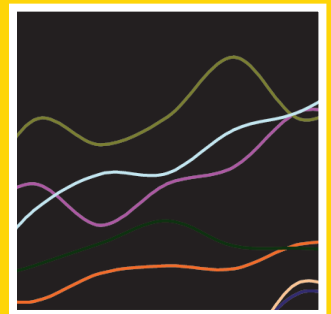
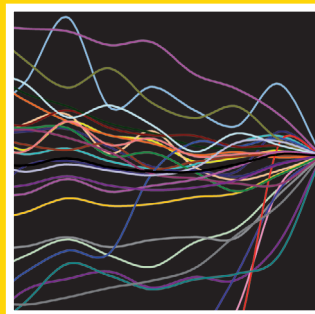


Trends and projections in Luxembourg 2016

Tracking progress towards EU Member States' climate and energy targets



Cover design: EEA

Layout: EEA

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Introduction

This country profile contains key data on greenhouse gas (GHG) emissions, renewable energy and energy efficiency for each EU Member State (MS). This profile is part of a package of country profiles that support and complement the EEA publication *Trends and projections in Europe 2016* – an assessment of progress towards climate and energy targets in Europe (EEA, 2016g). In the EU, each MS is committed to meet targets concerning GHG emissions, renewable energy and energy efficiency:

- Under the Effort Sharing Decision (ESD), Member States must achieve 2020 targets on GHG emissions from the sectors that are not covered by the European Union (EU) Emissions Trading System (ETS). These targets range from a 20 % reduction to a 20 % allowed increase compared with 2005 base-year levels. To ensure progress towards 2020 targets, the ESD also sets binding targets for each Member State and for each year of the 2013–2020 period. These annual targets are expressed in terms of emission budgets, as quantities of Annual Emission Allocations (AEAs).
- Under the Renewable Energy Directive (RED), Member States must achieve 2020 targets on the proportion of renewable energy sources (RESs) in their gross final energy consumption. These targets range from 10 % to 49 %. To ensure progress towards 2020 targets, the RED also sets indicative trajectories for the period from 2011 to 2020. Member States have also set their own estimated trajectories in their national renewable energy action plans (NREAPs) reported in 2010.
- Under the Energy Efficiency Directive (EED), Member States have to set indicative, non-binding targets on primary or final energy consumption for 2020. For primary energy consumption, Member States have set targets ranging from a 24 % reduction to a 22 % increase compared with 2005 levels. For final energy consumption, these targets range from a 22 % reduction to a 43 % increase compared with 2005 levels. No indicative trajectory has been formally set to monitor progress towards these targets. This analysis uses a simple approach for monitoring progress, which considers an indicative linear trajectory between 2005 energy consumption levels and 2020 targets.

This country profile includes:

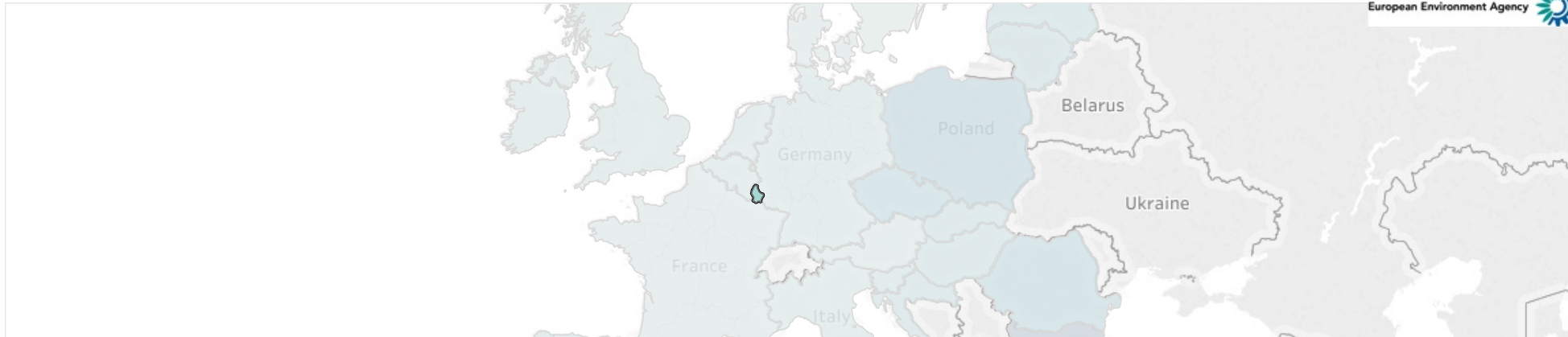
- A brief assessment of progress towards national targets concerning GHG emissions in the sectors covered by the ESD, renewable energy and energy efficiency
- Key data and figures on national trends in GHG emissions.

