



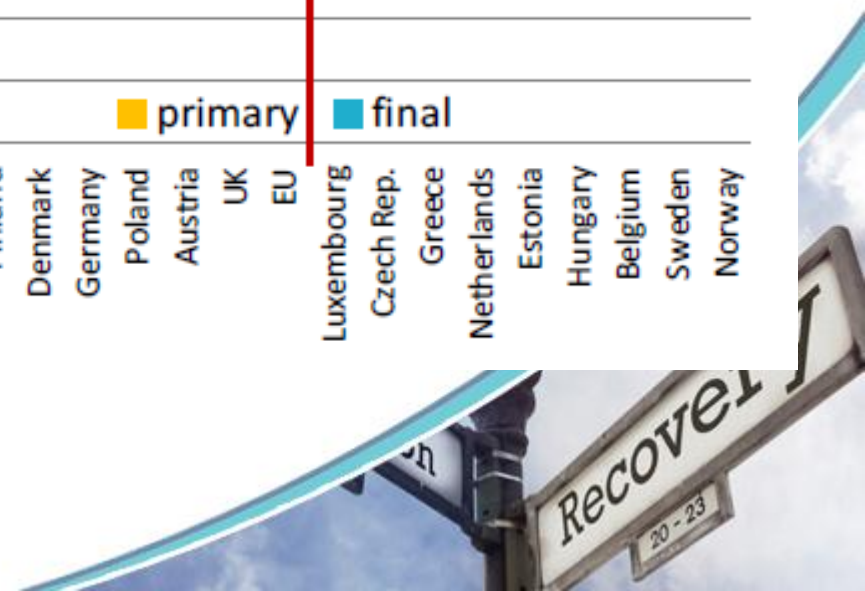
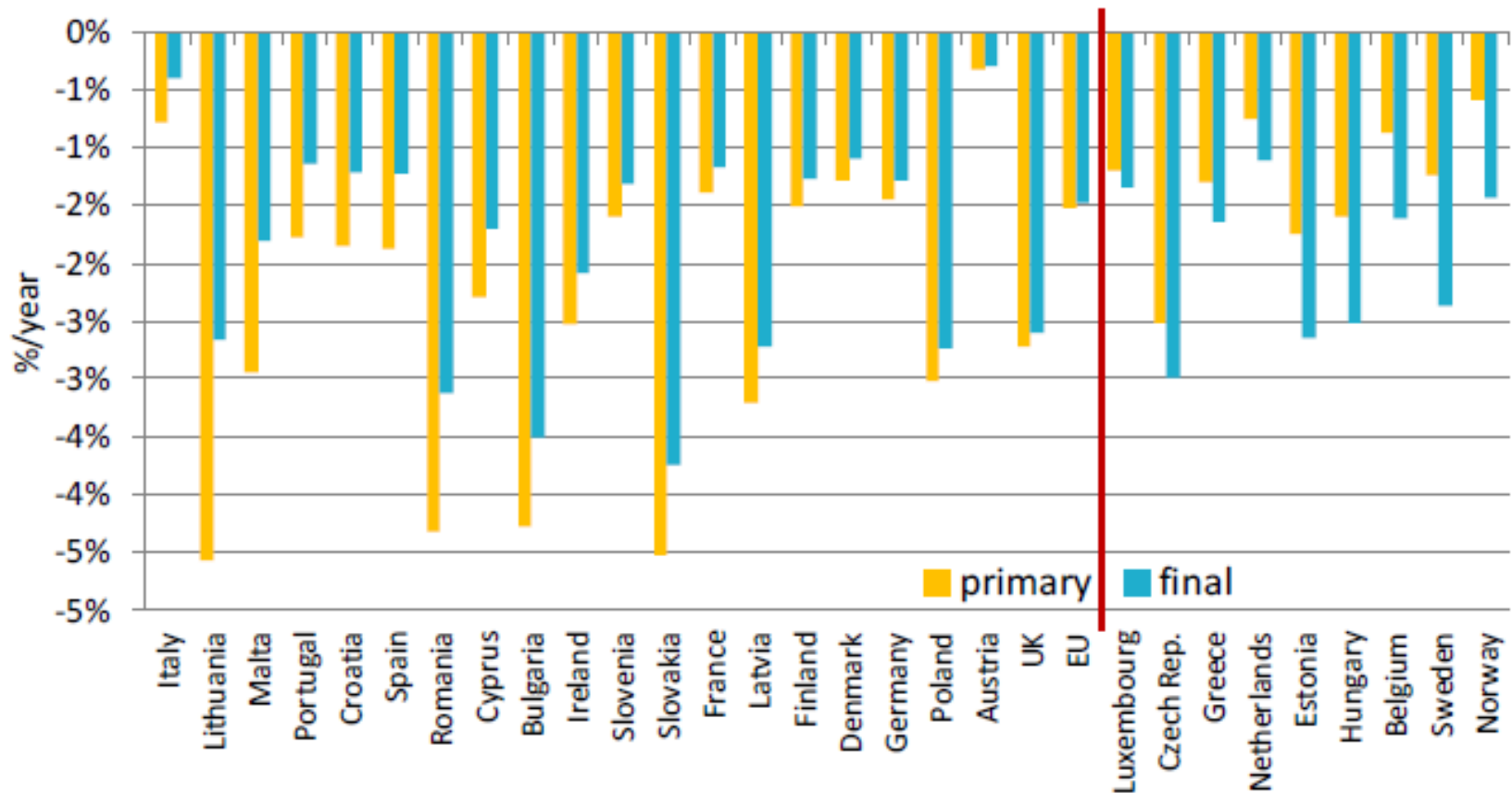
Energy Efficiency - Czech Industry View

