

EUROPEAN COMMISSION DG Structural Reform Support

Support to the Renovation Wave in Cyprus: Policies to alleviate Energy Poverty

REFORM/SC2022/165 - Report on energy poverty in Cyprus and redefinition of vulnerable customers in Cyprus

2024



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Deliverable 2:

Report on energy poverty in Cyprus and
redefinition of vulnerable customers in Cyprus

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2.1. Current State Assessment

Task 2.1.1. Legal and compliance analysis



Stakeholder Mapping

We identified and engaged with various stakeholders to understand and map the current state

Stakeholder Engagement

We identified and engaged with various stakeholders to understand and map the current state in Cyprus. Given the task requirements, we focused on public sector stakeholders first. We also attended a conference hosted by the Cypriot Anti-Poverty Network focused on energy poverty where we presented the project and discussed the issue with several stakeholders.

We will continue to engage with existing and new stakeholders throughout the project to ensure we keep them involved and informed of our progress. Following discussions with MECI, some of the stakeholders initially identified were not engaged.

Private Sector Stakeholders

- Cyprus Energy Agency
- European Anti-Poverty Network Cyprus (EAPNCY)

Public Sector Stakeholders

- Ministry of Energy, Commerce and Industry (MECI)
 - Energy Service Department
- Ministry of Labour, and Social Insurance (MLSI),
 - Deputy Ministry of Labour and Social Insurance
 - Welfare Benefit Management Service
- CYSTAT - Statistical Service
- Ministry of Transport, Communication and Works (MCW) (tbc)
 - Department of Public Works
- Ministry of Finance
 - Directorate General Growth (DGG)

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Mapping the EU Framework for Energy Poverty and Vulnerable Consumers

Directive 2019/944/EU

- ▶ **Article 5** - Market-based supply prices
- ▶ **Article 28** - Vulnerable customers
- ▶ **Article 29** - Energy Poverty
- ▶ **Article 59** - General objective of regulatory authority

Regulation EU 2018/1999 on the Governance of Energy Union and Climate Change

- ▶ **Article 3** - Integrated national energy and climate plans
- ▶ **Article 24** - Integrated Reporting on Energy Poverty

Directive 2023/1791 on Energy Efficiency (RECAST)

- ▶ **Article 2** - Definition of Energy Poverty
- ▶ **Article 3** - Energy Efficiency first Principle.
- ▶ **Article 5** - Public Sector leading on energy efficiency.
- ▶ **Article 8** - Energy Savings Obligation.
- ▶ **Article 9** - Energy efficiency obligation schemes.
- ▶ **Article 22** - Information and awareness raising
- ▶ **Article 24** - Empowering and protecting vulnerable customers and alleviating energy poverty
- ▶ **Article 25** - Heating and cooling assessment and planning
- ▶ **Article 30** - Energy Efficiency National Fund, Financing and Technical Support

Directive 2018/2001 on the promotion of the use of energy from renewable sources

- ▶ **Article 18** - Information and Training .
- ▶ **Article 21** - Renewable Self-Consumers .
- ▶ **Article 22** - Renewable Energy Communities.
- ▶ **Article 23** - Mainstreaming renewable energy in heating and cooling

Directive 2018/2002/EU on Energy Efficiency

- ▶ **Article 7** - Energy savings obligation

Regulation 2023/955 on the Climate Social Fund

- ▶ **Article 2** - Definitions on Energy Poverty and Vulnerable Households.
- ▶ **Article 4** - Social Climate Plan.
- ▶ **Article 6** - Content of Social Climate Plans.
- ▶ **Article 7** - Principles of Governing the Fund.
- ▶ **Article 8** - Eligible Measures and investments to be included in the Social Climate Plans.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2019/944/EU on common rules for the internal market for electricity

Article 5 - Market-based supply prices

DEROGATION - According to Article 66 of the Directive, Article 5 shall not apply to Cyprus until 1 January 2025

Article 28 -Vulnerable Customers

1. Member States **shall** take appropriate measures to protect customers and **shall** ensure, in particular, that there are adequate safeguards to protect vulnerable customers. In this context, each Member State **shall** define the concept of vulnerable customers which **may** refer to energy poverty and, inter alia, to the prohibition of disconnection of electricity to such customers in critical times. The concept of vulnerable customers **may** include:

- income levels;
- the share of energy expenditure of disposable income;
- the energy efficiency of homes;
- critical dependence on electrical equipment for health reasons;
- Age; or
- other criteria.

Member States **shall** ensure that rights and obligations linked to vulnerable customers are applied. In particular, they **shall** take measures to protect customers in remote areas. They **shall** ensure high levels of consumer protection, particularly with respect to transparency regarding contractual terms and conditions, general information and dispute settlement mechanisms.

2. Member States **shall** take appropriate measures, such as providing benefits by means of their social security systems to ensure the necessary supply to vulnerable customers, or providing for support for energy efficiency improvements, to address energy poverty were identified pursuant to point (d) of Article 3(3) of Regulation (EU) 2018/1999, including in the broader context of poverty. Such measures **shall not** impede the effective opening of the market set out in Article 4 or market functioning and shall be notified to the Commission, where relevant, in accordance with Article 9(4). Such notifications **may** also include measures taken within the general social security system.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2019/944/EU on common rules for the internal market for electricity

Article 29 - Energy Poverty	<p>Each MS shall assess the number of households in energy poverty based on the point (d) of Article 3(3) of the Regulation (EU) 2018/19992. The MS shall establish and publish a set of criteria, which may include:</p> <ul style="list-style-type: none">• low income,• high expenditure of disposable income on energy; and• poor energy efficiency. <p>The adoption of protection measures (which may differ according to the particular circumstances in each MS) could be:</p> <ul style="list-style-type: none">• social or energy policy measures relating to the payment of electricity bills,• investment in the energy efficiency of residential buildings, or• consumer protection such as disconnection safeguards. <p>Member States should collect the right information to monitor the number of households in energy poverty. Accurate measurement should assist each MS in identifying households that are affected by energy poverty to provide support.</p>
Article 59 - General objectives of regulatory authority	<p>(h) helping to achieve high standards of universal service and of public service in electricity supply, contributing to the protection of vulnerable customers and contributing to the compatibility of necessary data exchange processes for customer switching.</p>

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2023/1791 on Energy Efficiency and amending regulation 2023/955 (RECAST)

Article 2 - Energy Poverty Definition	<i>Energy Poverty means a household's lack of access to essential energy services that provide basic levels and decent standards of living and health, including adequate heating, hot water, cooling, lighting, and energy to power appliances, in the relevant national context, existing social policy and other relevant policies, caused by a combination of factors, including but not limited to non-affordability, insufficient disposable income, high energy expenditure and poor energy efficiency of homes.</i>
Article 3 - Energy Efficiency first Principle	<p>Member States shall ensure that the competent authorities monitor the application of the energy efficiency first principle, including, where appropriate, sector integration and cross-sectoral impacts, where policy, planning and investment decisions are subject to approval and monitoring requirements.</p> <p>In applying the energy efficiency first principle, Member States shall:</p> <p>(a) promote and, where cost-benefit analyses are required, ensure the application of, and make publicly available, cost benefit methodologies that allow proper assessment of the wider benefits of energy efficiency solutions where appropriate, taking into account the entire life cycle and long-term perspective, system and cost efficiency, security of supply and quantification from the societal, health, economic and climate neutrality perspectives, sustainability and circular economy principles in transition to climate neutrality;</p> <p>(b) address the impact on energy poverty;</p>
Article 5 - Public Sector leading on energy efficiency	<p>Member States shall ensure that regional and local authorities establish specific energy efficiency measures in their long-term planning tools, such as decarbonization or sustainable energy plans, after consulting relevant stakeholders, including energy agencies where appropriate, and the public, including, in particular, vulnerable groups which are at risk of being affected by energy poverty or are more susceptible to its effects.</p>

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2023/1791 on Energy Efficiency and amending regulation 2023/955 (RECAST)

Article 8 – Energy Savings Obligation

The directive refers to Energy Savings Obligation of each MS for each year from 2021 to 2030 (see Article 8 in Chapter 3 for more information).

The Directive calls MS to give priority of energy efficiency (but not limited to) to the target group of vulnerable customers, energy poor, low-income households and people living in social housing through the implementation of energy efficiency obligation schemes, alternative policy measures, or a combination of both, or programs or measures financed under an Energy Efficiency National Fund.

The Directive also states that MS shall establish and achieve a share of the required amount of cumulative end-use energy savings to the above-mentioned target group. This share shall at least equal the proportion of households in energy poverty as assessed in their National Energy and Climate Plan established in accordance with Article 3(3)(d) of the Governance Regulation 2018/1999.

The Directive requires MS to assess the share of energy poverty in their National Energy and Climate Plans, considering the indicators referred to in points (1) to (4) below. If a MS had not notified the share of households in energy poverty as assessed in their National Energy and Climate Plan, the share of the required amount of cumulative end-use energy savings for the targeted group shall at least equal the arithmetic average share of the following indicators for the year 2019 or, if not available for 2019, for the linear extrapolation of their values for the last three years that are available:

1. Inability to keep home adequately warm (Eurostat, SILC [ilc_mdcs01]);
2. Arrears on utility bills (Eurostat, SILC, [ilc_mdcs07]); and
3. total population living in a dwelling with a leaking roof, damp walls, floors or foundation, or rot in window frames or floor (Eurostat, SILC [ilc_mdho01]);
4. at-risk-of-poverty rate (Eurostat, SILC and ECHP surveys [ilc_li02]) (cutoff point: 60 % of median equivalized income after social transfers.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2023/1791 on Energy Efficiency and amending regulation 2023/955 (RECAST)

Article 9 – Energy efficiency obligation schemes

MS may require obligated parties (e.g transmission system operators, distribution system operators, energy distributors, etc.) to achieve a share of their energy savings obligation to the above-mentioned target group. According to the Directive obligated parties may require working with regional and local authorities or municipalities and social services, to promote energy efficiency improvement measures among the targeted groups. This includes identifying and addressing the specific needs of those groups and to carry out actions such as renovation of buildings, including social housing, replacement of appliances, financial support and incentives for energy efficiency improvement measures in conformity with national financing and support schemes, or energy audits. The MS should also require obligated parties to report on an annual basis on the energy savings achieved by the obligated parties from actions promoted among the above targeted groups (See Article 9 for more information, paragraphs 4,5,6)

Article 22 – Information and awareness raising

The Directive calls MS to ensure that information on available energy efficiency improvement measures, individual actions and financial and legal frameworks is transparent, accessible and widely disseminated to all relevant market actors. It also calls MS to take appropriate measures to promote and facilitate an efficient use of energy by final customers and final users. According to it, these measures shall be part of a national strategy such as the integrated national energy and climate plan in accordance with Regulation (EU) 2018/1999, or the long-term renovation strategy as defined in Directive 2010/31/EU.

Measures shall include a range of instruments and policies to promote behavioural change such as:

- fiscal incentives;
- access to finance, vouchers, grants or subsidies;
- publicly supported energy consumption assessments and targeted advisory services and support for household consumers, in particular vulnerable customers, people affected by energy poverty and, where applicable, people living in social housing;
- information provision in accessible form to people with disabilities;
- exemplary projects;
- workplace activities;
- training activities;
- digital tools;
- engagement strategies.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2023/1791 on Energy Efficiency and amending regulation 2023/955 (RECAST)

Article 22 (cont.)

Directive also advises the MS to create a supportive framework for market actors for the:

- creation of **one-stop shops** or similar mechanisms for the provision of technical, administrative, and financial advice and assistance on energy efficiency, such as energy checks for households, energy renovations of buildings, information on the replacement of old and inefficient heating systems with modern and more efficient appliances and the take-up of renewable energy and energy storage for buildings to final customers and final users.
- cooperation with private actors that **provide services such as energy audits and energy consumption assessments**, financing solutions and execution of energy renovations;
- **communication of cost-effective and easy-to-achieve changes in energy use**;
- **dissemination of information on energy efficiency measures and financing instruments**;
- provision of **single points of contact**, to provide final customers and final users with all necessary information concerning their rights, the applicable law and dispute settlement mechanisms available to them in the event of a dispute. Such single points of contact may be part of general consumer information points.

Article 24 – Empowering and protecting vulnerable customers and alleviating energy poverty

1. Without prejudice to their national economic and social policies, and to their obligations under Union law, Member States **shall take appropriate measures to empower and protect people affected by energy poverty, vulnerable customers, low-income households and, where applicable, people living in social housing.**

In defining the concept of vulnerable customers pursuant to Articles 28(1) and 29 of Directive (EU) 2019/944 and Article 3(3) of Directive 2009/73/EC, Member States **shall** take into account final users.

2. Without prejudice to their national economic and social policies, and to their obligations under Union law, Member States shall implement energy efficiency improvement measures and related consumer protection or information measures, in particular those set out in Article 21 and Article 8(3), as a **priority among people affected by energy poverty, vulnerable customers, low-income households and, where applicable, people living in social housing to alleviate energy poverty. Monitoring and reporting of these measures shall be undertaken in the framework of the existing reporting requirements** set out in Article 24 of Regulation (EU) 2018/1999.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2023/1791 on Energy Efficiency and amending regulation 2023/955 (RECAST)

Article 24 - Empowering and protecting vulnerable customers and alleviating energy poverty

3. To support vulnerable customers, people affected by energy poverty, low-income households, and, where applicable, people living in social housing, Member States shall, where applicable:

- a) **implement energy efficiency improvement measures** to mitigate distributional effects from other policies and measures, such as taxation measures implemented according to Article 10 of this Directive, or the application of emission trading in the buildings and transport sector according to the ETS Directive [COM(2021) 551 final, 2021/0211 (COD)];
- b) **make the best possible use of public funding available** at national and Union level, including, where applicable, the financial contribution Member State received from the Social Climate Fund pursuant to [Article 9 and Article 14 of the Social Climate Fund Regulation, COM 2021 568 final], and revenues from allowance auctions from emission trading pursuant to the EU ETS [COM(2021) 551 final, 2021/0211 (COD)], for investments into energy efficiency improvement measures as priority actions;
- c) **carry out early, forward-looking investments into energy efficiency improvement measures** before distributional impacts from other policies and measures show effect;
- d) **foster technical assistance and the roll-out of enabling funding and financial tools**, such as on-bill schemes, local loan-loss reserve, guarantee funds, funds targeting deep renovations and renovations with minimum energy gains;
- e) **foster technical assistance for social actors to promote vulnerable customer's active engagement in the energy market, and positive changes in their energy consumption behavior**;
- f) **ensure access to finance, grants or subsidies** bound to minimum energy gains and thus facilitate access to affordable bank loans or dedicated credit lines.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2023/1791 on Energy Efficiency and amending regulation 2023/955 (RECAST)

Article 24 – Empowering and protecting vulnerable customers and alleviating energy poverty

4. MS shall establish or entrust an existing network of experts from various sectors such as health sector, building sector and social sectors to develop strategies to support local and national decision makers in implementing energy efficiency improvement measures and technical assistance and financial tools aiming at alleviating energy poverty. Member States shall strive to ensure a network of experts' composition that ensures gender balance and reflects the perspectives of all people.

Member States may entrust the same network of experts to offer advice on several topics including:

- national definitions, indicators and criteria of energy poverty, energy poor and concepts of vulnerable customers, including final users;
- the development or improvement of relevant indicators and data sets, pertinent to the issue of energy poverty, that should be used and reported upon;
- methods and measures to ensure affordability of living costs, the promotion of housing cost neutrality, or ways to ensure that public funding invested in energy efficiency improvement measures benefit both, owners and tenants, of buildings and building units, in particular regarding vulnerable customers, people affected by energy poverty, and, where applicable, people living in social housing.
- measures to prevent or remedy situations in which particular groups are more affected or more at risk of being affected by energy poverty or more susceptible to the adverse impacts of energy poverty such as on the basis of their income, gender, demographics, health condition or membership in a minority group.

