

Energy efficiency trends in Austria



3rd ODYSSEE-MURE-Meeting, Vienna

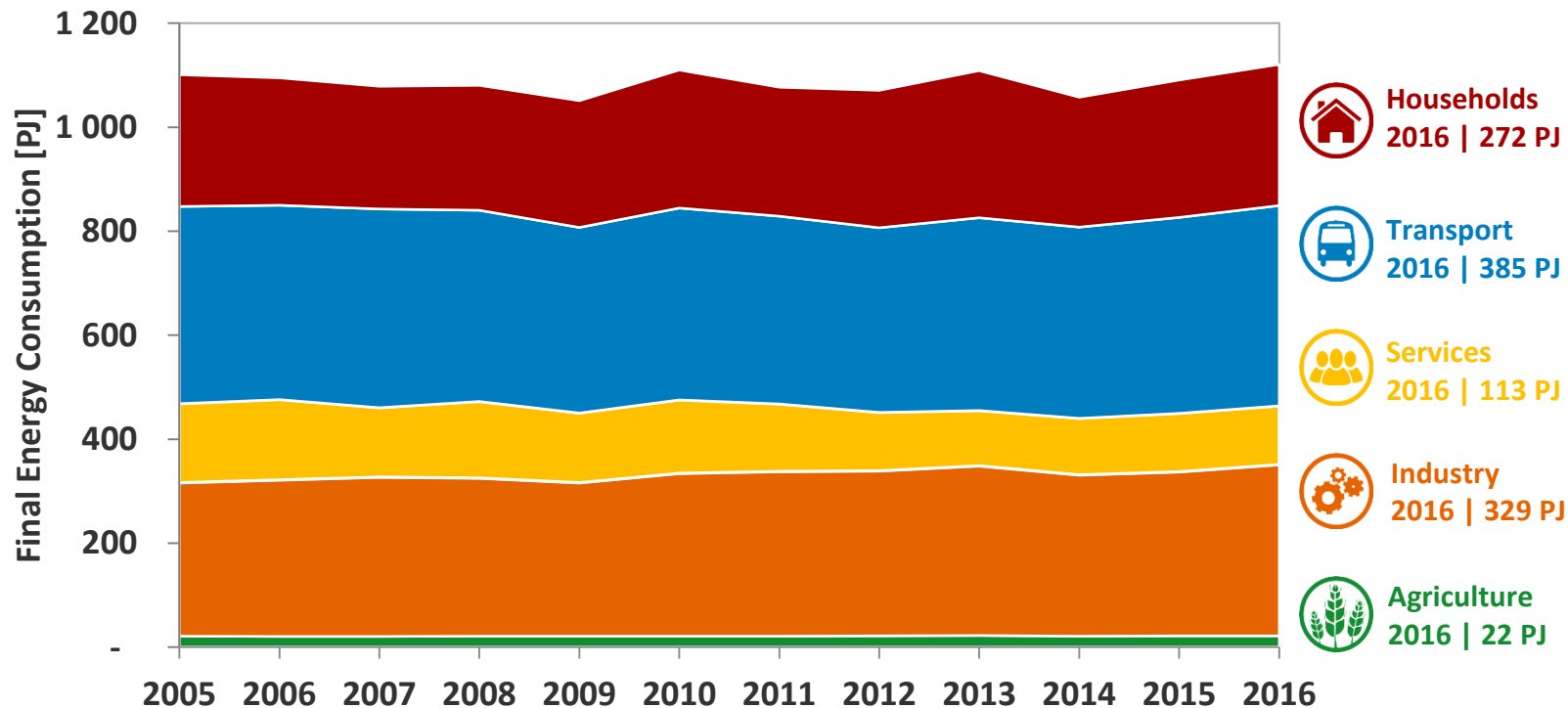
Austrian Energy Agency (AEA)