Turning Problems into Solutions

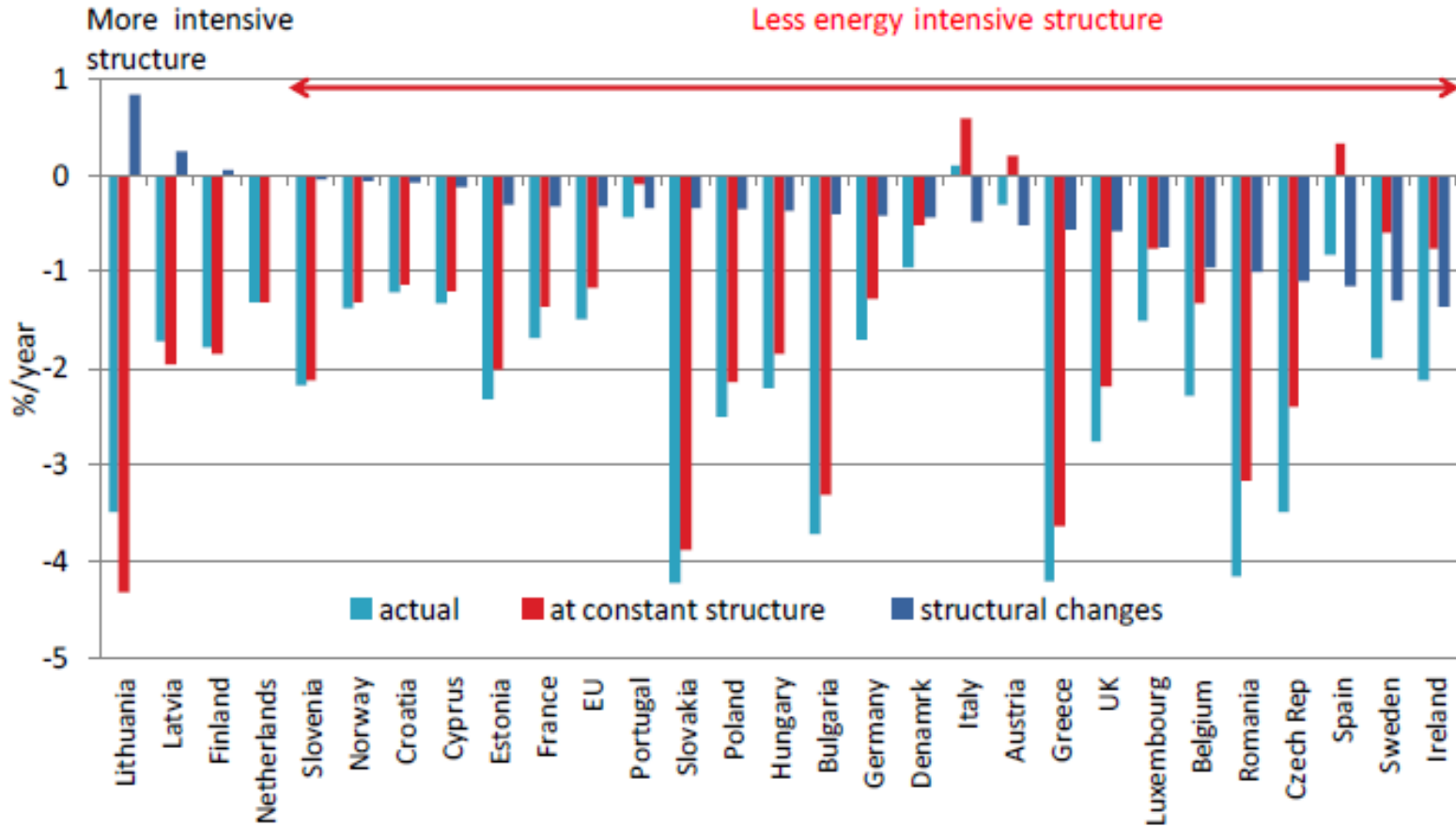
Jakub Vít

Confederation of Industry and Transport of the Czech Republic

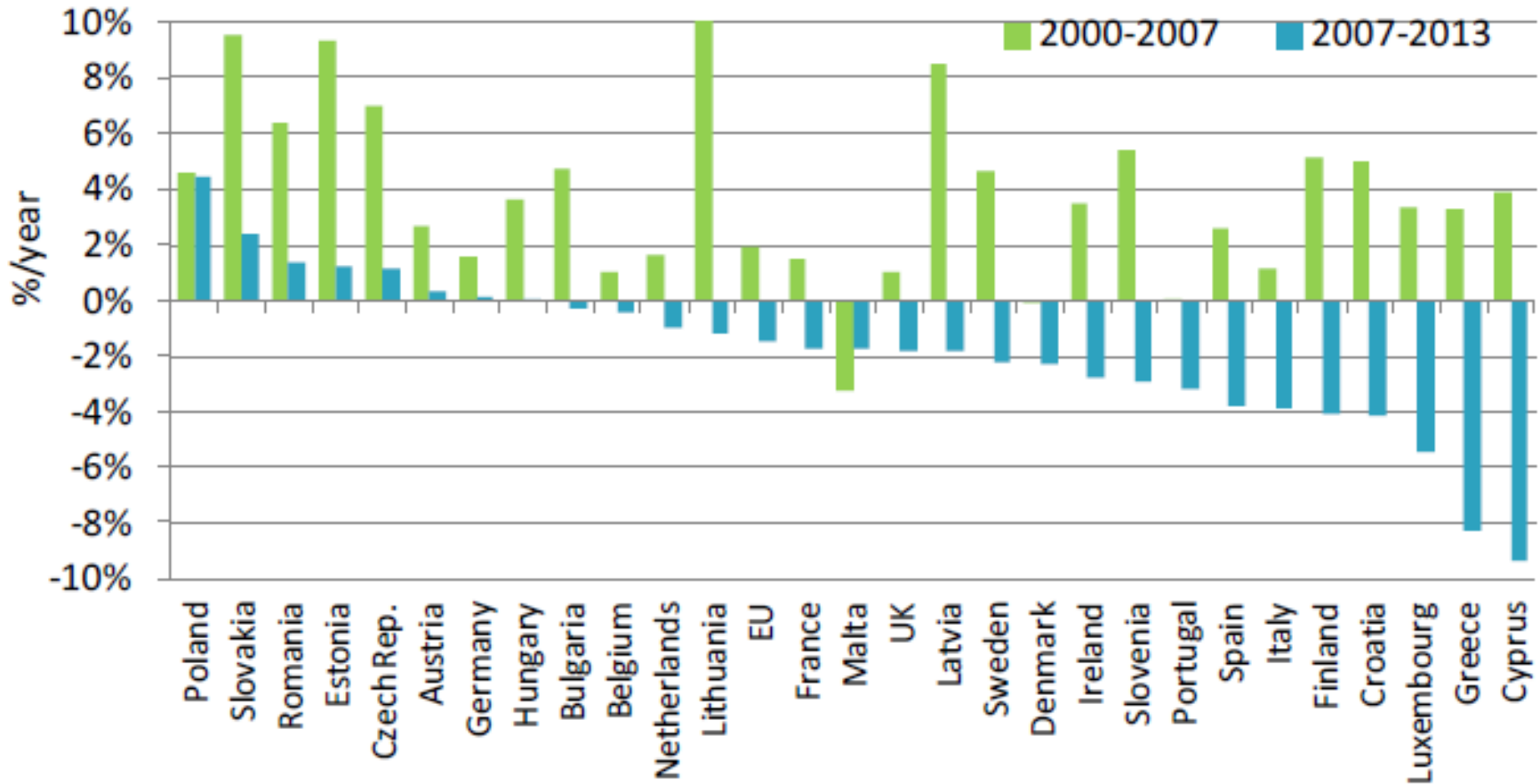