Article 25 – Heating and cooling assessment and planning

6. Member States shall ensure that regional and local authorities prepare local heating and cooling plans at least in municipalities having a total population higher than 45.000

b) Include an analysis of heating and cooling appliances and systems in local building stocks taking into account the area-specific potentials for energy efficiency measures and with due consideration of addressing the worst performing buildings and the needs of vulnerable households; Article 28 - Energy Efficiency National Fund, Financing and Technical Support.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2023/1791 on Energy Efficiency and amending regulation 2023/955 (RECAST)

Article 30 – Energy Efficiency National Fund, Financing and Technical Support

1. Without prejudice to Articles 107 and 108 TFEU, Member States shall facilitate the establishment of financing facilities, or use of existing ones, for energy efficiency improvement measures to maximize the benefits of multiple streams of financing and the combination of grants, financial instruments and technical assistance.

2. The Commission **shall**, where appropriate, directly or via the European financial institutions, assist Member States **in setting up financing facilities** and project development assistance facilities at national, regional or local level with the aim of increasing investments in energy efficiency in different sectors, and protecting and empowering vulnerable customers pursuant to Article 22(1), **people affected by energy poverty, low-income households and, where applicable, people living in social housing including by integrating an equality perspective so that no one is left behind.**

9. Member States **may** set up a National Energy Efficiency Fund. The purpose of this fund shall be to implement energy efficiency measures to support Member States in meeting their national energy efficiency contributions and their indicative trajectories referred to in Article 4(2). The National Energy Efficiency Fund may be established as a dedicated fund within an already existing national facility promoting capital investments. The Energy Efficiency National Fund may be financed with revenues from the allowance auctions pursuant to the EU Emission Trading System on buildings and transport sectors.

9a. When Member States set up National Energy Efficiency Funds, as referred to in paragraph 9, they **shall** establish financing instruments including public guarantees, to increase the uptake of private investments in energy efficiency and of the energy efficiency lending products and innovative schemes referred to in paragraph 3 of this Article. Pursuant to Article 8(3) and Article 22, the **National Energy Efficiency Fund shall support the implementation of measures as a priority among vulnerable customers, low-income households, people affected by energy poverty and, where applicable, people living in social housing.** That support shall include financing for energy efficiency measures for SMEs in order to leverage and trigger private financing for SMEs.

10. Member States **may** allow public bodies to fulfil the obligations set out in Article 6(1) by means of annual contributions to the Energy Efficiency National Fund equivalent to the amount of the investments required to achieve those obligations.

11. Member States **may** provide that obligated parties can fulfil their obligations set out in Article 8(1) and (4) by contributing annually to the Energy Efficiency National Fund an amount equal to the investments required to achieve those obligations.

12. Member States **may use** their revenues from annual emission allocations under Decision No 406/2009/EC for the development of innovative financing for energy efficiency improvements.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2018/2001 on the promotion of the use of energy from RES (RECAST)

Article 18 - Information and Training	1. MS shall ensure that information on support measures is made available to all relevant actors, such as consumers including low-income, vulnerable consumers, renewable self-consumers, renewable energy communities, builders, installers, architects, suppliers of heating, cooling and electricity equipment and systems, and suppliers of vehicles compatible with the use of renewable energy and of intelligent transport systems
Article 21 - Renewable self-consumers	6. In addition, the Article 21 about Renewables self-consumers, calls MS to put in place an enabling framework to promote and facilitate the development of renewables self-consumption based on an assessment of the existing unjustified barriers to, and of the potential of, renewables self-consumption in their territories and energy networks. That enabling framework shall, inter alia: <ul style="list-style-type: none">▶ address accessibility of renewables self-consumption to all final customers, including those in low-income or vulnerable households;▶ address unjustified barriers to the financing of projects in the market and measures to facilitate access to finance;▶ address other unjustified regulatory barriers to renewables self-consumption, including for tenants.
Article 22 - Renewable energy communities	2. Member States shall ensure that renewable energy communities are entitled to: (f) the participation in the renewable energy communities is accessible to all consumers, including those in low-income or vulnerable households.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2018/2001 on the promotion of the use of energy from RES (RECAST)

Article 23 – Mainstreaming renewable energy in heating and cooling

4. Member States may implement the average annual increase referred to in paragraph 1 by means, inter alia, of one or more of the following options:

- a) physical incorporation of renewable energy or waste heat and cold in the energy and energy fuel supplied for heating and cooling;
- b) direct mitigation measures such as the installation of highly efficient renewable heating and cooling systems in buildings, or the use of renewable energy or waste heat and cold in industrial heating and cooling processes;
- c) Indirect mitigation measures covered by tradable certificates proving compliance with the obligation laid down in paragraph 1 through support to indirect mitigation measures, carried out by another economic operator such as an independent renewable technology installer or energy service company providing renewable installation services;
- d) other policy measures, with an equivalent effect, to reach the average annual increase referred to in paragraph 1, including fiscal measures or other financial incentives.
- e) When adopting and implementing the measures referred to in the first subparagraph, Member States shall aim to ensure the accessibility of measures to all consumers, in particular those in low-income or vulnerable households, who would not otherwise possess sufficient up-front capital to benefit.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Directive 2018/2002/EU on Energy Efficiency (amending 2012/27/EU)

Article 7 – Energy savings obligation

1. Member States shall achieve cumulative end-use energy savings at least equivalent to:
 - a) new savings each year from 1 January 2014 to 31 December 2020 of 1,5 % of annual energy sales to final customers by volume, averaged over the most recent three-year period prior to 1 January 2013. Sales of energy, by volume, used in transport may be excluded, in whole or in part, from that calculation.
 - b) new savings each year from 1 January 2021 to 31 December 2030 of 0,8 % of annual final energy consumption, averaged over the most recent three-year period prior to 1 January 2019. By way of derogation from that requirement, Cyprus and Malta shall achieve new savings each year from 1 January 2021 to 31 December 2030 equivalent to 0,24 % of annual final energy consumption, averaged over the most recent three-year period prior to 1 January 2019.
11. In designing policy measures to fulfil their obligations to achieve energy savings, Member States shall take into account the need to alleviate energy poverty in accordance with criteria established by them, taking into consideration their available practices in the field, by requiring, to the extent appropriate, a share of energy efficiency measures under their national energy efficiency obligation schemes, alternative policy measures, or programs or measures financed under an Energy Efficiency National Fund, to be implemented as a priority among vulnerable households, including those affected by energy poverty and, where appropriate, in social housing. Member States shall include information about the outcome of measures to alleviate energy poverty in the context of this Directive in the integrated national energy and climate progress reports in accordance with Regulation (EU) 2018/1999.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Regulation (EU) 2018/1999 on the Governance of the Energy Union and Climate Action

Article 3 - Integrated national energy and climate plan

1. By 31 December 2019, and subsequently by 1 January 2029 and every ten years thereafter, each Member State shall notify to the Commission an integrated national energy and climate plan. The plans shall contain the elements set out in paragraph 2 of this Article and in Annex I. The first plan shall cover the period from 2021 to 2030, taking into account the longer-term perspective. The subsequent plans shall cover the ten-year period immediately following the end of the period covered by the previous plan.

3. Regarding their integrated national energy and climate plans, Member States shall:

(d) assess the number of households in energy poverty taking into account the necessary domestic energy services needed to guarantee basic standards of living in the relevant national context, existing social policy and other relevant policies, as well as indicative Commission guidance on relevant indicators for energy poverty.

In the event that a Member State finds, pursuant to point (d) of the first subparagraph, that it has a significant number of households in energy poverty, on the basis of its assessment of verifiable data, it shall include in its plan a national indicative objective to reduce energy poverty. The Member States concerned shall outline in their integrated national energy and climate plans, the policies, and measures, which address energy poverty, if any, including social policy measures and other relevant national programs.

Article 24 - Integrated reporting on Energy Poverty

1. Where the second subparagraph of point (d) of Article 3(3) applies, the Member State concerned shall include in its integrated national energy and climate progress report:

1. information on progress towards the national indicative objective to reduce the number of households in energy poverty;
2. quantitative information on the number of households in energy poverty, and, where available, information on policies and measures addressing energy poverty. The Commission shall share data communicated by Member States pursuant to this Article with the European Energy Poverty Observatory.

Legal and compliance analysis

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This Regulation establishes the Social Climate Fund (the 'Fund') for the period from 2026 to 2032. The Fund shall provide financial support to Member States for the measures and investments included in their Social Climate Plans (the 'Plans'). Member States will have to submit their Social Climate Plans (SCP) by the end of June 2025. Key extracts are presented in the following pages for information purposes.

Regulation 2023/955 on the Climate Social Fund

Article 2 - Definitions on Energy Poverty and Vulnerable Households

- (2) **'transport poverty'** means individuals' and households' inability or difficulty to meet the costs of private or public transport, or their lack of or limited access to transport needed for their access to essential socioeconomic services and activities, taking into account the national and spatial context;
- (10) **'vulnerable households'** means households in energy poverty or households, including low income and lower middle-income ones, that are significantly affected by the price impacts of the inclusion of greenhouse gas emissions from buildings within the scope of Directive 2003/87/EC and lack the means to renovate the building they occupy;
- (12) **'vulnerable transport users'** means individuals and households in transport poverty, but also individuals and households, including low income and lower middle-income ones, that are significantly affected by the price impacts of the inclusion of greenhouse gas emissions from road transport within the scope of Directive 2003/87/EC and lack the means to purchase zero- and low-emission vehicles or to switch to alternative sustainable modes of transport, including public transport;

Article 4 - Social Climate Plan

1. Each Member State shall submit to the Commission its Plan. The Plan shall contain a coherent set of existing or **new national measures and investments to address the impact of carbon pricing on vulnerable households**, vulnerable microenterprises and vulnerable transport users in order to ensure affordable heating, cooling and mobility, while accompanying and accelerating necessary measures to meet the climate targets of the Union.
2. Each Member State shall ensure consistency between its Plan and its updated integrated national energy and climate plan referred to in Article 14(2) of Regulation (EU) 2018/1999.

Legal and compliance analysis

We have outlined the rights and obligations under EU relevant to Energy Poverty and Vulnerable Customers

Regulation 2023/955 on the Climate Social Fund

Article 6 – Content of Social Climate Plans

1. The Plan shall set out the following elements:

d) an estimate of the likely effects of the increase in prices resulting from the inclusion of greenhouse gas emissions from buildings and road transport within the scope of Directive 2003/87/EC on households, in particular on incidence of energy poverty and transport poverty, and on micro-enterprises; those effects are to be analyzed at the appropriate territorial level as defined by each Member State, taking into account national specificities and elements, such as access to public transport and basic services, and identifying the areas mostly affected;

(e) an estimated number of, and the identification of, vulnerable households, vulnerable micro-enterprises and vulnerable transport users;

(f) an explanation of how the definitions of energy poverty and transport poverty are to be applied at national level;

(g) where the Plan provides for measures as referred to in Article 4(3), the criteria for the identification of eligible final recipients, the envisaged time limit for the measures in question and their justification on the basis of a quantitative estimate and a qualitative explanation **of how those measures are expected to reduce energy poverty, transport poverty and the vulnerability of households** to an increase in the price of road transport and heating fuel;

Article 7 - Principles of Governing the Fund

2. Payment of financial support pursuant to paragraph 1 of this Article to each Member State shall be conditional upon that Member State achieving the milestones and targets for the measures and investments in accordance with Article 8 of this Regulation. Those milestones and targets shall be compatible with the Union's climate targets and the objective set out in Regulation (EU) 2021/1119, and shall cover in particular:

(a) energy efficiency;

(b) building renovation;

(c) zero- and low-emission mobility and transport;

(d) greenhouse gas emission reductions;

(e) reductions in the number of vulnerable households, in particular households in energy poverty, of vulnerable microenterprises and of vulnerable transport users.

Legal and compliance analysis

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Regulation 2023/955 on the Climate Social Fund

Article 8 – Eligible Measures and investments to be included in the Social Climate Plans

1. The Member State may include in the estimated total costs of the Plan the following measures and investments with lasting impacts, provided they principally target vulnerable households, vulnerable micro-enterprises or vulnerable transport users and intend to:

- (a) support building renovations, in particular for vulnerable households and vulnerable micro-enterprises occupying the worst performing buildings, and including for tenants and people living in social housing;
- (b) support access to affordable energy-efficient housing, including social housing;
- (c) contribute to the decarbonization, such as through electrification, of heating and cooling of, and cooking in, buildings by providing access to affordable and energy-efficient systems, and by integrating renewable energy generation and storage, including through renewable energy communities, citizen energy communities and other active customers to promote the uptake of the self-consumption of renewable energy, such as energy sharing and peer-to-peer trading of renewable energy, connection to smart grids and to district heating networks, that contributes to achieving energy savings or to reducing energy poverty

2. Member States may include in the estimated total costs of the Plans the costs of measures providing direct income support to vulnerable households and vulnerable transport users to reduce the impact of the increase in road transport and heating fuel prices. Such support shall be temporary and decrease over time. Member States may provide temporary direct income support if their Plans contain measures or investments aimed at those vulnerable households and vulnerable transport users in accordance with Article 8(1) of this Regulation. Such support shall be limited to the direct impact of the inclusion of greenhouse gas emissions from buildings and road transport within the scope of Directive 2003/87/EC. The costs of measures providing temporary direct income support shall not represent more than 37,5 % of the estimated total costs of the Plan, as referred to in Article 6(1), point (j), of this Regulation

EU Directives and Regulations - Key Takeaways

1. Define vulnerable customers and energy poverty. Definitions could include elements of income, share of energy expenditure to disposable income, energy efficiency of home etc..
2. Measures for tackling EP could include social/energy policy measures relating to electricity bills, investment in Energy Efficiency of residential buildings, consumer protection and disconnection safeguards.
3. Definition for energy poverty: “Energy Poverty means a household’s lack of access to essential energy services that provide basic levels and decent standards of living and health, including adequate heating, hot water, cooling, lighting, and energy to power appliances, in the relevant national context, existing disposable income, high energy expenditure and poor energy efficiency of homes”.
4. MS should prioritize energy efficiency to vulnerable, energy poor, low-income households and people living in social housing.
5. MS shall establish and achieve a share of the required amount of cumulative end-use energy savings to these target groups.
6. Where a MS has not estimated the share of households in EP, they can use the arithmetic average of following indicators to do so: 1. Inability to keep home adequately warm; 2. Arrears on utility bills; 3. Total population living in a dwelling with a leaking roof, damp walls, floors or foundation, rot in window frames or floor; 4. At-risk-of- poverty rate.
7. MS may require energy obligated parties to achieve a share of their energy saving obligation from these target groups.
8. Ensure information on available energy efficiency improvement measures, individual actions and financial and legal frameworks are transparent, accessible and widely disseminated to all relevant market actors and promote and facilitate an efficient use of energy by final consumers.
9. MS shall use a range of instruments and policies to promote behavioural change such as: fiscal incentives, access to finance/vouchers/grants/subsidies; publicly supported energy consumption assessments and targeted advisory services and support for households, in particular vulnerable, EP, people living in social housing; information provision accessible to people with disabilities; exemplary projects; workplace activities; training activities; digital tools; engagement strategies.
10. Create a supportive framework including: one-stop-shops; energy audits and energy consumption assessments; communication of easy to achieve and cost-effective changes in energy use; dissemination of information on energy efficiency measures and financial instruments.