Christoph Ploiner, MSc | 26th April 2018

Agenda

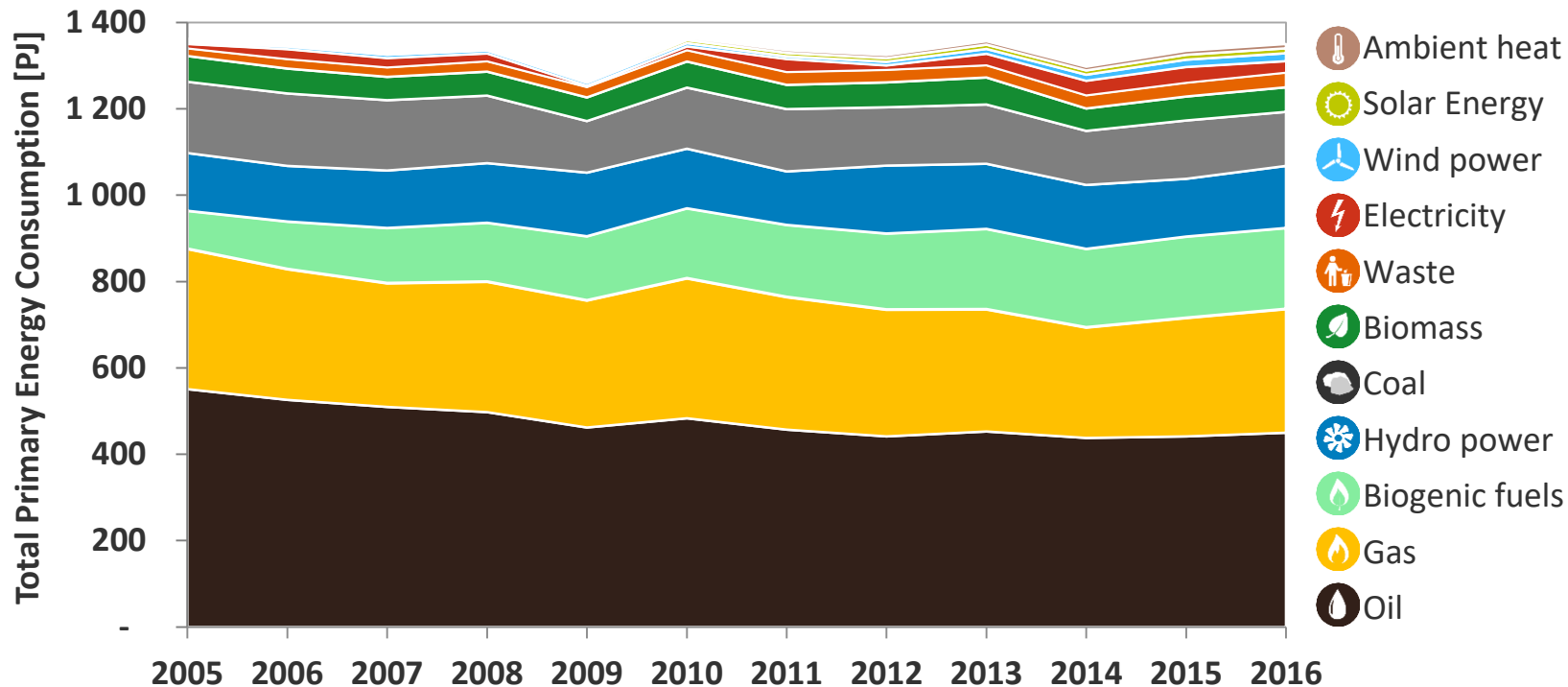
- Energy Consumption development
- Energy Intensity development
- Methodical changes of the energy statistics
- Exemplary decomposition
- Energy efficiency measures due to the Federal Energy Efficiency Act