Variation of primary and final energy intensities in EU countries



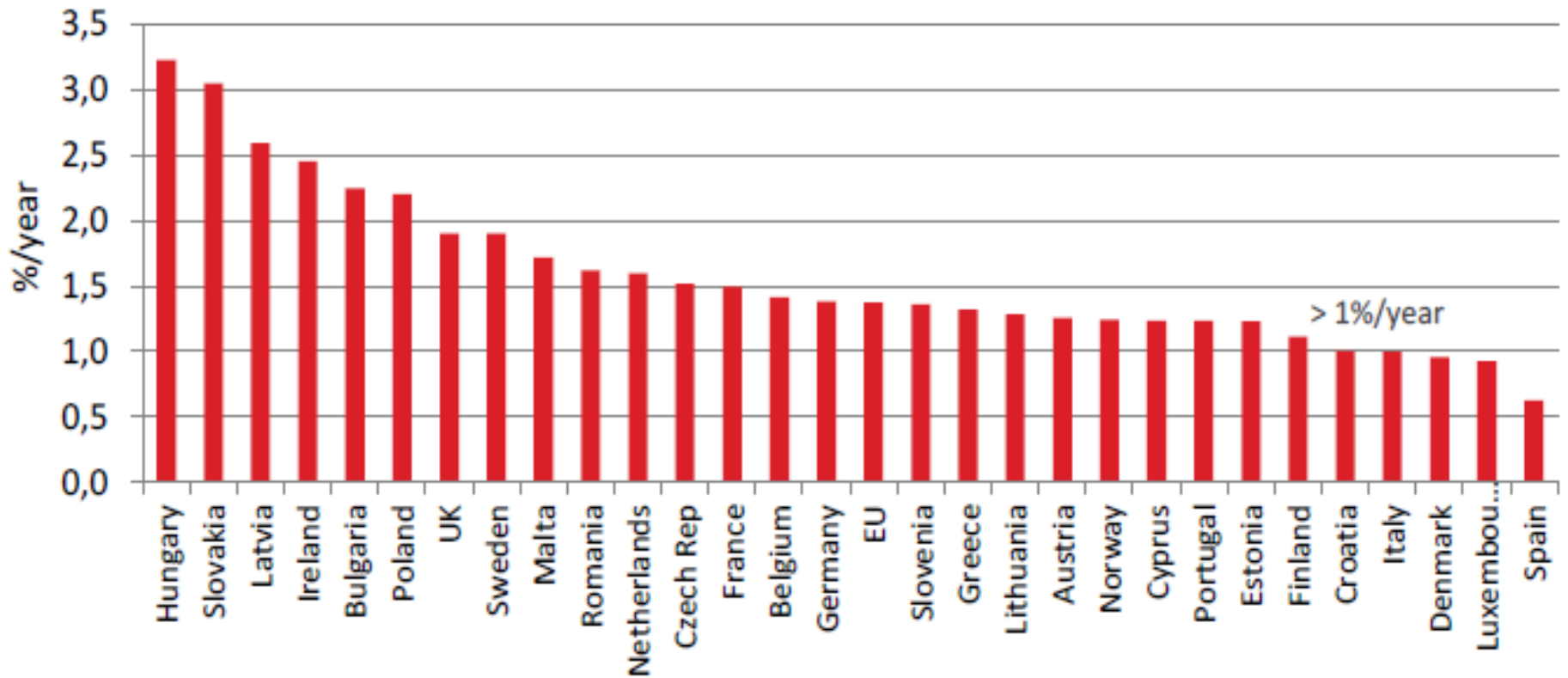
Impact of structural changes on the final energy intensity (EU)



