- A more stringent implementation of these articles and continued commitment are generally necessary to ensure that the EU remains on track towards its 2020 targets

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Thank you for your attention

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