The information presented in the country profiles originates mainly from the information submitted through:

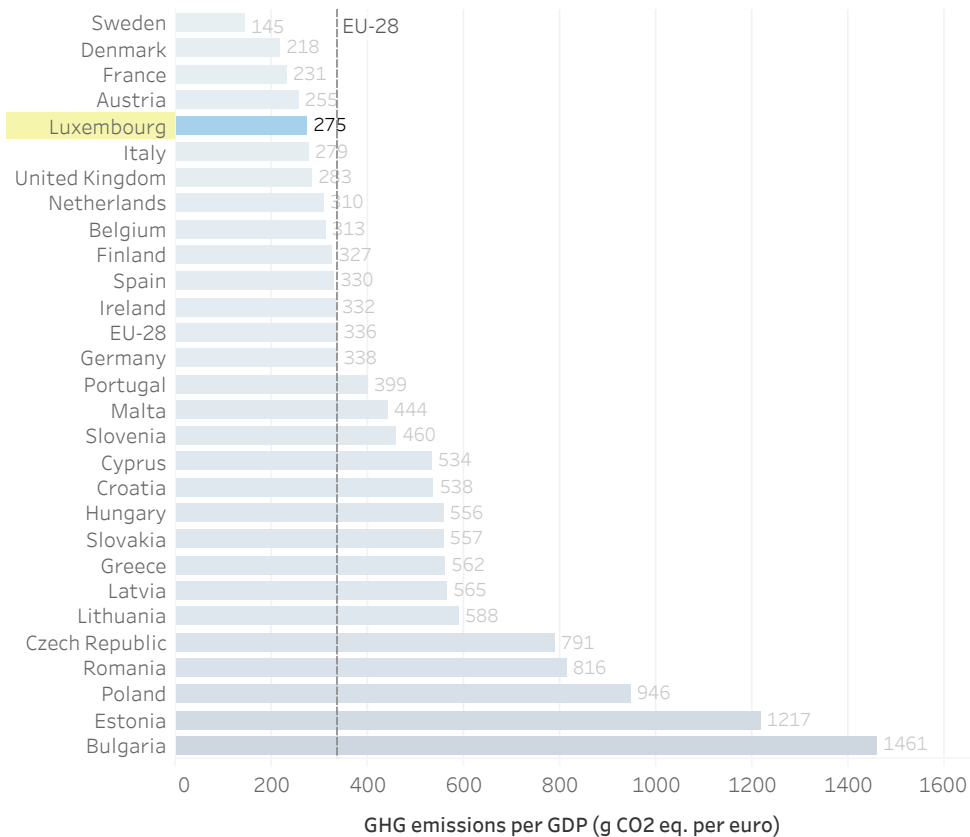
- EU Monitoring Mechanism
- UNFCCC
- Renewable Energy Directive (RED)
- Energy Efficiency Directive (EED)
- Eurostat
- National action plans and progress reports on renewable energy and on energy efficiency.

