

# Conclusions – Comparison to EP2050+, Discussion (1/3)

Energy Efficiency	Observed (historical data)	Required (Energy Perspectives 2050+)
All values in % p.a.	EE improvement to date (ODEX, 2005-2020)	Projected EE improvement (2020-2050)
Households	-1.9%	-1.2% TFE/ERA
Services	-2.6%	-1.8% TFE/employee -1.8% TFE/ERA
Transport	-0.3% (2005-2019: -1.4%)	-2.7% TFE/person-km -1.8% TFE/tonne-km
Industry	-2.3%	-1.4% TFE/prod. index
<b>Total</b>	<b>-1.8%</b>	n/a

Energy Efficiency	Observed (historical data)	Required (continued physical growth)
All values in % p.a.	Current rate of EE improvement (based on ODEX, 2005-2020)	EE improvement required accounting for potentially higher physical growth
Households	-1.9%	-2.4% TFE/ERA
Services	-2.6%	-2.3% TFE/ERA
Transport	-0.3% (2005-2019: -1.4%)	-4.0% TFE/person-km -1.4% TFE/tonne-km
Industry	-2.3%	-3.9% TFE/prod. index
<b>Total</b>	<b>-1.8%</b>	n/a

- EE improvem. compared to EP2050+: primarily required in **Transport**, then **industry and households**
- **Faster** EE improvem. than in 2000-2016 period (exception transport; Bhadbhade et al., 2020)
- Good ranking in **international comparison**
- **Remaining large unexploited potentials**
- Continued attention to **optimized policy measures**

# Conclusions – Scoreboard 2021 (2/3)

Transport scores					
Country	Level	Trend	Polices	Combined	
Luxembourg	0.76	1.00	0.78	0.85	
France	1.00	0.78	0.13	0.64	
Switzerland	0.77	0.69	0.27	0.58	
Latvia	0.71	0.76	0.20	0.56	
Spain	0.76	0.67	0.24	0.56	
Greece	0.85	0.72	0.10	0.56	
Ireland	0.76	0.76	0.07	0.53	
Cyprus	0.00	0.55	1.00	0.52	
Estonia	0.81	0.68	0.05	0.51	
Finland	0.92	0.55	0.06	0.51	
Portugal	0.73	0.71	0.05	0.50	
Denmark	0.66	0.77	0.03	0.49	
Germany	0.70	0.41	0.30	0.47	
Slovenia	0.79	0.56	0.06	0.47	
Slovakia	0.84	0.50	0.06	0.47	
Czechia	0.55	0.78	0.05	0.46	
Hungary	0.81	0.53	0.04	0.46	
Belgium	0.76	0.52	0.00	0.43	
Bulgaria	0.73	0.14	0.30	0.39	
Italy	0.93	0.18	0.04	0.39	
Netherlands	0.69	0.38	0.07	0.38	
Austria	0.56	0.50	0.04	0.37	
Poland	0.55	0.35	0.17	0.36	
Lithuania	0.71	0.00	0.04	0.25	
Croatia	0.50	0.09	0.14	0.24	
Malta	n.a.	n.a.	0.04	n.a.	
Romania	n.a.	n.a.	0.05	n.a.	
Sweden	n.a.	n.a.	0.01	n.a.	

Residential scores					
Country	Level	Trend	Polices	Combined	
Switzerland	0.89	0.85	0.95	0.90	
Luxembourg	0.80	1.00	0.69	0.83	
Germany	0.80	0.60	1.00	0.80	
Netherlands	1.00	0.89	0.26	0.72	
France	0.69	0.67	0.63	0.66	
Latvia	0.67	0.87	0.33	0.62	
Poland	0.51	0.58	0.67	0.59	
Finland	0.96	0.65	0.14	0.59	
Bulgaria	0.92	0.38	0.46	0.59	
Spain	0.72	0.80	0.22	0.58	
Denmark	0.97	0.59	0.16	0.57	
Ireland	0.68	0.87	0.15	0.57	
Sweden	0.92	0.75	0.01	0.56	
Lithuania	0.92	0.68	0.06	0.55	
Czechia	0.55	0.61	0.44	0.53	
Italy	0.69	0.74	0.15	0.53	
Greece	0.62	0.71	0.23	0.52	
Slovenia	0.65	0.77	0.09	0.50	
Estonia	0.61	0.77	0.11	0.50	
Austria	0.85	0.53	0.07	0.48	
Cyprus	0.44	0.69	0.18	0.43	
Romania	0.49	0.08	0.72	0.43	
Hungary	0.38	0.77	0.13	0.43	
Croatia	0.00	0.91	0.23	0.38	
Belgium	0.29	0.82	0.00	0.37	
Slovakia	0.71	0.20	0.14	0.35	
Portugal	0.40	0.47	0.06	0.31	
Malta	0.58	0.00	0.05	0.21	