Final Energy Consumption in Austria by sector

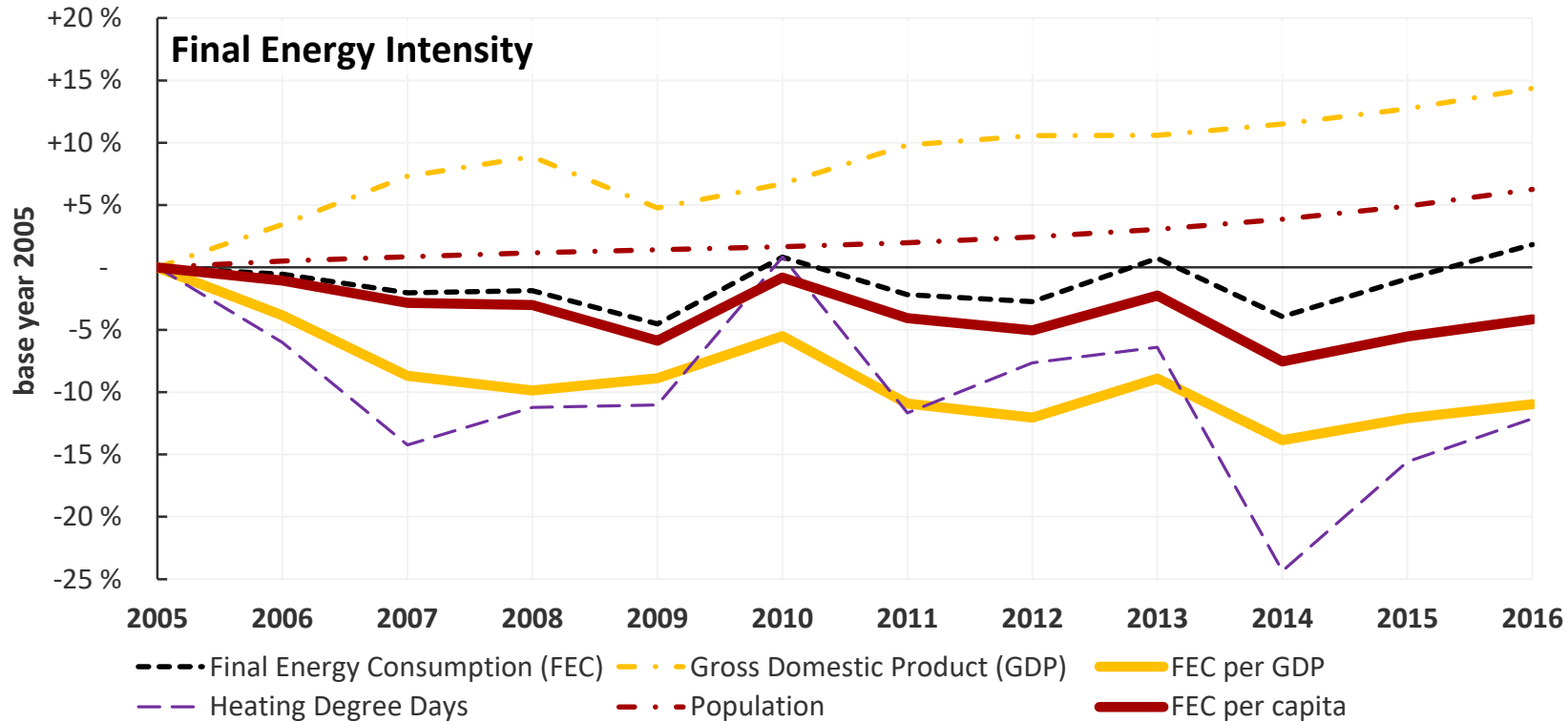


Austrian Energy Agency | Data: Statistics Austria

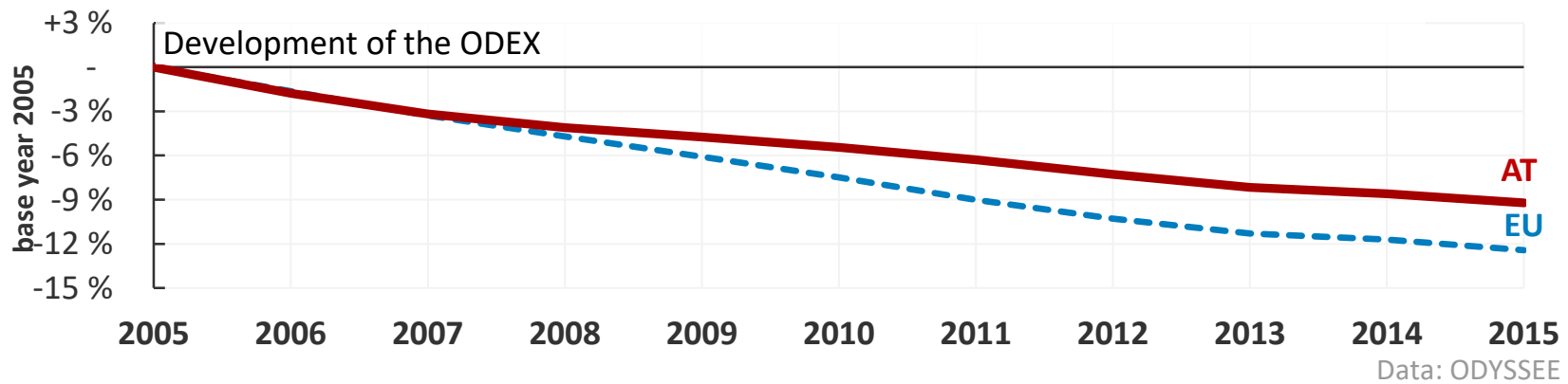
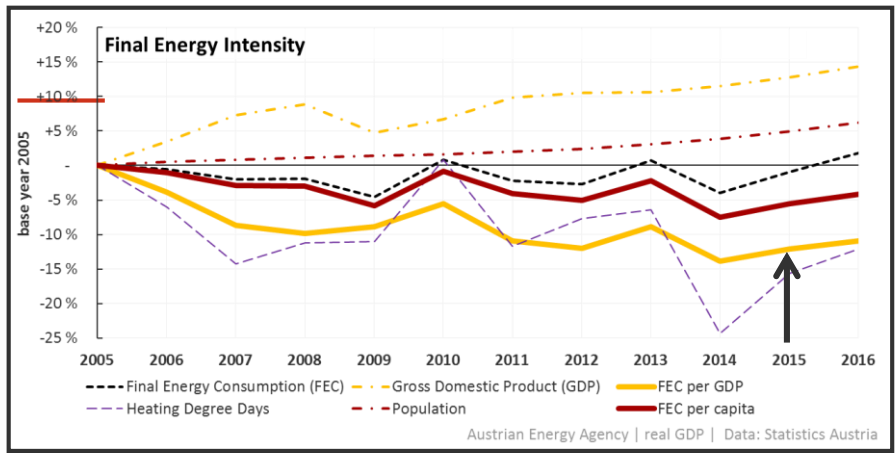
Total Primary Energy Consumption in Austria by energy carrier