EU Directives and Regulations - Key Takeaways

11. Economic and social policies should give priority to vulnerable, EP, low-income households and people living in social housing.
12. Undertake monitoring and reporting of such measures.
13. **Support these target groups by:** implementing energy efficiency improvement measures to mitigate distributional effect from other policies such as taxation measures; Make best use of available public funding; Carry out early, forward looking investment into energy efficiency improvement measures before distributional effects from other policies show effect; foster TA and roll-out of enabling funding and financial tools (on-bill schemes, local loan-loss reserve, guarantee funds, funds targeting deep renovations and renovations with minimum energy gains); foster TA for social actors to promote vulnerable customer's active engagement in the energy market and positive changes in their energy consumption behavior; ensure access to finance, grants or subsidies bound to minimum energy gains.
14. **Establish a network of experts from various sectors** (health, building sector, social sectors) to develop strategies to support local and national decision makers in implementing energy efficiency improvements and financial tools aiming at alleviating EP.
15. Network of experts shall also: advice on national definitions, indicators and criteria of EP and vulnerable; develop or improve relevant indicators and data sets; advice on methods and measures to ensure affordability of living costs, the promotion of housing cost neutrality or ways to ensure public funding invested in EE benefits owners and tenants (including vulnerable and EP); advice on measures to prevent or remedy situations in which particular groups are more affected or more at risk of being affected by EP or more susceptible to the impacts of EP based on their income, gender, demographics, health, inclusion in a minority group.
16. **Regional and local authorities shall prepare local heating and cooling plans at least in municipalities having population >45,000.** This should include analysis of heating and cooling appliances and energy efficiency measures that can be implemented in worst performing buildings and vulnerable households.
17. **Information should be made available to all relevant actors** (consumers, builders, installers, suppliers etc.).
18. Put in place **enabling framework to address accessibility of renewables self-consumption, address unjustified barriers to financing of projects and unjustified regulatory barriers for renewables including for tenants.**
19. **Policy measures to fulfil obligation of Obligatory Parts to achieve energy savings.** MS shall take into account the need to alleviate energy poverty.
20. Assess the number of households in EP and if number is significant, MS shall include in their NECP a national indicative objective to reduce EP and quantitative information on the number of households and information on policies and measures addressing EP.

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

National Legislation and Decrees related Vulnerable Customers and Energy Poverty

N. 130(I)/2021 Law for the Regulation of the Electricity Market 2021

- ▶ **Article 3** - Protection of vulnerable customers and energy poverty
- ▶ **Article 4** - CERA's general objectives
- ▶ **Article 129** - Protect vulnerable customers
- ▶ **Article 130** - Energy poverty

N. 107(I)/2022 Law for the Promotion and Encouragement of use of Renewable Energy Sources

- ▶ **Article 19** - Information and training
- ▶ **Article 34** - Integration of energy from renewable sources in heating and cooling
- ▶ **Article 38** - Self-consumers of energy from renewable sources

R.A.A. (Κ.Δ.Π.) 286/2016 - Special Tariff

- ▶ **Article 1** - Special tariff categories
- ▶ **Article 2** - Retrospective effect

N. 57 Energy Efficiency Law of 2009

- ▶ **Article 11** - Considerations on energy efficiency measures

Cyprus Ministerial Cabinet Decision

- ▶ **Additional Categories for Vulnerable Customers**

R.A.A. (Κ.Δ.Π.) 289/2015 Energy Poverty and Vulnerable Customers Categories

- ▶ **Article 3(1)** - Criteria of energy poor
- ▶ **Article 4(1)** - Categories of vulnerable customers
- ▶ **Article 5** - Measures for the protection of vulnerable customers and energy poverty
- ▶ **Article 6** - Retrospective effect

N.183(I)/2004 - Regulate of the Purchase of Natural Gas Law

- ▶ **Article 6h & 6u** - Vulnerable Customers Law
- ▶ **Article 40.1.b) & 40.2.d)**
- ▶ **Article 40.8 & 40.9** - CERA disconnection

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

National Legislation and Decrees related Vulnerable Customers and Energy Poverty
(New Decrees - to come on effect in Nov 2023)

R.A.A. (Κ.Δ.Π.) Imposition of
Public Service Obligations
307/2023

► **Special Tariff CODE 08**

Replaces R.A.A. 286/2016

R.A.A. (Κ.Δ.Π.) Energy
Poverty Criteria 308/2023

► **Article 3** - Criteria for
Energy Poverty

R.A.A. (Κ.Δ.Π.) 309/2023
Defining The Concept Of
Vulnerable Customers And
Their Categories

► **Article 3 & 4** - Criteria and
Categories of Vulnerable
Customers

Replaces R.A.A. 289/2015

R.A.A. (Κ.Δ.Π.) 310/2023
Measures To Address
Energy Poverty And To
Protect Vulnerable
Electricity Customers

► **Article 3** - Measures for
combating energy poverty
and the protection of
vulnerable customers

Replaces R.A.A. 289/2015

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

N. 130(I)/2021 Law for the Regulation of the Electricity Market 2021

Article 3

The Purpose of the Law is to provide

(2.i) - regulation of matters related to the protection of vulnerable customers and energy poverty

Article 4 - CERA's general objectives

(1h) - the protection of vulnerable customers;

(2a) - to ensure the protection of vulnerable customers and especially customers in isolated areas;

(2.i) - to take necessary action to protect customers and especially to safeguard the protection of vulnerable customers and especially customers in isolated areas

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

N. 130(I)/2021 Law for the Regulation of the Electricity Market 2021

Article 129 - Protect vulnerable customers

129(1) - The concept of vulnerable customers is defined by Decree of the Minister, after consultation with the Minister of Labour, of Welfare and Social Insurance and the Minister of Health, within which can be mentioned in energy poverty, as well and, inter alia, to the prohibition of disconnection of such consumers in critical periods and may include income levels, its share of energy expenditure of disposable income, the energy efficiency of homes, the critical dependence on electrical equipment for health reasons, the age, geographic location and other criteria.

129(2) - The categories of vulnerable customers, the criteria and the conditions, are determined by Decree of the Minister, after consultation with the Minister of Labor, Welfare and Social Affairs of Insurance and the Minister of Health.

129(3a) - The measures to protect vulnerable customers may include the ban on disconnection in critical periods, benefits to systems social security to secure it necessary energy supply for the vulnerable customers or supporting energy improvements performance, so that energy is addressed poverty where found, in accordance with element d) thereof paragraph 3 of article 3 of the Regulation (EU) 2018/1999, among others and within the wider context of poverty.

129(3b) - Such measures do not prevent its effective opening market defined in the provisions of paragraphs (a) and (b) of article 116 or the operation of the market and must be notified to the Commission where appropriate under the provisions of subsection (4) of the article 111.

129(3c) - Notifications may also include measures received under the general system social security.

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

N. 130(I)/2021 Law for the Regulation of the Electricity Market 2021

Article 129 - Protect vulnerable customers (cont.)

(4) - Measures to protect vulnerable customers are defined in a joint Decree of the Minister, the Minister of Labour, Welfare and Social Insurance and the Minister of Health:

The Minister of Labour, Welfare and Social Affairs Insurance determines the measures concerning benefits in social security systems and the Minister of Health determines the measures involving vulnerable clients with critical dependence on equipment the uninterrupted operation of which requires the supply electricity for health reasons.

(5) - CERA controls and monitors supplier compliance with obligations towards vulnerable customers and imposes penalties for non-compliance.

Article 130 - Energy Poverty

130(1) In assessing the number of households that are affected by energy poverty, according to point d) thereof paragraph 3 of article 3 of Regulation (EU) 2018/1999, o Minister issues, after consultation with the Minister of Labour, Welfare and Social Insurance, Decree with which defines and publishes the set of criteria for the definition of energy poverty, and which are possible to include:

- a. low income
- b. high energy expenses relative to the disposable income
- c. low energy efficiency.

130(2) The criteria provided for in the provisions of the subsection (1) receive the guidance provided by the Commission regarding with the definition of "significant number of affected households from energy poverty", based on the assumption that any percentage of households facing energy poverty can to be considered important.

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

N. 107(I)/2022 Law for the Promotion and Encouragement of use of Renewable Energy Sources

Article 19 - Information and Training	<p>19(1) - The competent authority, with the participation, where appropriate, of other government agencies, local and regional authorities, bodies, institutions and organizations shall ensure that,</p> <p>(a) information on support measures is made available to all interested parties, including consumers, low-income consumers; vulnerable consumers, self-consumers of renewable energy and renewable energy communities, to manufacturers, installers, architects, engineers, suppliers of heating, cooling and electrical equipment and systems and to suppliers of renewable energy compatible vehicles and intelligent systems transport;</p>
Article 34 - Integration of energy from renewable sources in heating and cooling	<p>(4d) - other policy measures with an equivalent effect in achieving the annual increase provided for in the provisions of subsection (1), including fiscal measures or other financial incentives: Provided that, in making and implementing decisions on the measures referred to in this subsection, the competent authority seeks to ensure that measures are accessible to all consumers and, in particular, to those living in low-income or vulnerable households, who would not have sufficient initial capital to benefit otherwise.</p>
Article 38 - Self-consumers of energy from renewable sources	<p>(4) - Regulatory decisions and/or decisions issued pursuant to the provisions of subsection (2) shall, inter alia- (a) ensure access to self-consumption of energy from renewable sources by all end customers, including those living in low-income households or vulnerable households</p>

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

N. 57 Energy Efficiency Law of 2009

Article 11

During the planning phase of the measures for achieving energy efficiency and saving, the authority should take the following consideration.

1. The need to mitigate the energy poverty according to the criteria which have been set.
2. Available practices and measures should be estimated and should include a percentage of energy performance measures based on the current context of the national authority's obligation for energy performance, alternative measures or schemes or measures funded by the Renewable Energy Sources and Energy Saving Fund. It should be given priority to vulnerable households, including those under energy poverty and social housing.
3. The current authority responsible, should provide information related to the results of the mitigation measures of energy poverty in the National progress reports for the Energy and the Climate (NECP) according to the regulation (EU) 2018/1999.

The current authority responsible for it, should provide information related to the results of the mitigation measures of energy poverty in the National progress reports for the Energy and the Climate (NECP) according to the regulation (EU) 2018/1999

Note: The N.57 Energy Efficiency Law of 2009 consist of a unification of the following laws (N.31(I) of 2009, 53(I) of 2012,56(I) of 2014, 149(I) of 2015, 109(I) of 2021, 172(I) of 2021).

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 289/2015 Definition Of Energy Poverty and the Categories Of Vulnerable Customers and Measures to Address Energy Poverty And Protect Vulnerable Customers (to be replaced in Nov. 2023 by R.A.A. 309/2023 & R.A.A. 310/2023)

Article 3 (1)

Energy Poor are those who:

- receive state support (public assistance) from Social Welfare Services of the Ministry of Labour and Social Insurance and
- legal residents of Cyprus who are eligible for minimum wage under the Welfare Benefits Management Service of the same Ministry.

Article 4 (1)

Vulnerable consumers are defined based on the following 8 customer categories:

- a. people eligible for Guaranteed Minimum Income from the Ministry of Labour, Welfare and Social Insurance
- b. recipients of state support from the Social Welfare Services of the Ministry of Labour and Social Insurance
- c. recipients of sever motor disability allowance from the Department of Social Integration of People with Disabilities of the Ministry of Labour, Welfare and Social Insurance
- d. low-income pensioner benefit recipients (as assigned under the Low-Income Pensioners Scheme) provided by the Welfare Benefits Administration Service provided they are over 70 years old and do not live together with someone who is under 70 years old
- e. recipients of care allowance for paraplegic from the Department of Social Integration of People with Disabilities of the Ministry of Labour, Welfare and Social Insurance
- f. recipients of care allowance for quadriplegic from the Department of Social Integration of People with Disabilities of the Ministry of Labour, Welfare and Social Insurance
- g. Recipients of allowance for blind persons from the Department of Social Integration of People with Disabilities of the Deputy Ministry of Labour and Social Insurance.
- h. multi-children or five member families who receive child support for 3 dependent children and have a net family income less than €51,258. The net family income threshold increases by €5,126 for every additional child beyond four.

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 289/2015 Definition Of Energy Poverty And The Categories Of Vulnerable Customers And Measures To Address Energy Poverty And Protect Vulnerable Customers (to be replaced in Nov. 2023 by R.A.A. 309/2023 and R.A.A. 3010/2023)

Article 5

The following measures are specified to protect vulnerable consumers and deal with energy poverty.

- a. Categories 4.1.a, 4.1.b, 4.1.c, 4.1.e, 4.1.f, 4.1.h are eligible for special Tariff 08
- b. The provision of financial incentives for all vulnerable consumer categories under 4.1. through their participation in the Government Subsidy Scheme for net-metering domestic PV
- c. The provision of financial incentive for all vulnerable consumer categories under 4.1. through their participation in the Government Subsidy Scheme for energy efficiency upgrading of their homes or for the implementation of individual energy saving measures
- d. no-disconnection or reconnection of the electricity supply during critical periods of all vulnerable consumers categories under 4.1. and for whom the uninterrupted supply of electricity is necessary for reasons related to their health, after the approval of a competent medical board assembled by the Ministry of Health.

Article 6

A person who has become a beneficiary of the allowances and/or grants in the categories 4.1.a, 4.1.b, 4.1.c, 4.1.e, 4.1.f with retrospective effect, is entitled to benefit from the special rate 08 from the date on which he has become a beneficiary retroactively. The retrospective period must not exceed 12 months

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 286/2016 - Special Tariff (to be replaced in Nov. 2023 by R.A.A. 307/2023)

Article 1

Imposes to all electricity supply license holders of the public service obligation to provide special electricity tariff with code 08 to be valid for the following customer categories:

- a. recipients of state support from the Social Welfare Services of the Ministry of Labour and Social Insurance
- b. people eligible for Guaranteed Minimum Income from the Ministry of Labour, Welfare and Social Insurance
- c. multi-children or five member families who receive child support for 3 dependent children and have a net family income less than €51,258. The net family income threshold increases by €5,126 for every additional child beyond four.
- d. recipients of sever motor disability allowance from the Department of Social Integration of People with Disabilities of the Ministry of Labour, Welfare and Social Insurance
- e. recipients of care allowance for quadriplegic from the Department of Social Integration of People with Disabilities of the Ministry of Labour, Welfare and Social Insurance
- f. recipients of care allowance for paraplegic from the Department of Social Integration of People with Disabilities of the Ministry of Labour, Welfare and Social Insurance
- g. Patients who are undergoing a circulation of hemopurified kidney and receive a mobility allowance from the Department of Social Integration of People with Disabilities of the Ministry of Labour and Social Insurance
- h. Patients with multiple sclerosis whose details will be provided by the Health Insurance Organisation.

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 286/2016 - Special Tariff (to be replaced in Nov. 2023 by R.A.A. 307/2023)

Article 2

People that were deemed eligible for allowance and/or grants under categories 1a-1g with retrospective effect, they are eligible of the special electricity tariff 08 retrospectively from the date they were deemed eligible and the EAC is obliged to make the necessary adjustments so that eligible people retrospectively benefit from the special tariffs.

To do so:

- i. eligible person under these categories (1a-1g) must have not exercised the right to receive the special electricity tariff and they will receive the benefit with retrospective effect from the date of submission of then last application to the relevant department of the Ministry of Labour, Welfare and Social Insurance, and a submission of a formal application to the EAC.
- ii. for category 1f the retrospective effect of the special tariff will commence from the date of this Decree and as per paragraph 2(i) above
- iii. for category 1h the special pricing does not apply retrospectively
- iv. the retrospective period does not exceed 12 months.

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

N.183(I)/2004 - Regulate of the Purchase of Natural Gas Law

Article 6h & 6u	<p>The law refers to Vulnerable Customers in terms of,</p> <ul style="list-style-type: none">a. covering their needsb. their protection
Articles 40.1.b) & 40.2.d)	<p>Appropriate measures should protect vulnerable customers.</p>
Articles 40.8 & 40.9	<p>CERA is obliged to not disconnect the electricity/heating in critical periods.</p>

Legal and compliance analysis

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

Cyprus Ministerial Cabinet Decision

Additional Categories for Vulnerable Customers

Cyprus' Ministerial Cabinet expanded the list of vulnerable households to include 8 new categories that are eligible for Grant Schemes of the Ministry of Energy, Commerce and Industry.

1. Families with an income of up to €19,500, who have dependent children up to the age of 18 who receive child benefit from the Welfare Benefits Administration Service.
2. Recipients of allowance for the circulation of hemopurified kidney patients from the Department of Social Integration of Persons with Disabilities.
3. Patients undergoing peritoneal dialysis whose details will be provided by the Health Insurance Organisation.
4. Patients with multiple sclerosis (MS) whose details will be provided by the Health Insurance Organisation.
5. Patients who are entitled to a special monthly pension from the Patients' Relief Fund.
6. People who suffer from cancer of the larynx and have undergone a laryngectomy whose details will be provided by the Health Insurance Organisation.
7. People after heart transplant surgery whose details will be provided by the Health Insurance Organisation.
8. People with Raynaud's syndrome whose details will be provided by the Health Insurance Organisation.