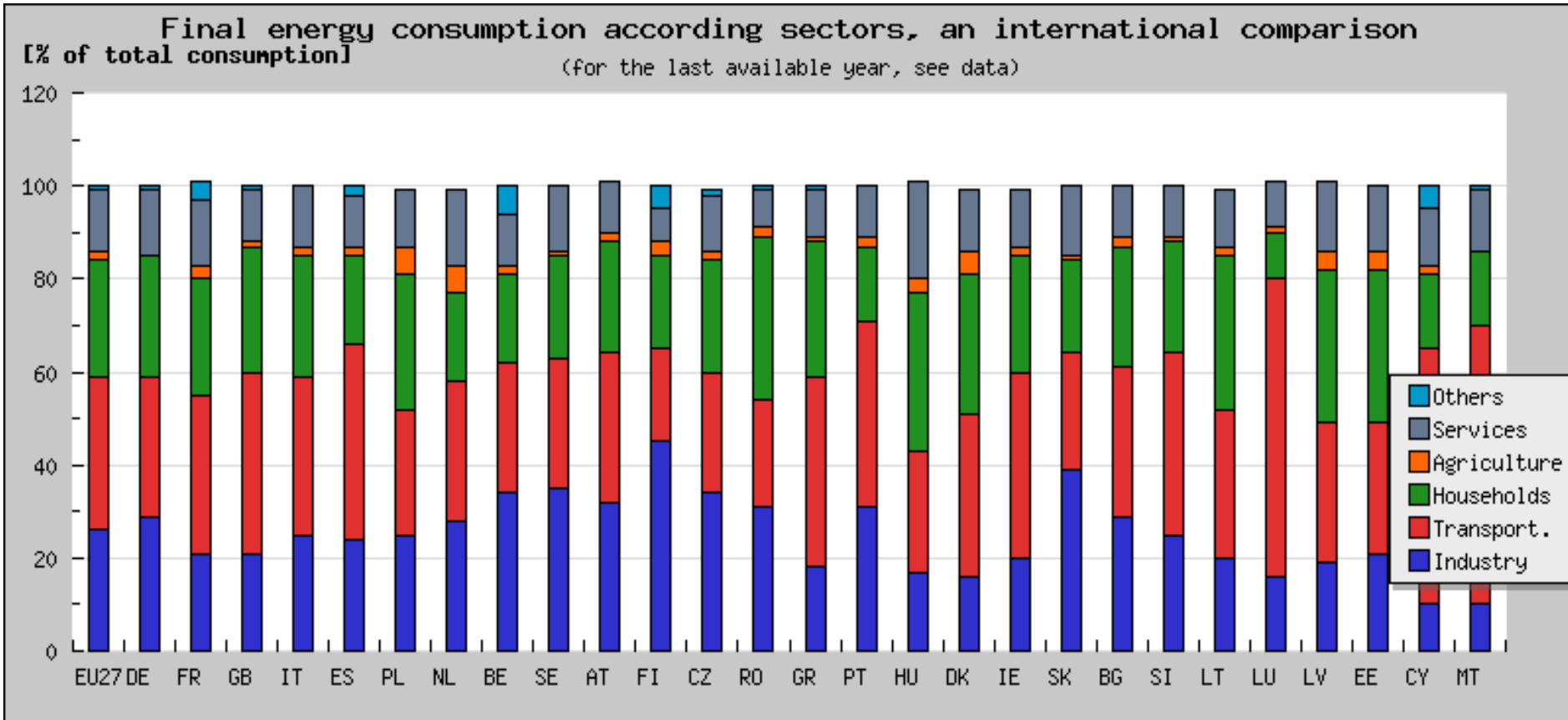
Trends in industrial activity



Energy efficiency progress by country



EU Comparison FEC by Sectors



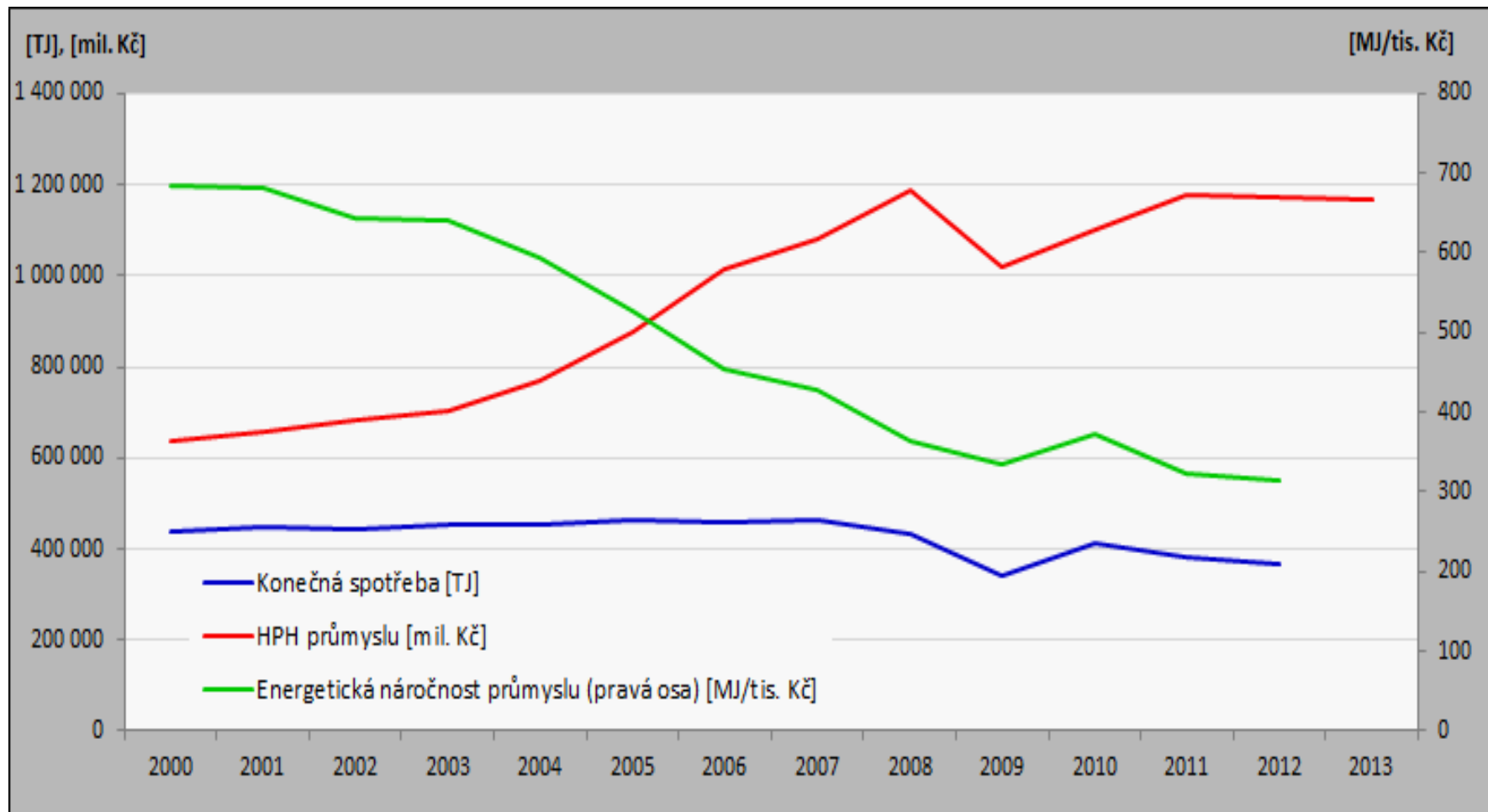