Austrian Energy Agency | Data: Statistics Austria



Austrian Energy Agency | real GDP | Data: Statistics Austria



Methodological changes of the energy statistics

- In the past: Service Sector = Residual energy consumption
- From 2012 onwards: Panel Survey on energy consumption
 - Annual panel data collection since 2012
 - Approximately 3.000 companies in the panel
- Survey results implemented in the energy balance sheets published in 2017
- Impact on sectoral allocation, not on total energy consumption

Methodological changes of the energy statistics

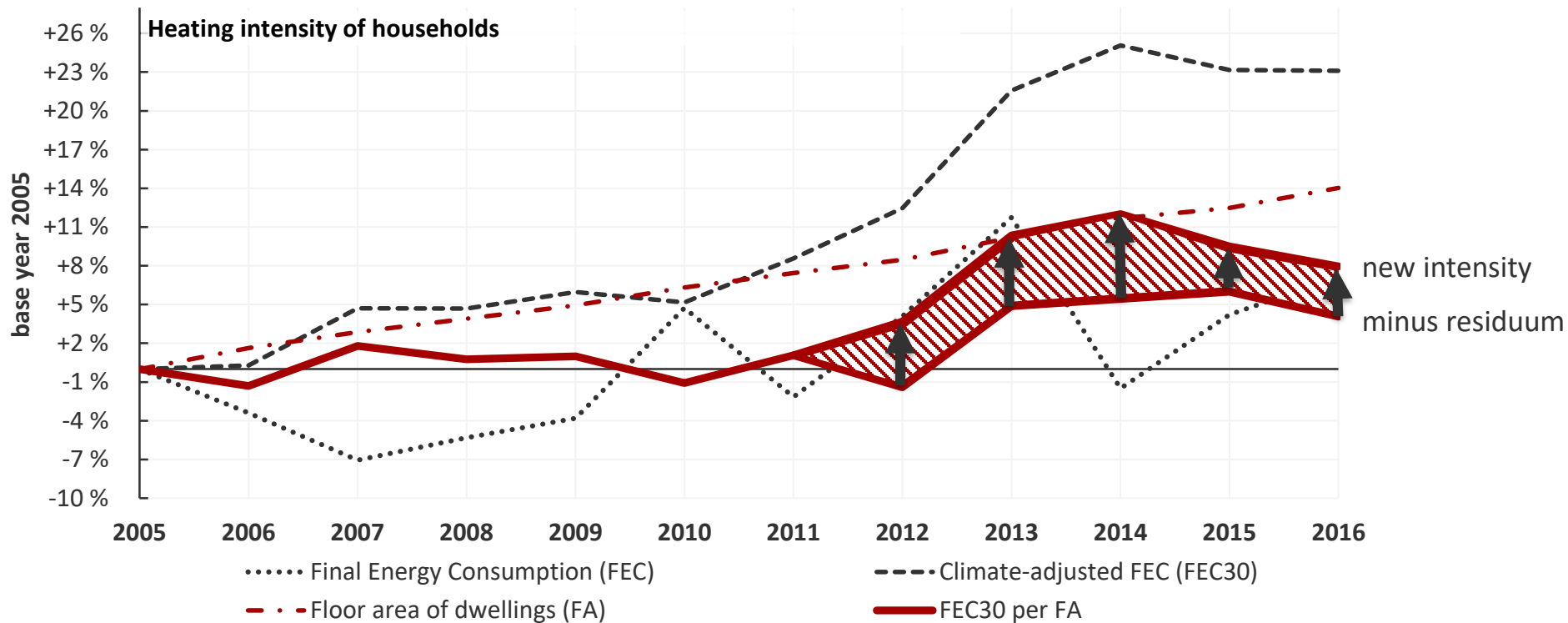
Additional contents of the energy balance sheets