Two of the existing beneficiary categories changed:

1. Large or three-child family receiving Child Benefit from the Welfare Benefits Administration
2. Recipients of the Low-Income Pensioner Allowance provided by the Welfare Benefits Administration. In this category, the requirement that the Pensioner must be over 70 years old was removed.

The remaining 6 out of the original 8 categories remained the same.

Note: The new and amended categories (8 plus 2) are only eligible for Grants from the Ministry of Energy, Commerce, and Industry.

Legal and compliance analysis - New Decrees in 2023

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 307/2023 Imposition of Public Service Obligations (Takes effect in Nov. 2023, replaces R.A.A. 286/2016)

Special tariffs - CODE 08

1. The Minister of Energy, Commerce, and Industry exercising his duties on article 111 of the law, and after consultation with CERA, with this decision he impose to all electricity suppliers the obligations of Public Services provisions.
2. The special Electricity Tariff for Vulnerable customers is valid for the customers who themselves or other person who lives permanently together are included in the following categories, (considering that they are Cypriot citizens or citizens of other MS of the EU or a country from the European Economic Area or they have the same rights with the above-mentioned and live legally in the areas that Cyprus Government controls)
 1. Recipients of Public Assistance from the Social Welfare Services of the Deputy Ministry of Labour, Welfare and Social Insurance.
 2. Recipients of Guaranteed Minimum Income provided by the Welfare Benefits Administration of the Deputy Ministry of Labour, Welfare and Social Insurance.
 3. Multi-children or five member families which receives Child Benefit from the Welfare Benefits Administration of the Deputy Ministry of Labour, Welfare and Social Insurance for three or more dependent children.
 4. Recipients of Severe Motor Disability Allowance from the Department of Social Integration of People with Disabilities of the Deputy Ministry of Labour, Welfare and Social Insurance.
 5. Recipients of Care Allowance for Paraplegic Persons from the Department of Social Integration of People with Disabilities of the Deputy Ministry of Labour, Welfare and Social Insurance.
 6. Recipients of Care Allowance for Quadriplegic Persons from the Department of Social Integration of People with Disabilities of the Deputy Ministry of Labour, Welfare and Social Insurance.
 7. Patients who undergoing circulation of hemopurified kidney and receive a mobility allowance from the Department of Social Integration of People with Disabilities of the Deputy Ministry of Labour and Social Insurance.
 8. Recipients of allowance for blinds person from the Department of Social Integration of People with Disabilities of the Deputy Ministry of Labour and Social Insurance. (cont.)

Legal and compliance analysis - New Decrees in 2023

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 307/2023 Imposition of Public Service Obligations (Takes effect in Nov. 2023, replaces R.A.A. 286/2016)

Special tariffs - CODE 08

(cont.)

- 9. Patients who receive special monthly pension from the Patient Relief Fund whose details will be received by the Committee for the Relief of Patients, according to the Patients Relief Law.
- 10. Patients undergoing peritoneal dialysis whose details will be provided by the Health Insurance Organisation.
- 11. Patients with multiple sclerosis (MS) whose details will be provided by the Health Insurance Organisation.
- 12. Patients who have undergone heart transplant whose details will be provided by the Health Insurance Organisation.
- 13. Patients with active acromegaly whose details will be provided by the Health Insurance Organisation.
- 14. Patients with Cushing syndrome whose details will be provided by the Health Insurance Organisation.
- 15. Patients with ongoing Pheochromocytoma whose details will be provided by the Health Insurance Organisation.
- 16. Patients with autoimmune diabetic neuropathy whose details will be provided by the Health Insurance Organisation.
- 17. Patients with permanent tracheostomy whose details will be provided by the Health Insurance Organisation.
- 18. Patients with primary or metastatic central nervous system tumor (brain or spinal cord) whose details will be provided by the Health Insurance Organisation.

Each eligible customer is able to claim the special tariff benefit for one household only. To claim the benefit customers must fill out a form to their supplier and take it to one of our Customer Service Centres (EAC - Beneficiaries of Tariff with Code 08).

Legal and compliance analysis - New Decrees in 2023

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 308/2023 Energy Poverty Criteria

Article 3 - Criteria for Energy Poverty

According to the above decree the criteria for Energy Poverty are shown below and are evaluated by the Social Welfare Services and the Welfare Allowances Management Services of the Deputy Ministry of the Social Welfare:

1. difficult economic position due to low income
 2. in combination with the professional status
 3. the family status
 4. and the special health conditions
-
- a) receive state support (public assistance) from Social Welfare Services of of the Deputy Ministry of Social Welfare,
 - b) are eligible for Guaranteed Minimum Income of the Welfare Benefits Management Administration of the of the Deputy Ministry of Social Welfare

Legal and compliance analysis - New Decrees in 2023

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 309/2023 Defining The Concept Of Vulnerable Customers And Their Categories (Takes effect in Nov. 2023, **replaces** R.A.A. 289/2015)

Articles 3 & 4 - Criteria and Categories of Vulnerable Customers

In relation of the categories of the Vulnerable Customers the following are considered:

1. income level
2. family status
3. special health conditions

The categories of Vulnerable Customers are the following, considering that they are Cypriot citizens or citizens of other MS of the EU or a country from the European Economic Area or they have the same rights with the above-mentioned and live legally in the areas that Cyprus Government controls:

- I. Three-child or large family which receives Child Benefit from the Welfare Benefits Administration Service of the Deputy Ministry of Labour, Welfare and Social Insurance for three or more dependent children.
- II. Recipients of low-income pensioners allowance from the from the Directorate Management of Welfare Allowances of the Deputy Ministry of Labour, Welfare and Social Insurance
- III. Patients who receive special monthly pension from the Patient Relief Fund whose details will be received from the continually data base of Department of Patent Relief of the Ministry of Labour, Welfare and Social Insurance.
- IV. Recipients of Severe Motor Disability Allowance from the Department for Social Integration of Persons with Disabilities of the Ministry of Labour, Welfare and Social Insurance.
- V. Recipients of Care Allowance for Paraplegic Persons from the Department for Social Integration of Persons with Disabilities of the Ministry of Labour, Welfare and Social Insurance.
- VI. Recipients of Care Allowance for Quadriplegic Persons from the Department for Social Integration of Persons with Disabilities of the Ministry of Labour, Welfare and Social Insurance.
- VII. Recipients of allowance for blind persons from the Integration of Persons with Disabilities of the Ministry of Labour, Welfare and Social Insurance. **(cont.)**

Legal and compliance analysis - New Decrees in 2023

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 309/2023 Defining The Concept Of Vulnerable Customers And Their Categories (Takes effect in Nov. 2023, **replaces** R.A.A. 289/2015)

Articles 3 & 4 - Criteria and Categories of Vulnerable Customers

(cont.)

- vii. Patients who undergoing circulation of hemopurified kidney and receive a mobility allowance from the Department of Social Integration of People with Disabilities of the Deputy Ministry of Labour and Social Insurance.
- VIII. Patients undergoing peritoneal dialysis whose details will be provided by the Health Insurance Organisation.
- IX. Patients with multiple sclerosis (ms) who are registered members of Cyprus Multiple Sclerosis Association.
- X. Patients who have undergone heart transplant whose details will be provided by the Health Insurance Organisation.
- XI. Patients with active acromegaly whose details will be provided by the Health Insurance Organisation.
- XII. Patients with Cushing syndrome whose details will be provided by the Health Insurance Organisation.
- XIII. Patients with ongoing Pheochromocytoma whose details will be provided by the Health Insurance Organisation.
- XIV. Patients with autoimmune diabetic neuropathy whose details will be provided by the Health Insurance Organisation.
- XV. Patients with permanent tracheostomy whose details will be provided by the Health Insurance Organisation.
- XVI. Patients with primary or metastatic central nervous system tumor (brain or spinal cord) whose details will be provided by the Health Insurance Organisation.
- XVII. Patients with permanent with Raynaud syndrome whose details will be provided by the Health Insurance Organisation.
- XVIII. Families with dependent children up to 18 years old and who receives Child Benefit from the Welfare Benefits Administration Service of the Ministry of Labour, Welfare and Social Insurance with an annual combined family income of up to €19.500

Legal and compliance analysis - New Decrees in 2023

We have outlined the national legislation relevant to Energy Poverty and Vulnerable Customers

R.A.A. (Κ.Δ.Π.) 310/2023 Measures To Address Energy Poverty And To Protect Vulnerable Electricity Customers (Takes effect in Nov. 2023, **replaces** R.A.A. 289/2015)

Article 3 - Measures for combating energy poverty and for the protection of vulnerable customers

Measures for addressing Energy Poverty and for the protection of the Vulnerable customers

The following measures are defined for addressing Energy Poverty and protecting Vulnerable customers:

- a. financial incentives to the households who are under energy poverty and to vulnerable customers through their inclusion in in RES and Energy Conservation Fund subsidy schemes.
- b. financial incentives to the households who are under energy poverty and to vulnerable customers through their inclusion in the scheme for households' energy efficiency improvements.
- c. Continuity of electricity supply or re-connection of electricity during critical periods to the households who are under energy poverty and to vulnerable customers for whom the continuation of electricity supply is necessary for health reasons, following approval of a health committee.

For no disconnection/reconnection applications where bills are unpaid, the applicants should meet the 2 following requirements:

1. To register for the first time under this scheme, the applicant should provide a payment plan to their supplier
2. For customers who are already registered under the scheme, each applicant will be required to re-submit a registration application along with a payment plan to their supplier.

Where there are no outstanding payment due, the applicant must submit a copy of their latest bill of their household for validation purposes.

Following the application of the measure, if any outstanding payments are not paid on time and the applicant does not proceed with the conclusion of their instalment plan with the supplier, or in case the applicant has entered into a repayment plan but does not comply with it for 2 months, the supplier has the right to disconnect the supply. To reconnect the supply, the applicant must pay any outstanding amount and prove that their electricity consumption will be paid upfront.

Note: Disconnection of electricity supply during critical periods to the households who are under energy poverty and to vulnerable customers for whom the continuation of electricity supply is necessary for health reasons should be examined to determine whether it is permissible.

National Landscape analysis - Key Takeaways

1. Legislation definition requirements on vulnerable customers and energy poor is **harmonized** with EU directive through several Decrees which include relevant parameters (income, family status, health conditions). **However, there is no actual definition but rather categories/criteria that are identified through relevant Decrees.**
2. Legislation measures are **harmonized** with EU directive as they include protection measures such as the prohibition of electricity supply disconnection and social benefits (provision of financial support and special electricity tariff) as well as measures to improve energy performance.
3. Legislation is harmonized around information provision on support measures to be made available to all interested parties.
4. Legislation allows for policy measures, including fiscal measures or other financial incentives, to be made available.
5. Vulnerable customers parameters include: health conditions, income conditions, disability. **There are no parameters on energy expenditure and energy efficiency of homes.**
6. Energy poor parameters include: recipients of financial support. **There are no parameters on expenditure against income nor on energy performance of properties.**
7. Measures for vulnerable customers and energy poor include: financial incentives thorough subsidies, financial incentives for energy efficiency improvements, prohibition of disconnection.
8. The National **Legislations do not include official indicators for energy poverty which consider energy expenditures and energy efficiency.**

EU – National Legislations Compliance Analysis

EU Directive and Article		Harmonization Check	Comments
Directive 2019/944 on common rules for the internal market for electricity			
Article 5	<i>Market-based supply prices</i>	Derogation	According to Article 66 of the Directive, Article 5 shall not apply to Cyprus until 1 January 2025.
Article 28	<i>Vulnerable Customers</i>	Harmonized – could be expanded	<ul style="list-style-type: none"> - Law and Decree define Vulnerable Customers. 15 categories consider health conditions, 2 categories consider income and family status, 1 category considers age and income and 1 category age, health and income. - National Law and Decree does not consider energy expenditure and property Energy Efficiency neither other criteria such as ethnic minorities, mental health, language, access to internet. The category of single parents is partially included in the “Families with dependent children up to 18 years old and who receive Child Benefit..” - Law and Decrees define a range of financial and electricity continuity safeguard measures. - Law and Decrees do not specifically cover customers living in remote areas. - Health related categories do not have income criteria.
Article 29	<i>Energy Poverty</i>	Harmonized – could be improved	<ul style="list-style-type: none"> - In the Draft NECP 2023, Cyprus has estimated the number of Energy Poor households based on the following four indicators as suggested in the Directive 2023/1791: 1. Inability to keep home adequately warm; 2. Arrears on utility bills; 3. total population living in a dwelling with a leaking roof, damp walls, floors or foundation, or rot in window frames or floor; 4. at-risk-of-poverty rate . - However, there is a need to define official criteria/indicators and collect data to better estimate Energy Poor households.
Article 59	<i>General objectives of the regulatory authority</i>	Harmonized	Law 130(I)2021 is harmonized with Directive through Article 4(1)g

EU – National Legislations Compliance Analysis

- ▶ Directive 2023/1791 on Energy Efficiency was published in September 2023 and was entered into force in October 2023. Member states will have two years to transpose its different elements into national law (October 2025). As such, an assessment against existing legislation in Cyprus is not applicable however some points to note are presented in the following table.

EU Directive and Article		Harmonization Check	Comments
Directive 2023/1791 on energy efficiency and amending Regulation (EU) 2023/955			
Article 3	<i>Energy Efficiency First Principle</i>	New Directive which must be harmonized by October 2025	- Harmonization should ensure that by taking an energy efficiency first principle first should not have an impact on energy poverty.
Article 5	<i>Public Sector leading on energy efficiency</i>		- Regional and Local Authorities collaborating to establish specific Energy Efficiency Measures
Article 8	<i>Energy Savings Obligation</i>		- EEOS is currently implemented and is included in the revised NECP. Going forward, measures to give priority on energy poor and vulnerable customers should be taken into consideration such as prioritization in applications seeking funding, proactive engagement with such households, regulatory changes to force renovation in building blocks if majority of owners (51%) want to perform such works etc. - This is also linked to the Energy Savings Obligation Scheme, the implementation of which allows for an increased contribution of energy efficiency measures in areas with altitude greater than 600m and energy poor and vulnerable households. - The revised NECP states that 19.3% of the cumulative energy saving target must be achieved through the implementation of measures targeted towards EP. The revised NECP states the indicators used to estimate EP but highlights that the outcomes of the existing policy measures will not achieve the set objective of 19.3%
Article 9	<i>Energy efficiency obligation schemes</i>		- The Directive Article is not mandatory. - The National Law for Energy Efficiency does not require obligated parties to achieve a share of their energy savings among people affected by energy poverty but perhaps this is something that could be mandated.