Source: Eurostat

Industry
 Transport
 Households

Agriculture and Forestry
 Services
 Others

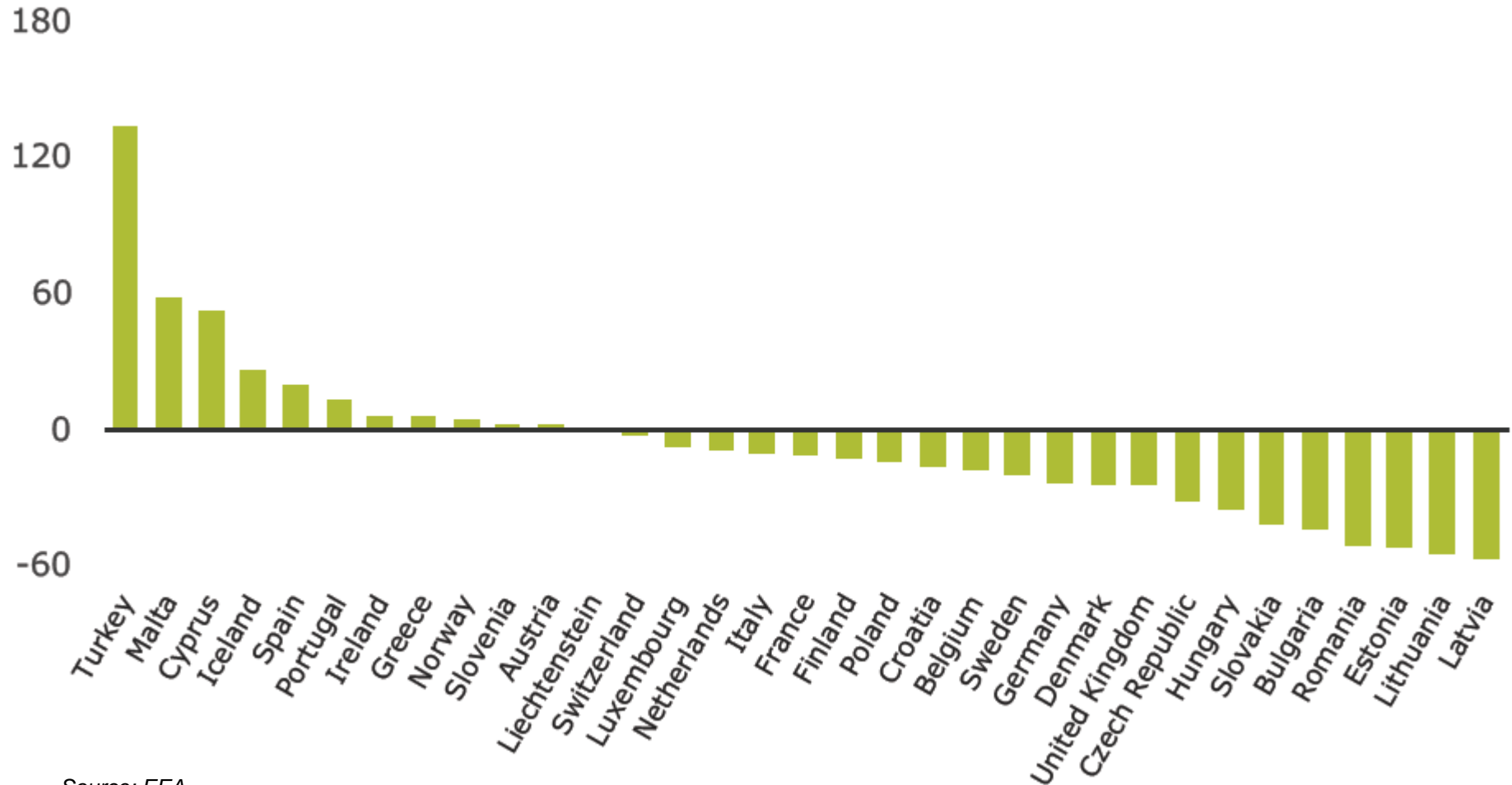


Energy Intensity of CZ Industry (MJ/th CZK)