	A	AM	AN	AO	AP	AQ	AR	AS	AT	AU	AV
1	Österreich										
2	Energiebilanzen										
3	in Terajoule (10 ¹² Joule)										
4		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
221	Öffentliche und Private Dienstleistungen	133.610	147.509	134.087	141.714	130.357	112.702	107.055	103.257	112.475	113.133
222	Private Haushalte	235.649	240.044	243.853	235.513	242.056	263.873	233.262	249.733	264.133	271.504
223	Landwirtschaft	20.602	20.983	21.063	21.310	21.357	22.035	22.590	21.338	21.568	21.842
224	Produzierender Bereich	306.136	303.909	295.326	312.863	316.257	316.921	325.744	309.568	315.401	329.013
225	Verkehr	382.595	367.787	356.536	368.436	360.932	355.217	370.376	367.421	377.319	385.450
226	Sonstige	389.861	408.536	399.010	428.537	399.770	398.615	412.907	380.429	398.236	406.579
227											
228											
229											
230	Verbrauch Sektor Energie										
231	in Terajoule (10 ¹² Joule)										
232		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
233	Gewinnung von Erdöl und Erdgas	4.523	4.376	4.899	4.378	5.000	5.184	4.102	4.378	4.590	4.477
234	Kohlenbergbau	0	0	0	0	0	0	0	0	0	0
235	Mineralölverarbeitung	30.847	29.302	19.474	25.182	29.176	25.834	26.880	26.992	22.431	16.470
236	Kokerei	2.638	2.623	1.647	2.234	2.553	2.573	2.471	2.494	2.104	2.137
237	Hochofen	75.280	78.267	57.725	72.294	73.547	71.858	75.938	74.619	73.333	71.705
238	Energieversorgung (Elektrizität, Natargas)	15.710	19.005	15.901	17.315	17.962	19.554	17.623	18.006	19.269	17.739
239		128.997	133.573	99.647	122.063	128.239	123.914	127.014	126.491	120.727	112.527
240											
241											
242											
243											
244	nicht zuordenbar										
245	in Terajoule						16.868	17.303	21.156	12.649	14.889
246							1,6%	1,6%	2,0%	1,2%	1,3%
247	aufgeteilt auf										
248	Eisen- und Stahlerzeugung						39	41	46	31	24
249	Chemie und Petrochemie						314	373	474	177	214
250	Nicht-Eisen-Metalle						89	74	47	44	96
251	Steine und Erden, Glas						249	196	199	230	393
252	Fahrzeugbau						63	42	49	24	20
253	Maschinenbau						655	464	467	490	756
254	Bergbau						67	64	123	146	205
255	Nahrungs- und Genussmittel, Tabak						103	122	781	1.008	1.048
256	Papier und Druck						123	89	139	68	51
257	Holzverarbeitung						715	431	560	342	314
258	Bau						233	181	353	351	459
259	Textil und Leder						4	4	64	78	88
260	Sonst. Produzierender Bereich						79	70	131	123	136
261	Eisenbahn						0	0	0	0	0
262	Sonstiger Landverkehr						0	0	0	0	0
263	Transport in Rohrfernleitungen						0	0	0	0	0
264	Binnenschifffahrt						0	0	0	0	0
265	Flugverkehr						0	0	0	0	0
266	Öffentliche und Private Dienstleistungen						3.830	4.653	4.982	2.806	3.490
267	Private Haushalte						9.044	9.880	12.039	6.472	7.288
268	Landwirtschaft						1.262	622	803	258	318
269	Produzierender Bereich						2.733	2.149	3.433	3.113	3.793
270	Verkehr						0	0	0	0	0
271	Sonstige						14.136	15.154	17.723	9.536	11.095
272											