EU – National Legislations Compliance Analysis

EU Directive and Article		Harmonization Check	Comments
Directive 2023/1791 on energy efficiency and amending Regulation (EU) 2023/955			
Article 22	<i>Information and awareness raising</i>	New Directive which must be harmonized by October 2025	<ul style="list-style-type: none"> - Individual actions by few Local Authorities, often driven by EU initiatives and projects (e.g. Covenant of Mayors, NGOs) rather than active Government encouragement and coordination. - Government has a mixture of instruments and policies to promote behavioural change such as grants, limited duration subsidies, digital tool (CEA tool on energy savings which is currently offline). There seems to be limited promotion of exemplary projects, workplace activities, engagement strategies, finance in the form of vouchers, publicly supported energy consumption assessments and targeted advisory services and support for household consumers including EP and VC. - Government is in the process of developing a OSS for Building Renovation to support applicants with the renovation process and to also provide them with necessary useful information. - MECl provides some information regarding Energy Saving tips, but this could be implemented on a wider scale aiming for higher penetration. There is no information awareness for vulnerable and energy poor. - The Government implemented an information awareness campaign on culture creation, energy efficiency and energy performance matters and subsidy schemes between Sep 2022 and Dec 2022. Government should incorporate information on energy poor and vulnerable.
Article 24	<i>Empowering and protecting vulnerable customers and alleviating energy poverty</i>		<ul style="list-style-type: none"> - The Government of Cyprus has implemented several measures to empower and protect Vulnerable and Energy Poor such prohibition of disconnection, special tariff, increased subsidy schemes etc. - The Government of Cyprus has implemented several Energy Efficiency improvement measures through subsidies specifically for vulnerable and energy poor customers as well as general information awareness campaigns for the general public. Targeted information awareness campaigns for vulnerable and energy poor however were not implemented. - The Government of Cyprus has implemented several measures such as: reduced VAT (temporary); energy efficiency and RES subsidy schemes; forward looking investment in energy efficiency through Long-term Renovation Strategy; subsidies for deep renovation; some grants/subsidies are linked to minimum energy gains. - Technical assistance to social actors could be provided to promote positive changes in energy consumption behavior. - There seems to be a lack of a coordinated network of various experts from various sectors

EU – National Legislations Compliance Analysis

EU Directive and Article		Compliance Check	Comments
Directive 2023/1791 on energy efficiency and amending Regulation (EU) 2023/955			
Article 25	Heating and cooling assessment and planning	New Directive which must be harmonized by October 2025	- In the Heating and Cooling Sector there are some financial incentives schemes such as the Installation/replacement of thermal system for hot water in households. According to the NECP there will be some additional measures for promoting high performance heat pumps for heating and cooling. Furthermore, the subsidy schemes for energy renovation of buildings. - There is no local heating and cooling plans for municipalities. Based on the preliminary results of the 2021 Census, the largest municipality in the Government controlled areas is: Limassol Municipality - population of 108.105 persons, Strovolos Municipality - 71.123, Nicosia Municipality - 56.848. Local councils in Cyprus will merge. National Government should work together with councils to develop such plans.
Article 30	Energy Efficiency National Fund, Financing and Technical Support		- Various subsidy schemes (e.g. Fund of RES and CE, Save and Upgrade). Source RRF, RES fee through electricity bills, Just Transition Fund - No schemes are dispersed or controlled at a local level. Local authorities are closer to vulnerable and energy poor households and perhaps they might be better placed to address the issue.
Regulation 2018/1999 on the Governance of the Energy Union and Climate Action			
Article 3	Integrated National Energy and Climate Plan	Harmonization with points to note	- According to the proposed planned and implemented measures in the revised NECP, the mandatory cumulative target energy saving target can be marginally achieved, whereas there is strong indication that the share related to vulnerable and energy poor will not.
Article 24	Integrated Reporting on Energy Poverty		- A new set of indicators to accurately estimate the number of vulnerable and energy poor households should be developed along with new measures and policies to ensure the targets are met and ways to monitor progress towards objectives. This will be achieved through the DG REFORM Energy Poverty Project.

EU – National Legislations Compliance Analysis

EU Directive and Article		Harmonization Check	Comments
Directive 2018/2001 on the promotion of the use of energy from renewable sources (recast)			
Article 18	<i>Information and Training</i>	Harmonization with points to note	<ul style="list-style-type: none"> - There are several R.A.A. that define processes (which include training on support measures) such as Energy Audits, EPC issuance, maintenance of heating systems etc. - There are frequent trainings (RES Installers) that are undertaken by certified institutions in collaboration with MECI. Also, there is a registry that contains all the certified installers for small-scale systems, who have attended the training courses and have passed the exam. All the relevant information are available through the Energy Service website. Moreover, PV installers themselves are promoting the utilisation of renewables. - The revised Long-term Renovation Strategy mentions that different information and awareness raising measures were implemented between Sep-Dec 2022. According to the Draft revised NECP, these measures would take place again in 2023.
Article 21	<i>Renewable Self-Consumers</i>	Harmonization	<ul style="list-style-type: none"> - There are several funding schemes as well as net-metering/net-billing mechanisms that incentivize RES self-consumption. - The OSS which is currently under development aims to streamline the application process for RES. - There is no VAT exception/reduction for RES
Article 22	<i>Renewable energy communities</i>	Harmonization with points to note	<ul style="list-style-type: none"> - Legislation adopts Directive provisions but there is no regulatory framework for such communities to be established and operate. - CERA has issued a Request for Service for the development of the relevant Regulatory Frameworks.
Article 23	<i>Mainstreaming renewable energy in heating and cooling</i>	Harmonization	<ul style="list-style-type: none"> - R.A.A. related to Energy Performance of buildings mandates specific percentage of energy consumption to come from RES. Household RES is linked to electricity consumption for cooling (AC) and more recently it is also linked for electricity consumption for heating (Air Sourced Heat Pumps). - Legislation 142(I)2006 suggests that for every new building alternative high efficiency energy generation systems should be examined, including heat pumps, co-generation
Directive 2018/2002/EU on Energy Efficiency (amending 2012/27/EU on energy efficiency)			
Article 7	<i>Energy Savings Obligation</i>	Harmonization	Same as Article 8 in the Directive 2023/1791 on energy efficiency and amending Regulation (EU) 2023/955. Government should be more proactive in prioritizing energy poor and vulnerable households.

2.1. Current State Assessment

Task 2.1.2. Policies and measures analysis

Policies & Measures analysis

We have outlined the policies and measures currently in place relevant to Energy Poverty and Vulnerable Customers

Various Legislations and R.A.A, Ministerial Cabinet Announcement, Minimum Guarantee Income and Social Benefits

Cyprus offers several measures for vulnerable and energy poor customers. These can be categorised as follows. Detailed description of these measures is presented in subsequent pages.

- A. Special electricity tariff Code-08 (20% less than the normal electricity price).
- B. Targeted financial incentives for the installation of domestic PV Systems with «net-metering».
- C. Financial Initiatives for home energy efficiency improvements.
- D. Continuity of electricity supply during critical periods.
- E. Allowances/subsidies from the Welfare Benefit Management Service of the Deputy Ministry of Labour Directorate Management of Welfare Allowances-ΥΔΕΠ.
- F. Other Measures and policies.

Policies & Measures analysis

We have outlined the policies and measures currently in place relevant to Energy Poverty and Vulnerable Customers

A. Special Electricity tariff Code-08

R.A.A. 289/2015 and R.A.A. 286/2016 (soon to be replaced by R.A.A. (Κ.Δ.Π.) 307/2023) states the vulnerable Customer categories that are eligible for the Special Electricity Tariff ([see here](#))

B. Financial incentives for Domestic Solar Panels

1. Support schemes for the installation/replacement of hot water thermal system & Promotion of the use of RES and Energy Conservation (EC) in households

Scheme Category	Target Group	Amount of Subsidy
Installation/replacement of thermal system for hot water in households	Existing houses with a permission for built acquired before 31/12/2009.	General houses: € 500
	Houses with vulnerable customers permanently living in it.	Vulnerable customers; houses: €900
Category 3B - Installation of Photovoltaic System with the method of Net Metering or Virtual Net Metering in households of vulnerable customers	Existing houses with a permission for built acquired before 01/01/2017 and the vulnerable customer is permanently living in it.	Increased subsidy compared to category 3a - €1000 per installed kW PV with a maximum amount of €5000

Note: The list of Vulnerable Electricity Consumer categories eligible for government grants differ from vulnerable electricity consumers eligible for other benefits (e.g., special tariff 08) ([see here](#)).

Policies & Measures analysis

We have outlined the policies and measures currently in place relevant to Energy Poverty and Vulnerable Customers

C. Financial incentives for home Energy Efficiency Improvements

1. "Save and Upgrade" Scheme (Εξοικονομώ Αναβαθμίζω) - implemented between 2021-2027 (previous period 2014-2020) and co-founded by the Social Cohesion Funds

Type of Investment:

Type A - Complete Energy Upgrade for households with almost zero energy consumption (up to €32,000); Type B - Energy Upgrade for Households (up to €24,000)

Beneficiaries with increased subsidy:

- Household of Vulnerable customers
- Households in remote areas
- Refugees who live in refugee complex

Building Upgrades				
No	Action	Method of calculating the subsidy	Non - Vulnerable	Vulnerable Customers (requirements apply)
A1	Thermal insulation of horizontal structural elements (ceilings, piled floors, cantilevered floors, rooms, roofs) that are part of the shell, as long as the average U coefficient of the horizontal structural elements of the house does not exceed 0.40W/m2K.	Eligible square meters are determined based on the total number of square meters that are part of the shell and are included in the EPC of the residence.	30€/m2	40€/m2
A2	Thermal insulation of walls and elements of the load-bearing structure (columns, beams and walls) that are part of the shell, as long as the average U coefficient of the walls and the load-bearing structure of the house does not exceed 0.40W/m2K.		40€/m2	55€/m2
A3	Replacement of frames included in the housing shell, as long as the average U coefficient of the frames does not exceed 2.25 W/m2K..		200€/m2	265€/m2
A4	Installation of external movable shading	The eligible square meters are determined based on the total number of square meters of frames shaded by the new shades applied	€135/ m2	180€/m2

Policies & Measures analysis

We have outlined the policies and measures currently in place relevant to Energy Poverty and Vulnerable Customers

C. Financial incentives for home Energy Efficiency Improvements (cont.)

Technical Systems				
No	Action	Method of calculating the subsidy	Non - Vulnerable	Vulnerable Customers (requirements apply)
A1	Purchase and installation or replacement of thermal system for hot water	One thermal system per household	885 €/system/household	1180 €/system/household
B2	Purchase and installation or replacement of autonomous air condition system with high energy performance.	The selected cost is calculated based on the number of new air-conditions of the household. There is a confirmation based on the recommended EPC of the household.	290 € per system up to 4kW 525 € per system more than 4kW	390 € per system up to 4kW 700 € per system more than 4kW
B3	Purchase and installation of Aerothermal, Geothermal, pump of high energy performance for central thermal systems or/and cooling.	Confirmation required of installation of thermal pump from the recommended EPC of the household.	3225 € per system - One system per household	4300 € per system - One system per household
B4	Installation of PV System Net Billing up to 10 kW	Number of kW installation	450 € / kW	1000 € / kW
B5	Batteries for Energy Storage produced by PV system up to 4kW	Total installed kW	720 € / kWh	960 € / kWh
B6	Replacement high energy performance of boiler for heating	One boiler per household	1270 € per boiler	1690 € per boiler
C1	Services Costs	The selected m2 are calculated based on the total m2s of the household which is also based on the initial EPC.	3,75€/m2 utilised household space	5€/m2 utilised household space

Policies & Measures analysis

We have outlined the policies and measures currently in place relevant to Energy Poverty and Vulnerable Customers

C. Financial incentives for home Energy Efficiency Improvements (cont.)

2. Subsidy scheme for the replacement of energy intensive electrical appliances in households of vulnerable customers (scheme closed in December 2022)

Fridge or Fridge-Freezer Up to 1 per beneficiary and/or residence Energy efficiency class: D or higher	Fridge & fridge-freezers of mixed capacity <449 litres: €400 per unit. Fridge & fridge-freezers of mixed capacity ≥450 litres: €600 per unit.
Washing Machines Up to 1 per beneficiary and/or residence Energy efficiency class: C or higher	Washing machines with a capacity <8.9 Kg: €300 per unit. Washing machines with a capacity ≥9 Kg: €400 per unit.
AC Units Up to 3 per beneficiary and/or residence Energy efficiency class: A++ or greater for cooling and A+ or greater for heating (in the 'middle' heating season)	AC with a capacity <3.99 kW (13,650 BTU/hr) in cooling: €300 per unit installed. AC with a capacity ≥4 kW (13,650 BTU/hr) and <12 kW (40,945 BTU/hr) in cooling: €500 per unit installed.

3. Reduced VAT for building renovations

Introduction of **reduced VAT in 2015 (5% instead of 19%)** for renovation of houses where the tenants lived in them for more than 3 years. The **reduced VAT is implemented to all measures for energy savings related to the household and the installation of PV**. This is a general measure, not specific to Vulnerable or Energy Poor households.

Policies & Measures analysis

We have outlined the policies and measures currently in place relevant to Energy Poverty and Vulnerable Customers

D. Continuity of electricity supply during critical periods

People eligible for non-disconnection of electricity and re-connection in critical periods are those who are included in the categories mentioned in relevant Decrees and have health issues which make the electricity access/connection critical for their lives. To be eligible, they need to make a separate application in the Ministry of Energy ([R.A.A. 309/2023](#) and [R.A.A. 3010/2023](#)), Commerce and Industry which will to be examined by a health committee (Ιατροσυμβούλιο) established by the Ministry of Health.

E. Allowances/subsidies form the Welfare Benefit Management Service

The Welfare Benefit Management Service of the Deputy Ministry of Labour, Welfare and Social Insurance offers several allowances/subsidies (see table below) to the following categories:

- Beneficiaries of Minimum Guarantee Income, MGI (Ελάχιστο Εγγυημένο Εισόδημα) - [see here](#)
- Pensioners with economic difficulties
- Parents with economic difficulties
- Single Parent Families

	Allowance/Subsidy	Eligible Beneficiary
1	Special electricity tariff with code-08.	Recipients of MGI/Child Allowance Beneficiaries
2	Rent Allowance	Recipients of MGI
3	Subsidy for interest on housing loan	Recipients of MGI
4	Disability Allowance	Recipients of MGI
5	Care Allowance	Recipients of MGI
6	Municipality Expenses Exception	Recipients of MGI
7	Emergency Needs Allowance	Recipients of MGI
8	Installation of PV and Energy Performance Upgrade.	Recipients of MGI/Child Allowance; Beneficiaries / Pensioners with low pensions
9	Special criteria for University entry for students from Families with low-income.	ALL
10	Free education to Government Education Institutes (Κρατικά Ινστιτούτα)	Recipients of MGI
11	Bicycle Allowance	Recipients of MGI/Child Allowance; Beneficiaries; Pensioners with low pensions
12	Allowance for student housing	Recipients of MGI/Child Allowance; Beneficiaries; Single Parent Families
13	Free Bus mobility card	Pensioners with low pension
14	Allowance for Education costs and meal for children up to 4 years old	Child Allowance Beneficiaries

Policies & Measures analysis

We have outlined the policies and measures currently in place relevant to Energy Poverty and Vulnerable Customers

F. Other measures

1. Campaign for raising awareness of the public in energy performance topics with state fund support (September - December 2022)

Four **different plans of raising awareness** were implemented during the campaign related to culture creation encouragement of people to implement zero, low and high-cost energy saving measures as well as promotion of Government Schemes. The main actions were:

- Promotion of informational material through the website of Ministry of Energy.
- Creation and transmission of radio spots.
- Creation and transmission of TV spots.
- Promotion of material through the social media (Facebook and Twitter) of the Ministry
- Internet Advertisements through Google Ads.
- Advertisements in News digital platforms.

Tips and advice for simple measures to save energy at home and at office

2. Development of a digital one stop shop (DOSS) for RES Projects and Building Renovation

MECI is in the process of developing an **OSS platform** which will streamline the process for RES licensing as well as promoting and facilitating a simpler building renovation process.

3. Amendment of the buildings and Road Law for installation of PV systems

Amendment of the Regulation and Road Law to **remove any associated permit requirements to install PV systems on the shell of existing buildings**. This regulation was judges as needed to reduce bureaucracy and to speed up the licensing and installation process of PV systems on buildings.

4. Rebuilding and maintenance of refugee buildings (Σχέδιο "ΚτίζΩ")

Ministry of Internal Affairs will implement a **repair/maintenance program of 358 buildings (3128 apartments) Governmental housing, prioritizing 43 buildings which have serious construction issues and need to rebuild**. The scale of renovation depends on the building status. If is considered as "large scale renovation, it will lead to energy upgrade of buildings which have the worst energy performances and **most of them are the households of vulnerable customers**. The government will provide the funds to civil engineers of ETEK which will be responsible for the study and will inspect the project which a total cost of 130 millions for 10 years.