Data sources

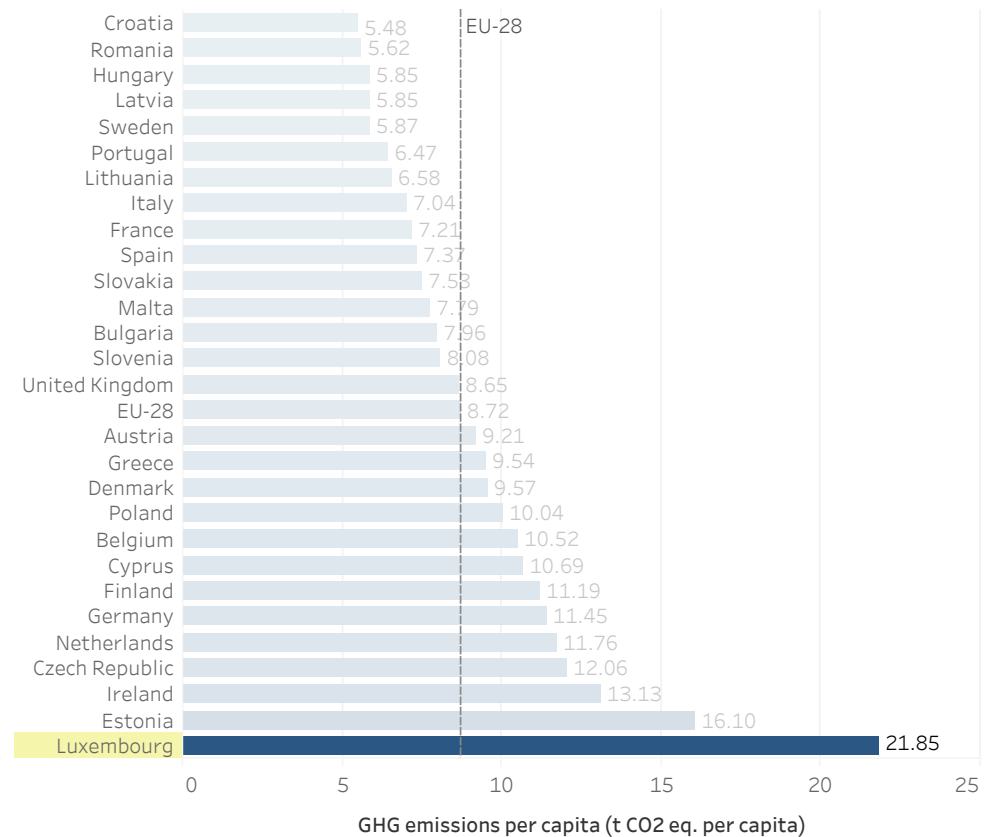
A detailed overview of the data sources underpinning this country profile is provided in Annex 1 of the EEA publication *Trends and projections in Europe 2016* (EEA, 2016g).