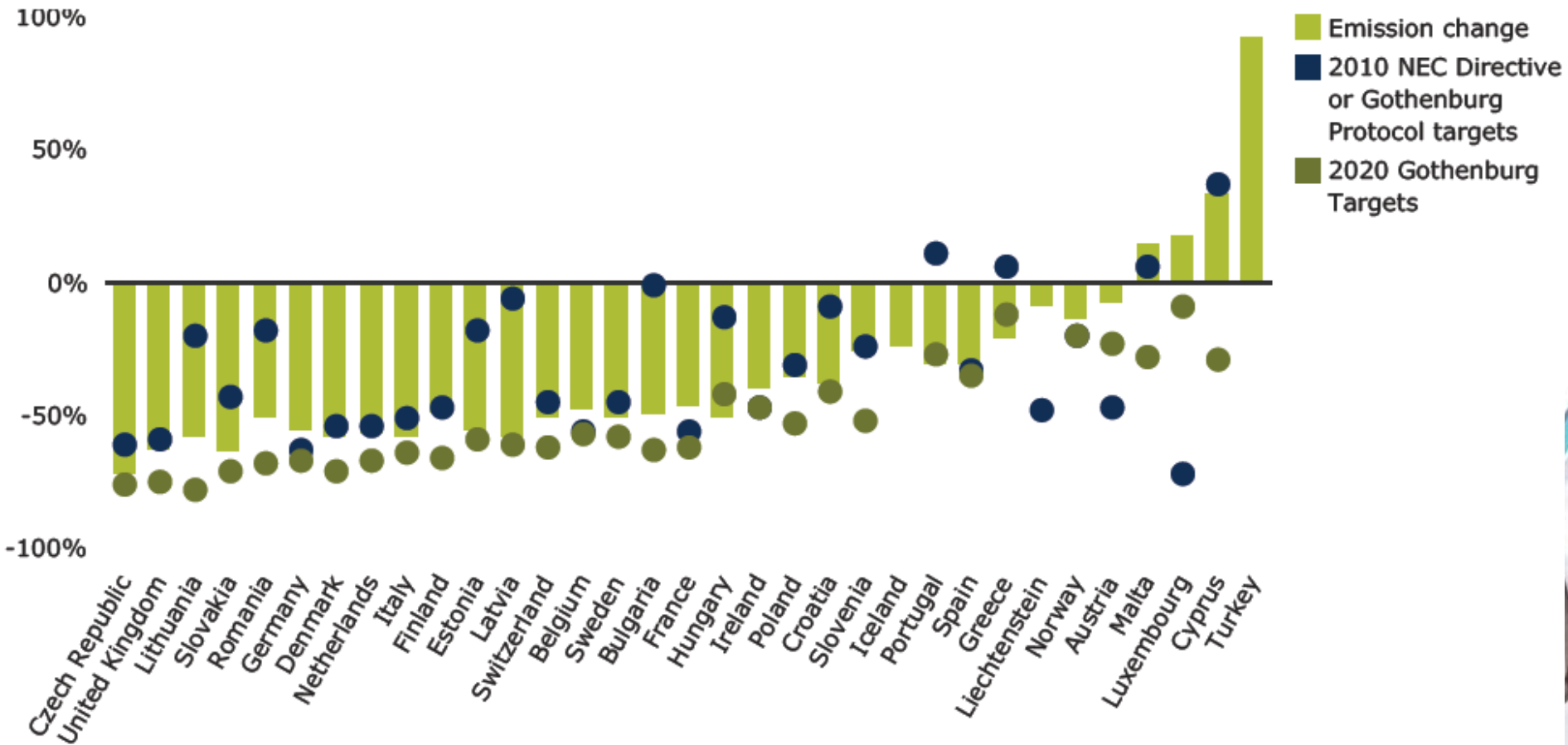
Source: Czech Statistical Bureau

Percentage Change in Total GHG Emissions (1990–2012)



Source: EEA

Change in NOx (1990-2012)