Policies & Measures analysis

We have outlined the policies and measures currently in place relevant to Energy Poverty and Vulnerable Customers

F. Other measures (cont.)

5. Energy Obligation Scheme

Large energy suppliers (e.g., electricity providers and petroleum companies) are **mandated by law to contribute to the country's energy efficiency targets** through a set of horizontal and technical measures. Technical measures include interventions that end up in the reduction of energy consumption (e.g. replacement of boilers, insulation, replacement of electrical appliances, fuel additives etc.) and horizontal measures include the encouragement of behavior that leads to reduction in energy consumption (marketing campaigns on energy saving measures, ensuring correct tire air pressure etc.). The inclusion of specific measures is not mandated **but targeting vulnerable and energy poor has a higher weighting**.

6. Photovoltaic for all - repayment through Electricity Supplier bills *(Ongoing consultation)*

This scheme will fund the upfront capital investment for PV systems up to 4.16kW up to €4,000, €3,000 of which will be paid back through equal payments of €150 every two months through the electricity bills.

7. Reduced VAT for the supply of electricity for vulnerable households

Reduced VAT rate for the supply of electricity for people falling under the domestic tariff for vulnerable consumers 08 from the normal VAT rate of 19% to the reduced rate of 5%. This measure was in place until August 2022, but it is expected that the Government will implement it again in the immediate future (Q4 2023).

8. Government subsidy on increased electricity cost for electricity consumers with Tariff 08 *(New measure)*

Especially for vulnerable consumers falling under tariff 08, **the subsidy will cover 100% of the increase in electricity tariff** calculated when the subsidy measure was first implemented in September 2022.

9. Rent allowance for EEE *(New measure)*

Provision of a lump sum of €300 to UGS beneficiaries who receive rent/interest subsidy on a housing loan and **€500 to UGS beneficiaries** with severe disabilities who receive rent subsidy/mortgage interest subsidy.

Policies & Measures analysis

We have outlined the policies and measures currently in place relevant to Energy Poverty and Vulnerable Customers

F. Other measures (cont.)

10. Tax Reform *(ongoing project)*

A major tax reform project that will run between September 2023 and August 2025 to significantly overhaul the existing tax system.

11. Green Taxation Reform *(ongoing project)*

Cyprus is expected to introduce within 2024 green taxation policies that will impact customers, including vulnerable. Those direct measures include:

- Carbon tax per liter of fossil fuels (e.g. diesel, petrol) needed for homes and vehicles
- Additional water pricing for domestic use to mitigate water scarcity
- Pay as you throw in terms of garbage not entering the circulate economy

Within indirect measures anticipated to influence prices, currently discussed carbon tax for high emitting industries (e.g. cement, steel, brick, tiles) and landfill taxes. While green taxes need to be neutral, counter measures ought to be created and they are currently under study over a designated research by the University of Cyprus.

Policies & Measures analysis – Minimum Guaranteed Income 109(I)/2014) (1/2)

Aims to ensure a minimum socially acceptable standard of living for individuals and their families legally residing in Cyprus

Criteria for Minimum Guaranteed Income:

A. Citizenship

- ▶ A citizen of the Republic of Cyprus; a citizen of the European Union; a national of a third country, who has long-term resident status in the Republic based on the Immigration Law; a person who is a victim within the meaning of the Prevention and Combating of Trafficking and Exploitation of Persons and the Protection of Victims Law.

Note: the applicant must have, during the immediately preceding period of five (5) years preceding the date of submission of the application, legal and continuous residence in the Republic.

B. Country of Residence:

- ▶ The applicant must: have had legal and continuous residence in the Republic of Cyprus during the immediately preceding period of five (5) years preceding the date of submission of the application; be a national of a third country, who holds a legal status provided for in the Refugee Law, with the exception of asylum seekers.

C. Continuously residency during the provision of the GMI

- ▶ The beneficiary for the provision of a GMI is obliged to maintain legal and continuous residence in the Republic of Cyprus throughout the period of receiving the income.

D. Total Income of the Family Member Unit

- ▶ The total income of the members of the family unit must be lower than the total needs assessed on the basis of the GMI.

E. Real Estate Property

- ▶ No person/applicant who owns immovable property unit (either the person or any other member of the family) with value greater than €100,000 is eligible for the provision of a GMI;
- ▶ Privately owned residence in which the applicant/beneficiary reside is not considered if the residence does not exceed 300 square meters and any immovable property of value up to one hundred thousand euros (€100,000), which cannot be utilized in whole or in part, due to the registration of an encumbrance or right of usufruct is not considered.

Policies & Measures analysis - Minimum Guaranteed Income 109(I)/2014) (2/2)

Aims to ensure a minimum socially acceptable standard of living for individuals and their families legally residing in Cyprus

Criteria for Minimum Guaranteed Income:

F. Financial Assets

- ▶ Applicant/family member of the family unit owns financial assets and deposits exceed €5,000, increasing by €1,000 for each additional member.
- ▶ The value of other financial data should not exceed €5,000, provided that consideration will be given to any damage compensation received.
- ▶ Special provisions allow the exclusion of an additional €20,000 from the deposit limit in the case of persons with severe or total disability, when they cannot be used because they have been committed as collateral in a loan or are deposits of a person under the age of 18; in the case of a student loan, when they belong to an elderly person who needs help managing them, and when they belong to children under the age of 18 as a result of inheritance or other similar reasons.

G. Movable or immovable property

- ▶ Neither the applicant nor any other member of the family unit should have transferred movable or immovable property exceeding the limits set out in criteria about real estate and financial assets since 1/1/2016, unless they provide satisfactory explanations as to why such transfer was necessary or necessary.

H. Additional Criteria:

- ▶ One of the spouses of any age; any person who has attained the age of twenty-eight (28); single parent; a person up to the age of twenty-eight (28); an orphan, one of the brothers; a person who was under the care of the Director of Social Welfare Services, as such person is recognized as such in the respective decision of Director of Social Welfare Services;





Policies & Measures analysis

General observations on wider state policies

- Cyprus has a [Social Policy Strategy \(2022-2027\)](#) which among others states indicators for poverty and social exclusion, poverty threshold, the current state on gender equality, social challenges, recent social developments, social protection systems and systems for social inclusion, social welfare services and education. The document also presents [national targets and strategy under the following pillars](#): (a) Investment in Skills, Training and Retraining; (b) Investment in Employment and Job Creation; (c) Child, women and family support; (d) Protection of Workers' Rights - Social Protection; (e) Social Cohesion and Social Welfare.
- In 2020, Cyprus ranked below EU average on Gender Equality (56.3%, 11.1 points below EU average). The [percentage employment rate for women was lower than that of men](#) (69.7% in the third quarter of 2019 as opposed to 81.7%). Although the [participation of women in the labor market](#) is relatively high, it is [disproportionately concentrated among low-paid occupations](#), resulting in an increase in the gender pay gap. The gender pension gap for 2017 is also higher than the EU average (41.1 % against 35.7 % in EU) European Union) and in 2018, the percentage of economically inactive women (aged 20-64) who were economically inactive due to care responsibilities were significantly higher, 58.4%, than the European Union average (31.7%). According to Cyprus Statistical Service, in 2022, the [risk of poverty or social exclusion is higher for women](#) (18%) than men (15.3%).
- Cyprus has a national General Healthcare System, a National [Minimum Wage](#) and a framework for a variety of benefits including Guaranteed Minimum Income ([see here](#)), child benefit, disability benefit, long term social care, household allowances for low-income pensioners, survivors' benefits, statutory and social pension systems etc. (see [here](#) for a list of Social Benefits from Deputy Ministry of Social Welfare).
- As previously mentioned, [energy poor are currently identified as individuals who receive](#) the Guaranteed Minimum Income as well as other Social Welfare Benefits. Although this categorisation does not consider energy expenditure of households nor energy efficiency of dwellings, [wider poverty policies seem to apply to energy poor](#) as they are essentially the same.
- According to the strategy, in 2020, 17.6% of population was at the risk of poverty and social exclusion as they had a disposable income less than the poverty threshold. [Factors affecting disposable income include](#) Taxation; Social insurance contributions; Unemployment; Inflation; Debts (including mortgages, credit card balances, and loans); Rent; Household Expenses (including energy bills); Healthcare and childcare services; Government Benefit and Assistance Programs etc.
- [Disposable income can also affect energy poverty](#) as: Inadequate financial ability to purchase high-energy efficient products; Low affordability on energy bills leading to reduced electricity consumption and inability to keep warm in the winter or cool down in the summer; Limited access to resources or information to reduce energy consumption; Low energy performance dwelling and inability to undertake energy efficiency upgrades.
- [High energy costs can further reduce disposable income for households who are already under financial stress and exacerbate energy poverty](#). Addressing energy poverty should therefore involve policies and programs aimed at reducing energy costs for low-income households, as well as increased access to information, financial assistance, and energy-efficient technologies, so that households can reduce their energy use and bills.

Policies and Measures

Barriers to building renovations and their interaction with energy poverty as per Draft Long-term Renovation Strategy

Barriers	
Financial 	<ul style="list-style-type: none"> ▸ High upfront cost - Public subsidies create economic stimulus towards energy renovation however they are unlikely to form a major driver. Some building owners, tenants, and especially vulnerable customers may not be always be eligible for credit from banking sector to cover the upfront cost. Other financing instruments should be considered such as: Energy Performance Contracting, revolving funds, leasing financing, on-bill financing (a private mechanism that reduces first-cost barriers by linking repayment of energy efficiency investments to the utility bill). The funds can originate from utilities, the state or third parties. ▸ Split incentives - where the actor paying for the energy renovation (homeowner/landlord) does not accrue directly the benefits of it. At the same time, tenants do not have strong incentives to invest in energy renovations for a house they do not own.
Social 	<ul style="list-style-type: none"> ▸ Tenants and landlords' mistrust to national policies. ▸ Low-income landlords - Many rented buildings, multi-ownership buildings (e.g. apartment buildings and buildings with frequent change of use like shops) where the energy renovations are rather difficult. ▸ Demand Response - Adoption of methods of engaging customers in demand response efforts whereby time-based rates are offered such as time-of-use pricing, critical peak pricing, variable peak pricing, real time pricing, and critical peak rebates. ▸ Time consuming processes, especially to receive the foreseen subsidies. ▸ Fragmentation in the building sector. ▸ Social vulnerability (e.g. ethnic minorities, single parenting etc.).
Regulatory 	<ul style="list-style-type: none"> ▸ Lack of definition and schemes for energy poverty.
Technical & Information 	<ul style="list-style-type: none"> ▸ Lack of technological data on the effectiveness of measures. ▸ Energy usage behavior/ rebound effect. ▸ Lack of information - limited awareness. ▸ Wider acceptance of digitalization. ▸ Training of new actors and stakeholders (aggregators, ESCOs, technology providers, banking sector, engineering consultants).

Policies and Measures

Barriers for the implementation of Energy Service Companies, ESCOs as per Draft Long-term Renovation Strategy

Category	Challenges
Information and Awareness	1. Lack of successful applications. 2. Limited customer information about Energy Efficiency Contracts and ESCO models. 3. Limited information about funding opportunities. 4. Underestimation of benefits of improving energy efficiency.
Institutional and Legislative	1. Public contract regulations. 2. Legislation that creates unfavorable conditions for energy efficiency. 3. Lack of certification mechanisms for Energy Efficiency Contracts.
Economic	1. Difficulties in accessing funding. 2. Limitations on capital or high-interest rates from the banking sector. 3. Conventional financing rules not aligned with ESCO models. 4. Lack of financial sector experience in financing through ESCOs.
External Factors	1. Low energy prices. 2. High risk compared to other investment options. 3. The available projects on the market are typically small in scale. 4. Many buildings have multiple tenants.
Technical and Administrative	1. Complex administrative procedures. 2. High transaction costs. 3. Complexity in verifying future savings. 4. Lack of knowledge and experience regarding ESCOs.
Behavior	1. Reluctance of customers to take risks associated with implementing an action through an ESCO. 2. Low confidence in Energy Efficiency Contracts. 3. Preference for finding solutions through the organization. 4. Unwillingness to engage in long-term borrowing.

Key takeaways

- Raise awareness on ESCOs and Energy Efficiency Contracts (EEC)
- Build trust and confidence on ESCOs and EECs
- Standardize contracts and processes

Note: The challenges as presented in this table come from the study “An energy efficiency strategy for Cyprus up to 2020, 2030 and 2050” conducted in 2017. Some of these challenges are no longer valid.

2.1. Current State Assessment

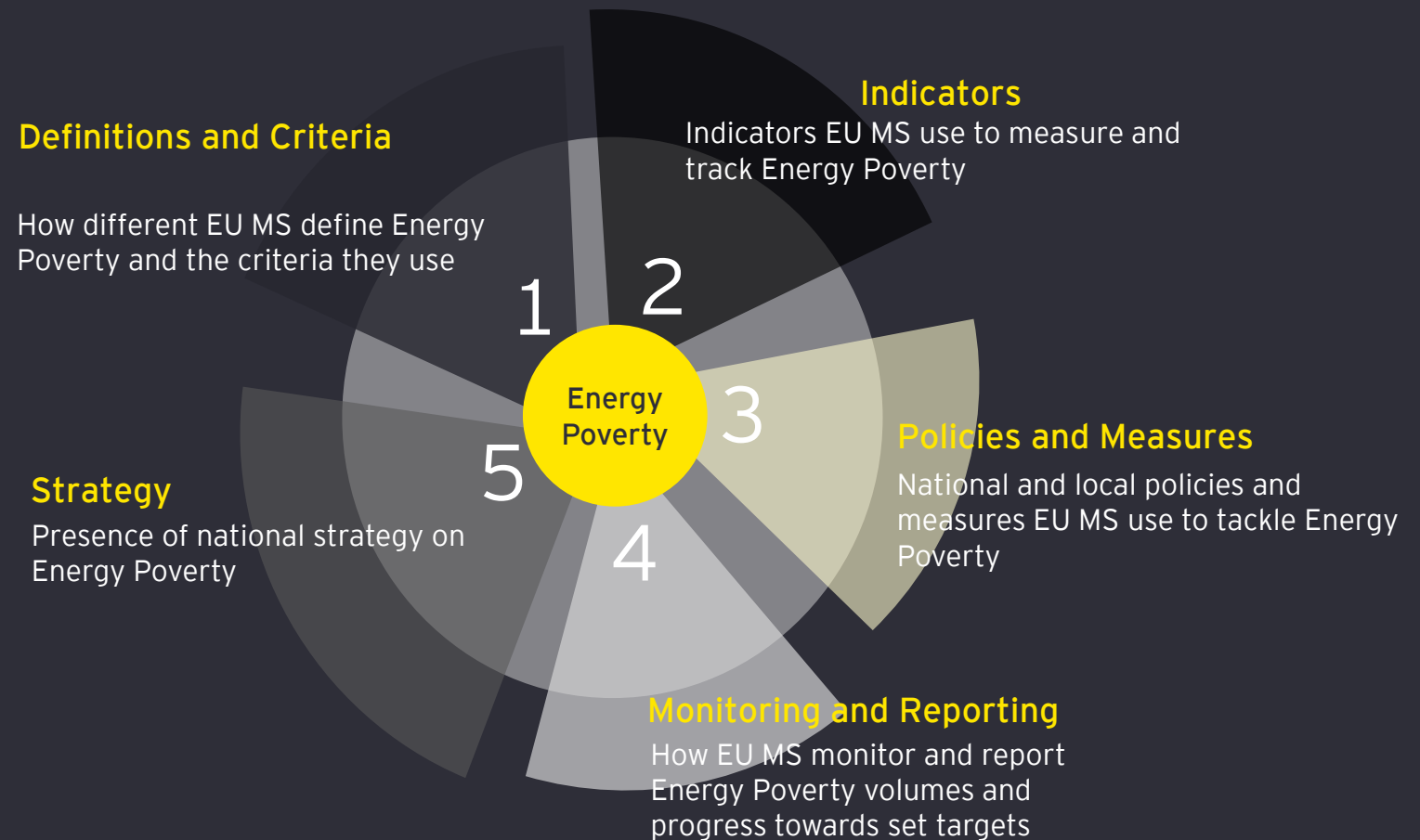
Task 2.1.3. Collection and analysis of best practices

Best Practices Analysis

We established parameters for the identification of best practice examples from EU MS

The aim of this task is to gain insights how other EU MS have approached and tackle Energy Poverty so as to synthesize recommendations/options that are applicable for Cyprus.