Greenhouse gas emission intensity of the economy



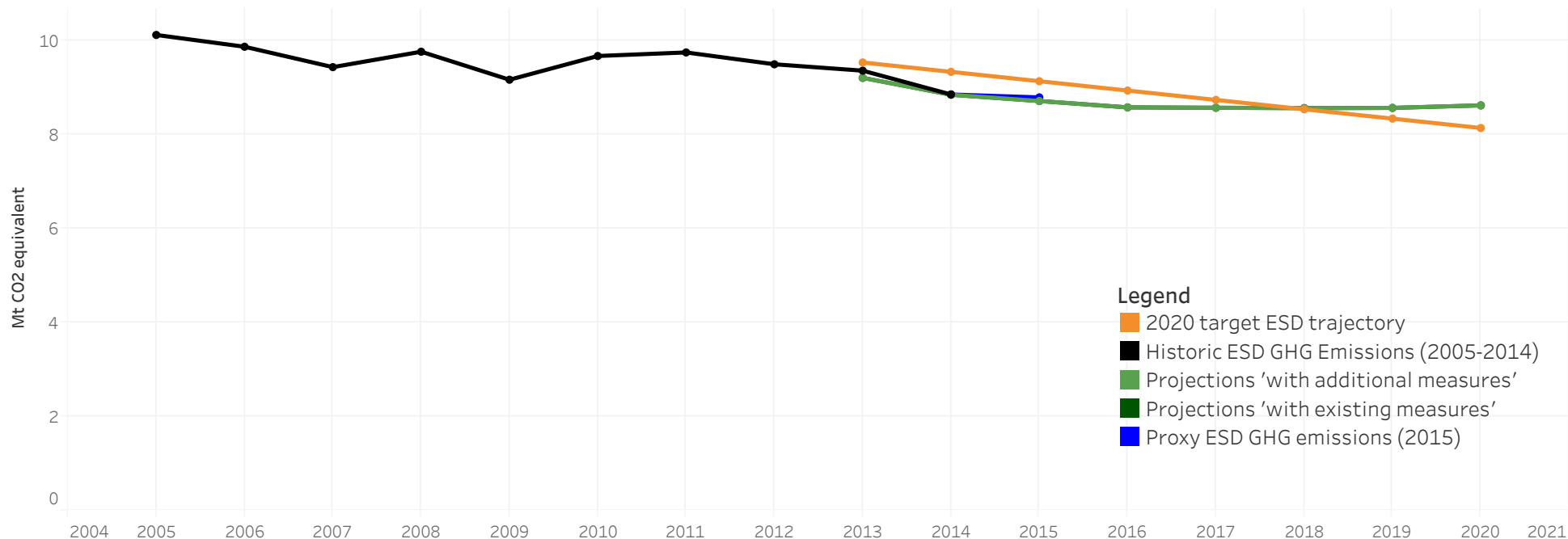
Greenhouse gas emissions per capita



Progress towards EU Member States' greenhouse gas emission targets

Each Member States shall meet its legally binding targets concerning greenhouse gas emissions covered under the Effort Sharing Decision (ESD) for each year of the period from 2013 to 2020. The ESD covers emissions from sectors such as transport, buildings, agriculture and waste that are not covered by the EU Emission Trading Scheme (ETS).

Figures 1: GHG emission, trends, projections, targets in Luxembourg



Sources: EEA, 2016a, b, c, d, e, f, g, j and k; EC, 2013a and b

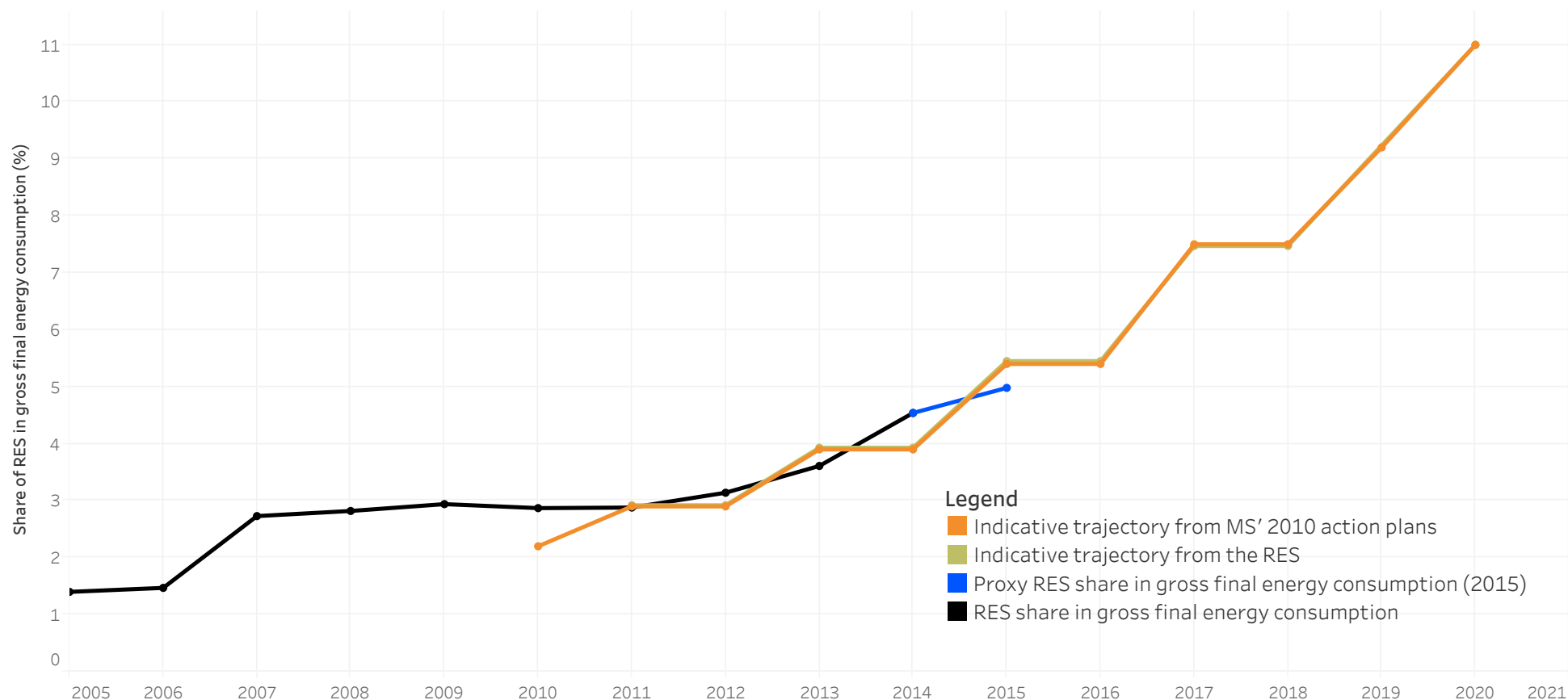
Note: The GHG emission trends represent emissions covered under the Effort Sharing Decision (ESD). The values for 2013 and 2014 ESD emissions are based on the final review report of the comprehensive review of GHG inventories, which took place under the ESD in 2016. For projected emissions, the 'with existing measures' (WEM) scenario reflects existing policies and measures, while the 'with additional measures' (WAM) takes into account the additional effects of planned measures reported by Member States. For the most part, these projections were reported in 2015 and therefore do not reflect the expected effects of recent policy proposals for the period after 2020. A significant gap between historic and projected emissions in the reference year shows that Member States did not use the latest available historic ESD emissions as reference point for their ETS and ESD projections.