Source: EEA

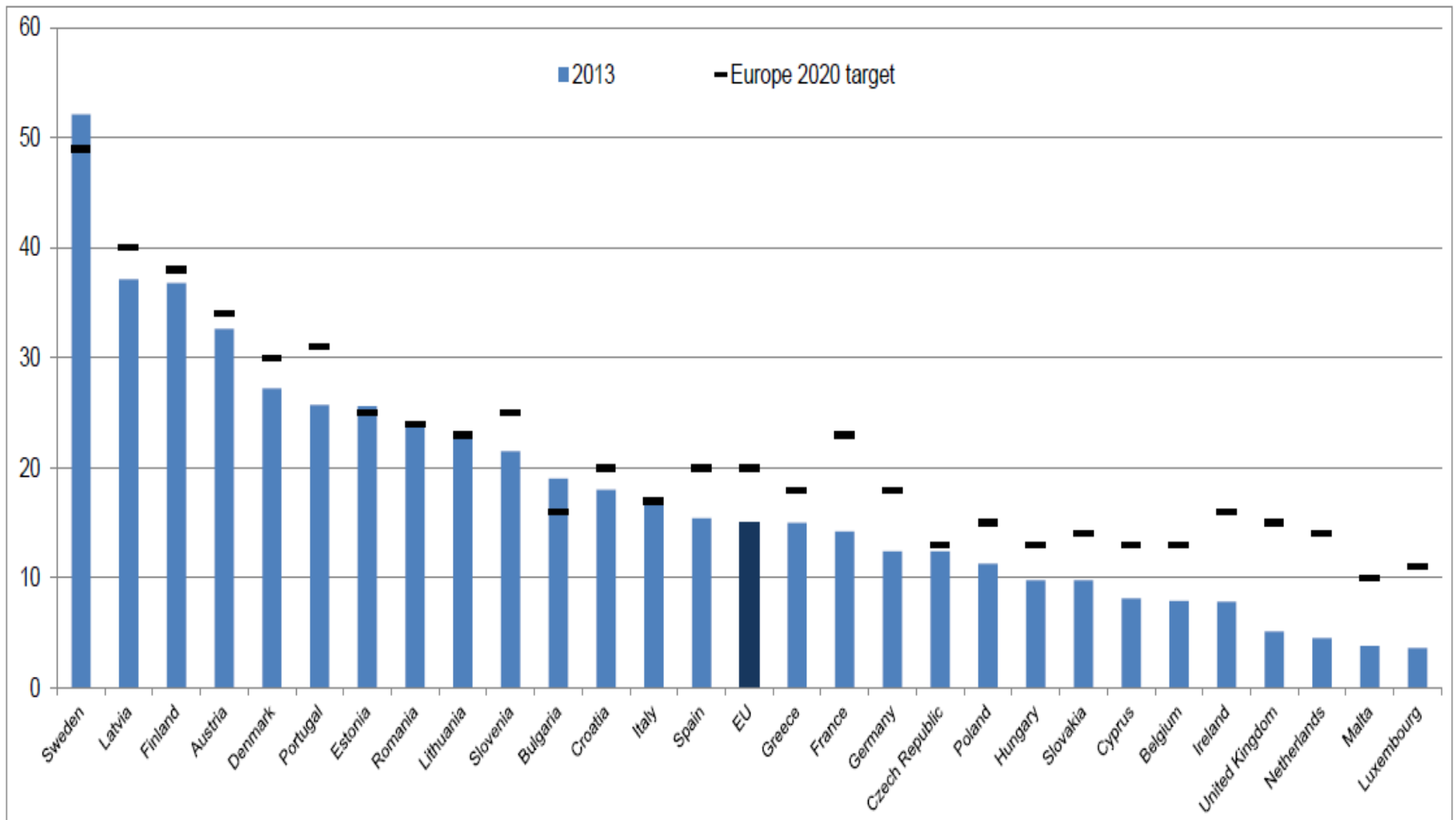


Carbon Emission Intensity of Power Sector (tonnes/MWh)

	2010	2011	2012	2013	% Elec from coal, 2013
Poland	0.91	0.89	0.88	0.87	88%
Germany	0.49	0.50	0.50	0.51	48%
UK	0.48	0.45	0.51	0.47	43%
Denmark	0.51	0.45	0.41	0.44	42%
Netherlands	0.39	0.39	0.42	0.44	27%
Ireland	0.40	0.39	0.43	0.39	27%
Czech Republic	0.48	0.47	0.42	0.39	47%
Romania	0.43	0.49	0.48	0.36	30%
Hungary	0.36	0.34	0.34	0.34	24%
Italy	0.38	0.36	0.35	0.31	16%
Slovenia	0.33	0.33	0.34	0.31	32%
EU	0.33	0.33	0.33	0.31	28%
Malta	0.28	0.31	0.35	0.30	23%
Portugal	0.25	0.30	0.36	0.26	23%
Spain	0.22	0.28	0.28	0.22	15%
Belgium	0.20	0.18	0.18	0.17	3%
Finland	0.22	0.18	0.13	0.16	16%
Slovakia	0.14	0.14	0.13	0.11	10%
Austria	0.15	0.16	0.11	0.09	7%
France	0.05	0.04	0.05	0.04	4%
Norway	0.01	0.00	0.00	0.00	0%
Sweden	0.00	0.00	0.00	0.00	1%