We were guided by the following parameters (**Figure**) to identify the best practices countries that could influence the policies to tackle Energy Poverty in Cyprus, recognizing that there is no single best practice and that recommendations would come through an amalgamation of many best practice examples.



Best Practices Analysis

The below examples demonstrate best practices from EU countries



England

Definition & Criteria

Definition of Fuel Poverty 2021 ('Low Income Low Energy Efficiency' (LILEE)). A household is fuel poor if:

1. Has a residual income below the poverty line (after accounting for required fuel costs); and
2. Lives in a home that has an energy efficiency rating D, E, F or G

Note: Poverty line Or Income Poverty is defined as an equivalized disposable income of less than 60% of the national median. Fuel costs is based on requirements such as have a warm, well-lit home, with hot water and the running of appliances (include lights, appliances and coking). The Energy efficiency rating is measured using the Fuel Poverty Energy Efficiency Rating (FPEER) Methodology.

Definition of Vulnerability (Ofgem): When a consumer's personal circumstances and characteristics combine with aspects of the market to create situations where he/she is:

- significantly less able than a typical consumer to protect or represent his/her interests in the energy market; and/or
- Significantly more likely than a typical consumer to suffer detriment, or that detriment is likely to be more substantial.

Definition of Vulnerability (BES): Under the vulnerability principle, BEIS considers the needs of low-income households most at risk from the impact of living in a cold home while designing fuel poverty policy. BEIS considers market low-income households to be vulnerable if at least one member of the household is: 65 or older; Younger than school age; Living with a long-term health condition which makes them more likely to spend most of their time at home, such as mobility conditions which further reduce ability to stay warm; or Living with a long-term health condition which puts them at higher risk of experiencing cold-related illness - for example, a health condition which affects their breathing, heart or mental health.

Indicators

Fuel Poverty: Based on Definition and LILEE

National Policies & Measures

National level

- Energy Price Cap calculated based on typical household consumption
- Various Government Grants for energy efficiency measures
- Minimum requirements for landlords who let out properties with poor Energy Performance (F to G) to improve them to a minimum EPC rating E. If they cannot source sufficient funding they required to make certain contribution
- Energy Efficiency and low-carbon heating vouchers
- Large energy suppliers (Energy Obligatory Parts) to provide energy efficiency and heating measures
- Public helpline providing assistance to vulnerable groups on social tariffs, grants, flexible payments etc.
- Innovative Green Finance products

Best Practices Analysis

The below examples demonstrate best practices from EU countries



England

National Policies & Measures (cont.)

National Level (cont.)

- Promotion of Energy Performance Certificates (EPC) for rented properties
- Loans for home energy efficiency improvements paid back over time through energy bills
- Energy bill discount, paid back each year for 5 years
- Cold weather payments triggered if temperature falls below 0°C for 7 consecutive days
- National Energy Agency (NEA) courses to assist households with fuel poverty, energy efficiency etc. Provide vulnerable households with useful advice
- Winter fuel payment - a tax free annual automatic payment to help older people with heating bills
- Priority Service Register - obligation on energy suppliers to keep a dedicated fuel priority register to provide vulnerable customers with non-financial services
- Warm homes discount - a rebate on electricity bills provided by electricity suppliers

Local Level

- Risk assessment tool used by LA to assess hazards in residential properties, including excess cold
- LA schemes to raise energy efficiency rating of low income and low EPC rating homes
- Establishment of 5 Local Energy Hubs which support LA, community groups, businesses and residents to lead energy projects. Ministry of Energy allocated specific budget to these hubs for fuel poverty work.

Monitoring & Reporting

- LILEE metric to monitor additional households in fuel poverty who live in more efficient homes (Band D-G) but fall below the poverty line due to high energy costs
- Committee on Fuel Poverty, a public body sponsored by the Ministry of Energy to advice on the effectiveness of policies aimed at reducing fuel poverty and encourage co-ordination across organisations
- Annual and quarterly data reports and statistics on fuel poverty and annual publication of fuel poverty statistics

Strategy & Action Plan

- Sustainable Warmth - Protecting Vulnerable Households in England ([link](#))
- National Energy and Climate Plan ([link](#))

Best Practices Analysis

The below examples demonstrate best practices from EU countries



Spain

Definition & Criteria

Energy Poverty is the situation in which a household finds itself in which the basic needs for energy supplies cannot be met, as a consequence of an insufficient level of income and which, where appropriate, may be aggravated by having an energy inefficient house

Vulnerable consumer is the consumer of electrical energy or thermal uses who is in a situation of energy poverty and may be a beneficiary of the support measures established by the administrations.

Energy poverty may manifest itself through different factors such as inability of maintaining an adequate temperature in the home, the delay in paying bills, an excessively low energy expenditure or an expenditure on energy supplies that is disproportionate to income level ultimately linked to this definition is the definition of vulnerable consumer.

Indicators

- **Disproportionate spending (2M):** percentage of households whose participation in spending energy in income is more than double the national median.
- **Hidden energy poverty (HEP):** percentage of households whose energy expenditure absolute is less than half the national median.
- **Inability to keep the home at an adequate temperature in winter.** Percentage of the population that cannot keep their home at a temperature suitable during the winter period.
- **Arrears in payment of bills:** percentage of population that is late in payment of bills for household supplies.

Note: Indicators are presented in a disaggregated form by climatic zone which allows to take into account correlation between temperature and energy expenditure.

Best Practices Analysis

The below examples demonstrate best practices from EU countries



Spain

National Policies & Measures (cont.)

National Level

- Financial assistance to households for energy efficiency works. Subsidies for the modification of certain housing envelope elements and change of thermal equipment for vulnerable and severely vulnerable consumers or at risk of exclusion (subsidy may reach 100% of the total cost depending on intensity of Energy Poverty)
- Financial support to **increase RES self consumption** (e.g. battery storage) for social housing, small municipalities
- Subsidies for the replacement of energy using equipment with more efficient ones (e.g. refrigerators, thermal equipment, washing machine, boilers, ovens/hons). **Subsidy may reach 100% of the total cost depending on intensity of Energy Poverty.**
- Social tariff for vulnerable electricity consumers (i.e. discount)
- Electricity disconnection protection for vulnerable consumers
- Promotion of the public housing stock for social rental with a subsidy for the costs of energy supplies for vulnerable groups, this is a mixed measure, with the participation of different State organizations and local entities
- Website that provides a single access point for information on EP including Diagnostic section, Strategy Execution, Consumer administrative info, Info on consumption habits and health, Info for Public Administrations, repository of regulations & publications.
- Information on consumption habits, energy savings and improvement of EE
- Permanent communication channel of news on EP to interested groups (e.g. mailbox for complaints and suggestions, submission of alert system for extreme weather conditions, periodic newsletter with info and news)
- Several project on raising awareness to vulnerable consumers regarding EE, renovation, self-consumption, RES etc. Projects include:
 - Train people to advice households on EE, low-cost dwelling renovation, self-consumption
 - Direct training of vulnerable consumers and social agents on energy consumption, energy efficiency and improving comfort.
 - An online tool that develops a personalized energy diagnosis so that social agents can use to advice vulnerable
- Communication on the benefit of smart meters for vulnerable and energy poor
- Large energy suppliers (Energy Obligatory Parts) to provide funding for energy efficiency measures

Local Level

- Regional energy efficiency programs for renovations and RES
- Educational activities in public schools around energy consumption and energy communities in vulnerable areas
- Local Governments offering advice to households around improving energy efficiency, energy contracts, disconnection rights etc.
- Local initiatives and workshops at municipal level to train and advice families on reducing their energy bills
- Local Government advice on how households can improve their energy efficiency, check energy contracts and protect their disconnection rights
- Energy Audits and interventions in homes organized at local level offering homes advice on how to enhance energy efficiency
- Communication campaigns, consumer advice at local level informing of consumer vulnerability and energy poverty and actions to increase efficiency
- Deliver training on efficient consumer habits and consumer rights
- Capacity building and training, communication campaigns, consumer advice etc. targeted for women and women-led households as evidence suggest they are disproportionately affected by energy poverty.
- Energy Advice Points (Barcelona) - a free municipal service seeking social inclusion not just on matters of energy but wider social issues.

Best Practices Analysis

The below examples demonstrate best practices from EU countries



Spain

Monitoring & Reporting

- National Statistics Institute to report on EP indicators in October every year (four indicators)
- IDEA is responsible for publishing the results as well as carrying out comparative analysis with other EU MS and against national targets

Strategy & Action Plan

- National Strategy Against Energy Poverty - in Spanish ([link](#))
- National Energy and Climate Plan (NECP) - ([link](#))

Best Practices Analysis

The below examples demonstrate best practices from EU countries



France

Definition & Criteria

Energy Poverty: *"a person is in a situation of energy poverty who experiences particular difficulties in their home in having the supply of energy necessary to satisfy their basic needs due to of the unsuitability of its resources or habitat conditions".*

No definition on Energy Vulnerable Customers.

Indicators

- Energy Effort Rate (EER) - ratio between energy expenses and household income, which should not exceed 8% and refers to the first three income deciles. It is limited to households in the first three deciles of disposable income per consumption unit which allows income to be weighted according to the composition of the household.
- Cold indicator based on testimonials regarding the level of thermal comfort and level of budget constraints
- Low Income High Energy (LIHE) expenditure indicator with specific conditions (not currently used) - includes two conditions, one on household energy expenditure and the other on the income remaining after deducting housing expenditure (excluding energy expenditure). The energy expenditure and the threshold are related to the surface area of the housing. The remaining income is divided by the number of consumption units, to take into account the composition of the household (not currently in use).

National Policies & Measures (cont.)

National Level

- An income tax credit for expenditures related to certain building renovation work to improve the energy efficiency of private dwellings or the modernization of heating installations
- Loans and grants for renovation works
- Subsidy for energy audits for low-income households
- Transportation: bonus for low-income households to convert old vehicles to new (double bonus for very low income). Develop offer for public transport/car sharing and alternatives targeting most vulnerable communities.
- Energy allowance in the form of voucher issued to lowest income households to combat fuel poverty (av. €150) based on eligibility criteria (e.g. income, number of consumption units)
- Winter truce (respite) scheme related to energy where suppliers are required to maintain supply between Nov-Apr
- National Housing Agency Program to tackle energy poverty by providing financial, technical, social support to households suffering from fuel poverty, covering 25%-50% of cost of energy renovation works aiming at least 25%-35% energy savings.

Best Practices Analysis

The below examples demonstrate best practices from EU countries



France

National Policies & Measures (cont.)

National Level (cont.)

- Energy suppliers encouraged to support disadvantaged groups through White Certificates (WC) for energy poverty. These certificates make it possible to deploy support programme for sustainability in isolated areas and for people in situations of economic/social vulnerability.
- The fuel poverty obligation for the new period for WC in 2018-2020 has been increased to 400 TWhcumac (cumulated and discounted), in addition to the 1,200 TWhcumac of the traditional obligation.
- Education: Training of social workers on energy issues
- Education: Communication of best behaviors to save energy by visiting and witnessing household behavior
- Reduction in electricity tax from €22.50 per megawatt hour to €1 for households and 50 cents for businesses.
- Motorists receive a discount of 18 cents per liter at the pump (and 35 cents per litre for the diesel used by boats in the fishing industry).
- Electricity price cap
- French government voted a subsidy for households heating with wood. Financial aid of 50 to 200 is paid on resource conditions.
- Practical guides for families which are tools of educating families. Guides include: explanation of behaviors and purchasing practices; advices on all possible ways of saving energy (water, electricity, lighting, multimedia, heating, insulation); clearly illustrated visual messages.

Local Level

- Energy mediator supports energy poor tenants of the private rented sector in socio-technical diagnostic visit and mediation with landlord to negotiate and support the decision and implementation of works
- Local Authority schemes to identify and help energy poor households

Monitoring & Reporting

- National Observatory for Fuel Poverty has a group of indicators to characterize and quantify fuel poverty linked to housing and mobility. Indicators: energy expenditure in home exceeds 8% of revenue where revenue by consumption unit (CU) is below the third decile of revenue per CU; indicator of feeling cold due to poor insulation, insufficient heating, heating breakdown, heating restriction because of cost; energy shutdown because of non-payment.

Strategy & Action Plan

- Energy Poverty Observatory [[link](#)]
- National Energy and Climate Plan (NECP) - ([link](#))

Best Practices Analysis

The below examples demonstrate best practices from EU countries



Austria

Definition & Criteria

According to Austria's E-Control (ECG), the government regulator for electricity and natural gas markets, the **definition of energy poverty** is the following:

- A household is considered energy poor if its income is below the at-risk-of-poverty threshold and, at the same time, it must cover above-average energy costs.

Risk of Energy Poverty due to a large burden through energy costs concept:

- Households are considered at risk of energy poverty due to a large burden through energy costs if their income is below the at-risk-of-poverty threshold and they simultaneously have to spend an above-average percentage of their household income on energy.
- There is no official definition for Vulnerable Customers.

Indicators

- No clear indicators but consider the net household income (equivalized for income tax, social security contributions and housing expenses) that amounts to less than 60% of the median net household income and an energy consumption greater than 140% of the average household energy consumption (NECP & e-Control)
- Indicators of energy poverty as such are limited to the calculation of the household income housing expenses and actual energy costs.
- The Austrian Household Budget Survey is designed to poll households as to a) whether a certain energy source (e.g., electricity) is used; b) how much is paid for it; c) how many times a year the said sum is paid. For each of the possible sources there are three text questions: 1) Do you use? 2) How much do you pay for? 3) How many times per year do you pay this amount for?
- E-Control suggests that a single indicator can never describe social phenomena and recommends the use of 3 subjective indicators through surveys: affordability of energy; energy (in)efficiency in occupied rooms; energy consumption

National Policies & Measures

National Level

- Out of Oil Premium: Households can receive a grant of up to €5000 to replace their oil heating system.
- Renovation Check: Households can receive a grant of up to €6000 to support investments into energy efficiency.
- Ministry for Sustainability has carried out several projects that provided grants for renovations focused on energy efficiency and replacing oil heating systems. However, these are not targeted specifically at energy poor households and require significant investments from the households themselves.
- Relief package of €1.7 billion for almost all households. Households will receive €150 in energy cost compensation, an amount that will be doubled for those in need.
- Poor credit rating or old debts are no reason to refuse basic electricity service. An obligation to contract ensures people with poor credit rating or old debts can also purchase electricity/gas provided they pay a monthly instalment of their electricity costs in advance
- Large energy suppliers are obliged to set up contact and advice centers, which also cover problems relating to energy poverty
- Low-income households do not pay additional costs linked with green electricity production
- Incentives for energy suppliers to increase implementation of energy efficiency measures in low-income households

Best Practices Analysis

The below examples demonstrate best practices from EU countries



Austria

National Policies & Measures

Local Level

- Heating allowance: Financial support to cover costs of heating, eligibility requirements and size of support differ from region to region.
- Energy Consultations for low-income households: advice on energy use to improve energy efficiency.
- Prepayment electricity and gas meters for indebted households.

Monitoring & Reporting

- The Ministry for Climate Action, E-Control and the Ministry for Social Affairs are in charge of monitoring the situation of energy poverty informing the public debate by publishing regular reports on the status of energy poverty. It played a key role in investigating different options and deciding on the energy poverty definition used by the Austrian government.

Strategy & Action Plan

National Energy and Climate Plan (NECP) - ([link](#))

Energy Poverty in Austria - Austrian Electricity and Gas Regulator (e-Control) - ([link](#))

Best Practices Analysis

The below examples demonstrate best practices from EU countries



The Netherlands

Definition & Criteria

- The Netherlands Organisation for applied scientific research TNO defines households as energy poor when facing a low household income combined with either a high expenditure on energy, or housing with poor quality insulation. The government of Netherlands, however, has no official governmental statement on the definition of energy poverty.
- Definition for Vulnerable Customers: Legislation states that a household consumer for whom ending the transport or the supply of electricity or gas would result in very serious health risks for the domestic consumer or a member of the same household of the household customer is regarded as vulnerable, and thus disconnection is not permitted, unless a case of fraud has been proved.