← In addition to the existing tables
Allocation of residuum from 2012 onwards

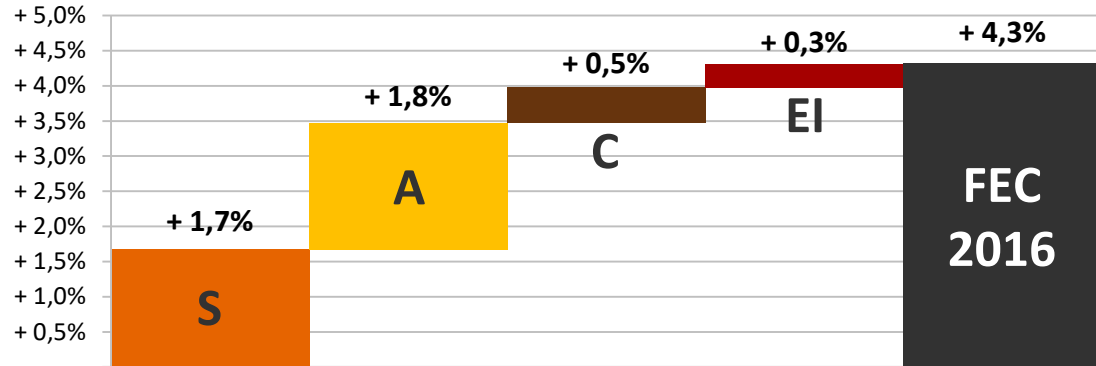
Methodological changes of the energy statistics

Exemplary impact on energy indicators



Austrian Energy Agency | Data: Statistics Austria

Decomposition of the energy consumption increase in the sector **Industry**



S ... Structure
A ... Activity
C ... Climate conditions
EI ... Energy Intensity
FEC ... Final Energy Consumption

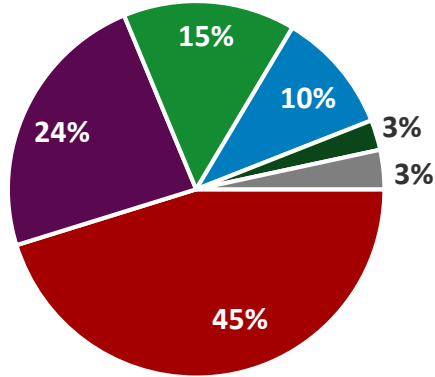
Influences of Final Energy Consumption in Industry from 2015 to 2016

Austrian Energy Agency | Data: Statistics Austria

Energy Efficiency in Austria

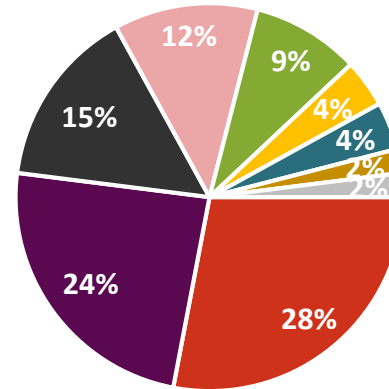
Measures 2014-2016 due to the Energy Efficiency Act*

By policy instrument



- Energy Efficiency Obligation scheme for Energy Suppliers
- Energy taxes
- Housing, energy and environmental support of Federal Provinces
- Operational domestic environmental support (UFI)
- Climate and energy fund
- Others

By category



- Heating systems
- Energy taxes
- Measures without category
- Building envelope
- Mobility
- Lighting systems
- Efficient power generation
- Large-scale equipment
- Others

49.334 TJ annual energy savings
22.404 records

* In accordance with Article 7 of Directive 2012/27/EU

Impact depends on type of measure:

- Modernisation of existing equipment:
Direct reduction of Final Energy Consumption (combined with fuel shift)
- Installation of new equipment:
Reduced increase of Final Energy Consumption => Reduction of energy intensity
- Installation of renewable energy systems:
In the **EEOS** the reduction of the purchase can be counted as final energy saving
=> No effect on the energy balances

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