MtCO ₂ eg.	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
2020 target ESD trajectory									9.5	9.3	9.1	8.9	8.7	8.5	8.3	8.1
Historic ESD GHG Emissions (2005-2014)	10.1	9.9	9.4	9.8	9.2	9.7	9.8	9.5	9.4	8.9						
Projections 'with additional measures'									9.2	8.9	8.7	8.6	8.6	8.6	8.6	8.6
Projections 'with existing measures'									9.2	8.9	8.7	8.6	8.6	8.6	8.6	8.6
Proxy ESD GHG emissions (2015)											8.8					

Progress towards EU Member States' renewable energy efficiency targets

Each Member States shall meet its legally binding targets concerning the 2020 share of renewable energy sources (RES) in gross final energy consumption.

Figure 2: Progress towards targets regarding renewable energy sources (RES) consumption as a proportion of Luxembourg's energy consumption, All



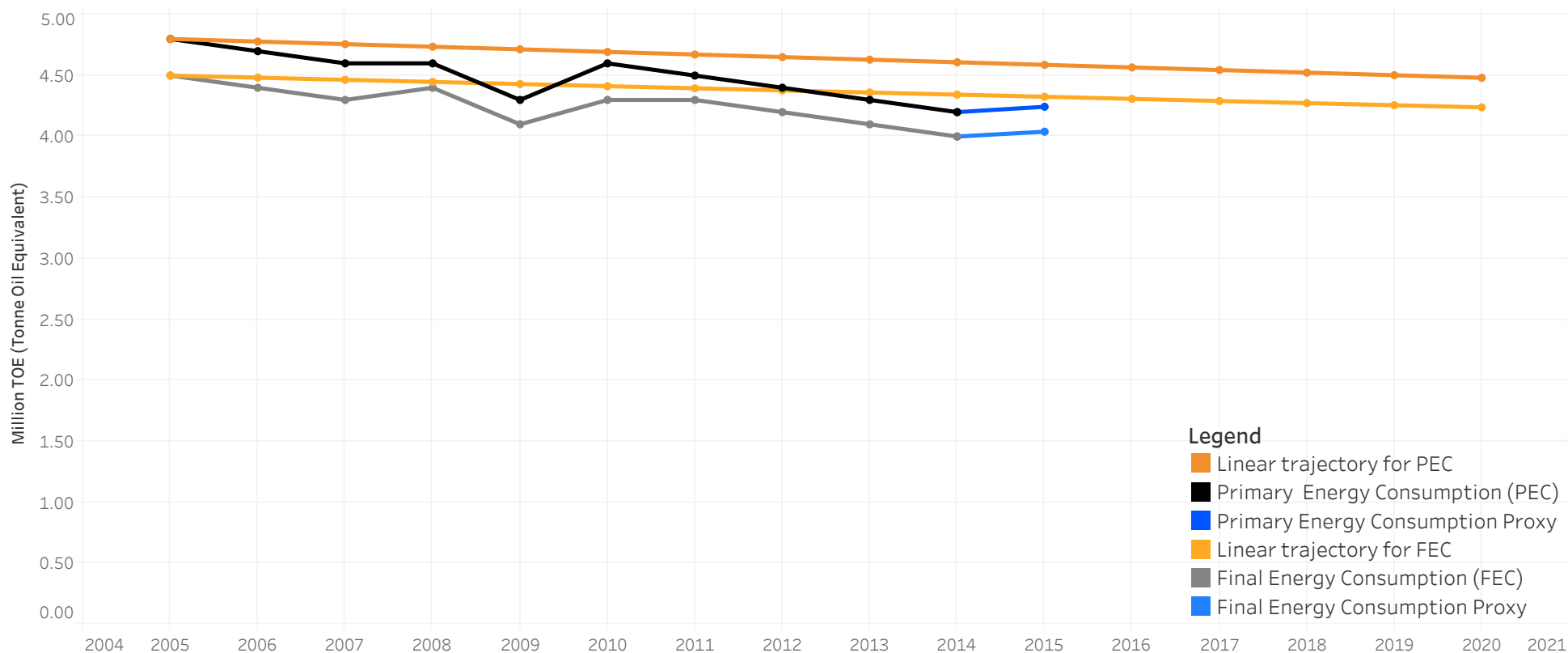
Sources: EC, 2011, 2013c and d; EU, 2009a; Eurostat, 2016c and d; EEA 2011; EEA (forthcoming)

%	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
RES share in gross final energy consumption	0.9	1.4	1.47	2.73	2.82	2.94	2.87	2.88	3.14	3.61	4.54						
Indicative trajectory from MS' 2010 action plans							2.2	2.9	2.9	3.9	3.9	5.4	5.4	7.5	7.5	9.2	11
Indicative trajectory from the RES								2.92	2.92	3.93	3.93	5.45	5.45	7.47	7.47		11
Proxy RES share in gross final energy consumption (2015)												4.98					

Progress towards EU Member States' energy efficiency targets

Each Member States shall meet its non-binding targets for energy consumption for 2020.

Figure 3: Progress towards Luxembourg's primary and final energy consumption targets



Sources: EC, 2008; European Council, 2014; EEA, 2016h and i; Eurostat, 2016a and b

Million TOE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Final Energy Consumption (FEC)	4.5	4.4	4.3	4.4	4.1	4.3	4.3	4.2	4.1	4.0						
Final Energy Consumption Proxy											4.0					
Linear trajectory for FEC	4.5	4.5	4.5	4.4	4.4	4.4	4.4	4.4	4.4	4.3	4.3	4.3	4.3	4.3	4.3	4.2
Linear trajectory for PEC	4.8	4.8	4.8	4.7	4.7	4.7	4.7	4.7	4.6	4.6	4.6	4.6	4.5	4.5	4.5	4.5
Primary Energy Consumption (PEC)	4.8	4.7	4.6	4.6	4.3	4.6	4.5	4.4	4.3	4.2						
Primary Energy Consumption Proxy											4.2					

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