

## Supplementary Data

**Table S1** - Timeline of key legislations and actions on the topic of EP in EU (non-exhaustive list).

Year	Regulation/action	Legal reference document
1991	First EP definition (UK)	-
1993	Limit carbon dioxide emissions by improving energy efficiency (SAVE)	Directive 93/76/CEE
2002	EPBD	Directive 2002/91/EC
2003	Regulation for the internal market in electricity (repealing Directive 96/92/EC) Rules for the internal market in natural gas (repealing Directive 98/30/EC)	Directive 2003/54/EC Directive 2003/55/EC
2006	Energy end-use efficiency and energy services (repealing Council Directive 93/76/EEC)	Directive 2006/32/EC
2007	Second energy package	
2009	Regulation for the internal market in electricity (repealing Directive 2003/54/EC) Regulation for the internal market in natural gas (repealing Directive 2003/55/EC)	Directive 2009/72/EC Directive 2009/73/EC
2010	Regulation for labelling and standard product information concerning energy consumption and other resources by energy-related products	Directive 2010/30/EU
2010	EPBD recast	Directive 2010/31/EU
2012	Energy efficiency Directive, amending Directives 2009/125/EC and 2010/30/EU (repealing Directives 2004/8/EC and 2006/32/EC)	Directive 2012/27/EU
2012	LIHC definition	-
2015	Third Energy package	-
2015	Energy Union	-
2016	Clean Energy for All	-
2016	Vulnerable Consumer Working Group in 2016	-
2018	EPOV	-
2018	Amending Directive 2010/31/EU on the energy performance of buildings and Directive 2012/27/EU on energy efficiency	Directive 2018/844/EU
2020	National Energy and Climate Plan (Portugal)	Council of Ministers Resolution n.º 53/2020
2021	Long-Term Strategy for the Renovation of Buildings (ELPRE)	Ministers Council Resolution No. 8-A/2021

**Table S2** - Measures adopted in Portugal to tackle EP directly or indirectly.

Measure	Source	Objective	Scale	Years(s)	Funding/Beneficiaries
<i>Consumer protection measures</i>					
Social Tariff	Government	Special price (reduced) of electrical energy and natural gas for specific groups considered vulnerable consumers.	National	Since 2010, revised in 2014 and 2016	800 000 households in 2016 (14% of residential electricity consumers)
Extraordinary Social Support	Government	Extraordinary and temporary reduced electricity and natural gas bill associated with the increase in electricity consumption during a specific season (ex. winter months) or situation (ex. quarantine due to COVID-19).	National	Since 2011, revised in 2014 to comply with social tariff	35 000 households in 2016 (2.57% of natural gas consumers)
<i>Energy savings</i>					
Electrical Energy Consumption Efficiency	Regulatory Authority for Energy Services	Improve the efficiency and reduce the electricity consumption with house level interventions (window replacement, solar thermal systems installation, wall, pavements and roofs insulation, among others)		2012, 2015, 2018	4.6k€
Electricity generation from RES for self-consumption	Government	Electricity generation, for own use in the location associated with the respective producing unit,	National	2012, 2014	

		with or without connection to the grid supported on RES.			
Improved Comfort in Vulnerable Households	Municipal	Improvement of the housing conditions providing more comfort of vulnerable households.	Mainland Portugal, especially inland areas with more elderly people.	2007, 2014	
Integrated Action Plans for Disadvantaged Communities (PAICD) & Energy efficiency (EE) measures	Government	Physical, social and economic regeneration of social neighbourhoods (designated territories of disadvantaged communities). Also, interventions in buildings to improve energy efficiency and use of RES.	Social neighbourhoods within municipalities	2017	16k € (1632 households)
Instrument for the Urban Rehabilitation and Revitalization (IFRRU 2020)	Government	Financial options with special favourable terms, developed to support urban rehabilitation and energy efficiency, mainly for social housing.	National	2015–2023	252 billion €
Efficient House	Government	Improve the energy efficiency of the housing stock; Promote the use of renewable energy; Improve the water efficiency of the housing stock; Optimize solid urban waste management; Remove materials	National	2018-2021	200M €

		harmful to health and the environment; Increase the quality of the building and its habitability; Encourage environmentally responsible behaviour.			
Support Programme for More Sustainable Buildings	Government	Improve energy efficiency though, namely, to improve water efficiency and to promote the circular economy in buildings.	National	2020-2021	€4.5 million