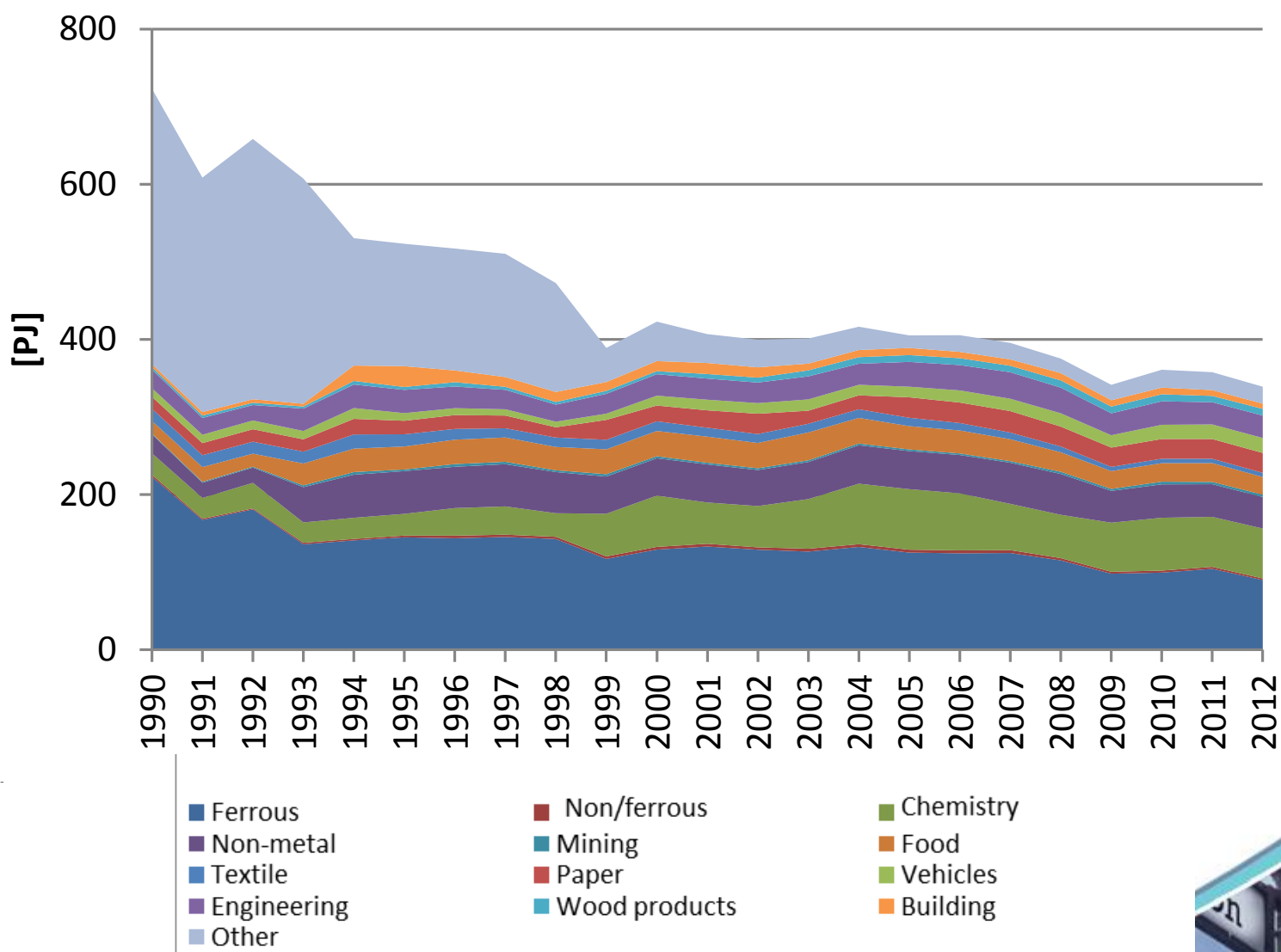
Source: Sandbag, ENTSO-E, ETS

Share of Energy from RES in EU MS (for 2013 in % of Gross FEC)



Source: Eurostat

Development of FEC per sectors



Source: Enviros



EE potential in industrial sectors

Sector	FEC [PJ]		Efficiency potential	
	Real	Recalculated	[PJ]	[%]
Industry total	339	365	24	6,6%
Manufacturing	329	406	28	6,9%
Chemical	64	64	28	43,8%
Metallurgy	92	92	7	7,6%
Non-ferrous	41	41	-16	-39,0%
Paper	26	26	-1	-3,8%
Food	23	23	-3	-13,0%
Textile	5	5	2	40,0%
Engineering	29	29	9	31,0%
Vehicles	19	19	-4	-21,1%
Sum per subsectors	299	299	22	7,4%

Source: Enviros

EE potential in industry

Measures	Cost [CZK/GJ]	Technical potential [PJ]	Achievable [PJ]	Achievable with subsidy [PJ]
Passive building	0	0,0	0,0	0,0
Biomass boilers	500	16,5	3,3	3,3
Cogeneration	1 500	12,1	1,4	2,2
Energy management	1 500	0,3	0,0	0,0
Savings	2 300	49,3	7,4	7,4
Modernization of energy self-sufficiency	3 300	1,1	0,2	0,3
Measuring and regulation	3 300	12,9	1,3	1,3
Use of waste heat	3 500	4,6	0,5	0,9
Heat distribution	4 000	3,1	0,3	0,9
Renovation of buildings	5 000	0,0	0,0	0,0
Building insulations	6 000	22,8	0,7	2,3
Lightning	8 000	0,7	0,1	0,1
Air-conditioning and recuperation	15 000	0,7	0,0	0,0
Thermal collectors	15 000	0,0	0,0	0,0
FVE	15 000	9,9	0,0	1,0
Total		133,8	15,1	19,7



**"For a successful technology,
reality must take precedence
over public relations, for Nature
cannot be fooled."**

Richard Feynman



Thank you for attention!

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