Tertiary scores					
Country	Level	Trend	Polices	Combined	
Switzerland	0.65	0.67	0.83	0.72	
Hungary	0.75	1.00	0.07	0.61	
France	0.46	0.53	0.72	0.57	
Poland	0.61	0.36	0.71	0.56	
Germany	0.60	0.62	0.42	0.55	
Spain	0.79	0.43	0.39	0.54	
Slovakia	0.64	0.81	0.13	0.53	
Romania	1.00	0.47	0.03	0.50	
Netherlands	0.60	0.60	0.24	0.48	
Malta	0.52	0.81	0.09	0.47	
Luxembourg	0.00	0.42	1.00	0.47	
Bulgaria	0.73	0.00	0.59	0.44	
Denmark	0.66	0.49	0.15	0.43	
Greece	0.63	0.38	0.28	0.43	
Cyprus	0.22	0.50	0.52	0.41	
Slovenia	0.62	0.53	0.07	0.41	
Austria	0.72	0.44	0.04	0.40	
Latvia	0.57	0.16	0.44	0.39	
Croatia	0.60	0.35	0.21	0.39	
Czechia	0.49	0.44	0.23	0.39	
Portugal	0.66	0.36	0.11	0.38	
Lithuania	0.81	0.21	0.05	0.36	
Sweden	0.49	0.41	0.00	0.30	
Belgium	0.24	0.54	0.05	0.28	
Finland	0.13	0.43	0.19	0.25	
Estonia	0.36	0.14	0.18	0.23	
Italy	0.15	0.30	0.14	0.20	
Ireland	0.23	0.12	0.17	0.18	

# Conclusions – Scoreboard 2021 (3/3)

Industry scores						
Country	Level	Trend	Polices	Combined		
Estonia	0.86	1.00	0.03	0.63		
Germany	0.73	0.00	1.00	0.58		
Cyprus	1.00	0.65	0.08	0.58		
Romania	0.70	0.66	0.07	0.47		
Lithuania	0.73	0.60	0.05	0.46		
Poland	0.78	0.32	0.28	0.46		
Denmark	0.85	0.39	0.10	0.45		
Latvia	0.94	0.20	0.15	0.43		
Greece	0.75	0.41	0.08	0.41		
Croatia	0.76	0.34	0.10	0.40		
Switzerland	0.68	0.11	0.41	0.40		
Finland	0.29	0.00	0.89	0.39		
Slovenia	0.79	0.23	0.10	0.37		
Portugal	0.72	0.32	0.07	0.37		
Italy	0.72	0.29	0.08	0.36		
Czechia	0.60	0.34	0.13	0.36		
Luxembourg	0.39	0.20	0.40	0.33		
Spain	0.65	0.07	0.26	0.33		
Slovakia	0.65	0.19	0.14	0.33		
Netherlands	0.52	0.27	0.18	0.32		
Hungary	0.74	0.12	0.09	0.31		
Austria	0.75	0.15	0.03	0.31		
Belgium	0.53	0.37	0.00	0.30		
Sweden	0.68	0.11	0.04	0.27		
France	0.59	0.02	0.15	0.25		
Bulgaria	0.00	0.24	0.47	0.24		
Ireland	n.a.	n.a.	0.04	n.a.		
Malta	n.a.	n.a.	0.01	n.a.		

Overall scores						
Country	Level	Trend	Polices	Combined		
Luxembourg	0.58	1.00	1.00	0.86		
Switzerland	0.67	0.69	0.71	0.69		
Germany	0.85	0.32	0.89	0.68		
France	0.87	0.61	0.41	0.63		
Latvia	0.86	0.64	0.34	0.61		
Denmark	1.00	0.69	0.11	0.60		
Greece	0.87	0.71	0.19	0.59		
Spain	0.85	0.52	0.37	0.58		
Ireland	0.80	0.74	0.12	0.55		
Estonia	0.73	0.81	0.09	0.54		
Slovenia	0.88	0.55	0.11	0.51		
Netherlands	0.79	0.53	0.21	0.51		
Cyprus	0.00	0.68	0.83	0.50		
Romania	0.84	0.36	0.26	0.49		
Poland	0.60	0.37	0.49	0.49		
Hungary	0.67	0.64	0.10	0.47		
Czechia	0.51	0.63	0.23	0.46		
Portugal	0.71	0.51	0.09	0.43		
Lithuania	0.97	0.24	0.06	0.42		
Sweden	0.84	0.38	0.02	0.41		
Slovakia	0.83	0.26	0.14	0.41		
Austria	0.82	0.35	0.05	0.41		
Italy	0.77	0.32	0.11	0.40		
Bulgaria	0.54	0.00	0.57	0.37		
Finland	0.50	0.19	0.41	0.36		
Belgium	0.39	0.61	0.00	0.33		
Croatia	0.17	0.45	0.22	0.28		
Malta	0.29	0.44	0.05	0.26		