Indicators

Energy poverty is measured from 3 distinct perspectives:

- Energy affordability
- Energy quality of dwellings
- Opportunities to invest in sustainable improvements in housing
- HEQ: a high energy equate. The energy equate is the part of the income spent on energy costs. Energy equals are considered high if a household pays more than 10 % of the income on energy costs.
- LIHE: low income combined with high energy bills. Low income is seen here as an income of up to 130 % of the low-income threshold, excluding households with financial wealth among the highest 10 % in the Netherlands.
- LLEK: low income combined with low energy quality dwellings. Households covered by this indicator may experience problems in living comfort, for example due to dirty spaces or because the dwelling is difficult to heat. In addition, this group is vulnerable to increases in energy cost prices.
- LEKWI: low income combined with low energy quality housing and little investment space to improve the dwelling.

A low-income household as defined by LIHE or a household whose total financial capacity and excess value of the dwelling is less than EUR 40,000 is a household with little investment space. Specifically, LEKWI shows how many households are financially unable to get their homes due to the energy transition.

Best Practices Analysis

The below examples demonstrate best practices from EU countries



The Netherlands

National Policies & Measures (cont.)

National Level

- Energy-savings convent scheme. Homeowners can get loans or grants to make their homes energy efficient.
- Electricity tax reduction for basic needs (around €300).
- Netherlands will quantify the national cumulative energy efficiency target along with the share for vulnerable consumers/households affected by energy poverty
- Additional support to vulnerable households from energy fixing teams. With energy fixers, the Netherlands means all approaches from volunteers to professionals providing energy advice to residents and taking small to medium-sized measures. The approach to energy fixers in combination with the isolation program actively addresses people and takes away practical and administrative concerns about sustainability.
- The National Program for Local Heat Transition provides support to municipalities in this regard. Through the Heat Fund, they provide even cheaper financing for low and (low) middle-income earners.
- Price cap for gas, electricity and district heating for households and other small-scale users. This means that up to a certain level of consumption, these users will not pay more than a maximum tariff. For most users, the price cap will result in a rebate on their energy bill.
- The government agreed to raise the one-off energy allowance (energietoelag) for people on incomes around the level of social assistance to €800 (previously €200).
- The government lowered the rate of value-added tax (VAT) on energy from 21% to 9%, and cut the excise duty on petrol and diesel by 21% from 1 April 2022 until the end of the year.
- The government announced that it will be increasing the minimum wage by 10% to deal with inflation, as well as introducing a windfall tax on energy corporations.

Local Level

- Energy audits and Household appliances
- Local government provides an energy toolbox, boosting the knowledge and awareness of the locals.
- Energy bill support provided by local energy banks.

Monitoring & Reporting

- Netherlands Organization for Applied Scientific Research TNO conduct both qualitative and quantitative research on energy poverty. This organization develops an annual Energy Poverty Monitor.

Strategy & Action Plan

National Energy and Climate Plan (NECP) - ([link](#))

Best Practices Analysis

The below examples demonstrate best practices from EU countries



Denmark

Definition & Criteria

- The Danish government lacks an official definition of energy poverty and vulnerable customers

Indicators

N/A - no verifiable data on how many households live in energy poverty.

National Policies & Measures (cont.)

National Level

- National building fund loans. Supplying interest free loans for building insulation and renovation works.
- Energy audits. Advising households for efficient renovations.
- Heating allowance for pensioners. Reimbursement of excessive heating costs for low-income pensioners.
- Personal allowance cover reasonable and emergency costs, such as the payment of additional costs for heating or electricity.
- Simplified energy bills. Enhances the understanding and awareness of energy costs amongst consumers.
- Better Housing Scheme: supports homeowners in the implementation of energy efficiency measures through a 'one-stop shop' concept, assisting homeowners in the renovation process from start to finish.
- The municipality may provide assistance with reasonably justified individual costs to a person who has undergone changes in his or her circumstances (e.g., the loss of work or illness) if the person's own responsibility for the costs would significantly impede the ability of the person and the family to cope with themselves in the future.

Local Level

- Energy subsidy. Replacing oil-based heating systems with alternatives and focus on improved thermal insulation.
- Electricity price comparison website. Enhances transparency and ability to compare offers for costumers.
- Financial help from municipalities. Part of the security system to assist in financial requirement for energy expenditures.
- Special supplementary housing benefit. Persons who meet the requirements to receive social assistance (but who does not necessarily receive the support) and who has high housing costs or high costs to support large families can receive a special supplementary housing benefit. The conditions for receiving the special supplementary housing benefit are that the applicant has experienced a social incident, for instance sickness, unemployment, or discontinuance of cohabitation.

Best Practices Analysis

The below examples demonstrate best practices from EU countries



Denmark

Monitoring & Reporting

N/A - no official monitoring organizations

Strategy & Action Plan

National Energy and Climate Plan (NECP) - ([Link](#))

Best Practices Analysis

The below examples demonstrate best practices from EU countries



Greece

Definition & Criteria

- The Greek government lacks an official definition of energy poverty.
- In the absence of an official national definition of energy poverty (under development), **vulnerable consumers** are defined in the Decision YPEN/DHE/78337/224/06.11.2018: Customers included in the social electricity tariff; Customers whose household includes a member or members who need life-supporting medical equipment at home and are eligible to the social electricity tariff; Customers who have reached the age of 70, provided that there is no other adult member in the household who has not reached the age of 70, and who meet the income criteria applied for the social electricity tariff, increased by €8,000.

Indicators

- Share of households with a ratio for Actual vs. Theoretical energy consumption lower than 80% (theoretical = level to meet standard comfort).
- Share of households with energy expenditures higher than 10% of their income.

These indicators have been assessed for each of the 13 Greek regions, examining differences according to income class, construction year of the building, etc. It was proposed for the National Energy Poverty Action Plan to consider that a household is energy poor when meeting two conditions:

1. The first indicator of the observatory (Actual/Theoretical lower than 80%),
2. Total income of the household lower than 80% of the mean income in Greece.

Best Practice Analysis

The below examples demonstrate best practices from EU countries



Greece

National Policies & Measures (cont.)

National Level

- Heating oil allowance, financial support to cover heating oil costs. Eligibility based on income (below €20,000 per family), and property (below €250,000 per family) in 2021. Amount depending on location and household composition (from €80 to €420).
- Social electricity tariff, eligibility based on income (e.g., below €9,000/year for a single member household), property (up to €120,000 value) and residence criteria.
- Universal Service scheme acts as a last resort supply measure to provide electricity to consumers shunned by suppliers
- Scheme to replace heating oil boilers. Grants focused on low-income households (income up to €20,000 €) to replace heating oil with natural gas boilers.
- Building insulation, Heating system, Renewable energy, Transport.
- Information and awareness scheme "Building the Future".
- Energy Transition Fund, to fund a variety of subsidies for electricity, natural gas, heating oil and transportation fuels.
- Launch of an online platform providing direct payments to consumers to offset the high cost of road transportation fuels. The transport fuel subsidy is 0.15-0.2 EUR/litre for up to 60 liters of fuel per month and is available to consumers with an annual income below €30 000.
- Provision of preferential electricity supply to protect affected households from energy poverty. This measure includes the adoption of a preferential electricity sale price for affected households experiencing energy poverty. The preferential tariff will relate to the amount of electricity until the minimum thermal comfort conditions are met, including the electricity consumption of the other uses of the affected households.
- Provision of "energy card" to energy poor households. This card enables affected households to consume a certain amount of energy products.
- Provision for automatic migration of vulnerable household customers to the Universal Service regime in case of delays in the payment of energy bills. Setting a threshold for the minimum consumption of energy products on an annual basis. Facilitating repayment and adopting a more flexible and favorable framework for settling the arrears of affected households in specific cases. Reduction of energy consumption with delays in the payment of energy bills
- Installation of energy saving and RES systems and technologies in buildings of households affected by energy poverty.
- Energy upgrade of residential buildings of affected households and promotion of installation of AME stations to meet their energy needs.
- Financial support to Obligated Parties for the installation of efficient heating and cooling systems in affected households.
- Carrying out targeted information and training actions to provide specialized technical advice by obligated parties to affected households under the 2021-2030 enforcement schemes.
- "Energy Saving at Home" program for the energy upgrade of residential buildings.
- Measures against the humanitarian crisis.
- Regulation measures for protecting the households from potential disconnections of the electricity supply.
- Provision of incentives to energy poor households within the framework of the "Just Transition Plan". Subsidy for covering the extra cost of district heating due to energy cost crisis.

Best Practices Analysis

The below examples demonstrate best practices from EU countries



Greece

Monitoring & Reporting

- The Energy Poverty Framework was developed by the Center for Renewable Energy and Energy Conservation (KAPE) and serves the purpose of empowering the public and the political forces related to the levels of energy poverty in Greece.

Strategy & Action Plan

Action Plan to combat Energy Poverty - In Greek ([link](#))
National Energy and Climate Plan (NECP) ([link](#))

2.1. Current State Assessment

Task 2.1.4. Current state assessment presentation

Pages 4 to 82 of this document

2.2. Future state establishment

Task 2.2.1. Estimation of households in Cyprus affected by Energy Poverty

Energy poverty – Current state and relevant indicators

Recap on current state in Cyprus and EU wide relevant indicators

- **Existing National Legislation does not define Energy Poor but refers to relevant Decrees.** Decrees define category groups that are classed as Energy Poor (Decree [308/2023](#)) along with associated measures (Decrees [307/2023](#) and [310/2023](#))
- The number of Energy Poor is currently estimated by adding the number of people that receive the relevant benefits (e.g. Guaranteed Minimum Income, Social Welfare Allowances).
- The **Energy Poverty beneficiary categories focus purely on income criteria** (i.e. recipients of state support) and **do not take into account energy expenditure nor the energy efficiency of buildings**. As such, the indicator can be deemed a poverty indicator and it is unclear whether the reported numbers are representing the true Energy Poverty numbers.
- According to literature (including literature referred to further below), **energy poverty is a multidimensional issue and there is no single indicator** that accurately captures and measures it accurately.
- The **Energy Poverty Advisory hub**, a leading EU initiative that aims to eradicate energy poverty and accelerate the just transition of European local Governments, has published a set of indicators. These are **aggregated indicators categorised based on Climate, Facilities/Housing, Mobility, Socioeconomic aspects** available from Eurostat. The *latest set of indicators* were released in October 2023.
- A **number of indicators have also been identified by the European Commission**. The aim is to capture the different aspects of energy poverty, taking into account each country's specificities, available data and future data needs (*EC Recommendation 2020/1563* - see [page 88](#)).
- In the **absence of specific national indicators**, **EU Directive 2023/1791 suggests that the arithmetic average of a set of four Eurostat reported indicators** can be used to estimate Energy Poverty numbers (for the purposes of Article 8 on Energy Savings Obligation). These are: Inability to keep home inadequately warm (ilc_mdcs01); Arrears on utility bills (ilc_mdcs07); Total population living in a dwelling with a leaking roof, damp walls, floor or foundation, or rot in window frames or floor (ilc_mdho01); At risk of poverty rate (cut-off point: 60% of median equivalised income after social transfers) (ilc_li02).

Energy poverty - arithmetic average of four indicators as per EU Directive 2023/1791

- ▶ In addition to the EPAH and EU Recommendation indicators, a set of indicators from other EU MS were also analysed in order to determine their applicability and replicability in Cyprus. EU MS use different indicators to estimate energy poverty and these are presented in subsequent pages, along with recommendations on a set of indicators that can be used in Cyprus.
- ▶ For completeness, the four indicators highlighted in EU Directive 2023/1791 were used to estimate the number of Energy Poor in Cyprus for 2022 based on Eurostat data. The total number is shown on the table below. Although this is an indication, the number might not be a true representation of the energy poverty status in Cyprus.

Eurostat Indicator	2022
Total population living in a dwelling with a leaking roof, damp walls, floor or foundation, or rot in window frames or floor (<i>ilc_mdho01</i>)	46.8%
Inability to keep home inadequately warm (<i>ilc_mdesh01</i>) *extrapolated	19.2%
Arrears on utility bills (<i>ilc_mdesh07</i>)	8.1%
At risk of poverty rate (cut-off point: 60% of median equivalised income after social transfers) (<i>ilc_li02</i>)	13.9%
Average:	22%

Energy Poverty Advisory Hub indicators (see here)

Relevant indicators

EPAH categorises indicators into four topics as per below. The indicators under each topic are shown on the right.

- **Climate** topic presents indicators that portray climate conditions and other climate-related phenomena such as temperature
- **Facilities/housing** topic and subtopics focus on the building stock's characteristics and quality such as building condition, conservation state, energy efficiency, fuel use and consumption profiles.
- **Mobility** topic depicts vulnerability associated with transport mobility and the inability of individuals or households to afford or access reliable transport services, limiting their ability to perform day to day activities.
- **Socioeconomic** topic which captures variables that represent causes, drivers and consequences of energy poverty such as energy prices, employment, income, housing and energy costs and affordability etc.

Topic	Subtopic	Indicator
Climate		Cooling degree days
		Heating degree days
Facilities/ housing	Building Stock	Dwellings with energy label A
		Final consumption expenditure of households ¹
		Pop. Liv. Dwelling with presence of leak, damp and rot
		Pop. Liv. Dwelling equipped with heating
		Pop. Liv. Dwelling equipped with air conditioning
		Pop. considering their dwelling as too dark
		Final consumption expenditure of households ²
	Energy Consumption and Equipment	Final energy consumption in households by energy use
		Final energy consumption in households by type of fuel
Mobility		Final consumption expenditure of households ³
		Pop. who cannot afford a regular use of public transport
Socioeconomic aspects	Socio Economic and Living Conditions	Arrears on utility bills
		At risk of poverty or social exclusion
		Disposable annual household income
		Inability to keep home adequately warm
		Final consumption expenditure of households ⁴
		Housing cost overburden rate
		Pop. Liv. Dwelling comfortably cool during summer time
		Pop. Liv. Dwelling comfortably warm during winter time
	Energy Expenditure and Energy Markets	Energy expenses by income quintile
		Energy Prices
		High share of energy expenditure in income (2M)
		Low absolute energy expenditure (M/2)
	Health	Causes of death
		Excess winter mortality/deaths
		Final consumption expenditure of households ⁵
		Pop. Reporting a chronic disease

Energy Poverty - EC Recommendation 2020/1563 on Energy Poverty (1/5)

Energy poverty context

- According to the EC Recommendation, Energy Poverty is a situation in which households are unable to access essential energy services. As recognized by the co-legislators, adequate warmth, cooling, lighting, and energy to power appliances are essential services that underpin a decent standard of living and health.
- There is no standard definition of energy poverty, and it is therefore left to Member States to develop their own criteria according to their national context. However, the recently adopted legislative package provides useful general principles and insights into the possible causes and consequences of energy poverty.
- Energy poverty arises from a combination of low income, high expenditure on energy, and poor energy efficiency of dwellings. The impact of volatile energy market prices and poor energy efficiency, especially in terms of the performance of buildings, in combination with a broad range of socioeconomic factors associated with general poverty and issues arising from housing tenure systems, make the issue complex to address.
- This Recommendation provides guidance on energy poverty to MS and is accompanied with a Staff Working Document (SWD) to help MS transpose the new energy poverty provision.
- The main difficulty with any definition is how to obtain reliable numerical data. A set of statistical indicators measuring likely drivers of energy poverty and its consequences have been developed at EU level. These are aggregated indicators (see [here](#)). Since energy poverty is a multi-dimensional phenomenon, no single indicator can fully reflect all of its aspects.
- The aggregate indicators have been developed at European level by the Statistical office of the European Union ('EUROSTAT') and the European Energy Poverty Observatory (predecessor of the Energy Poverty Advisory Hub, EPAH) and were derived from harmonized EU data collections. These indicators allow to monitor the situation EU-wide and identify national specificities, as well as to promote more efficient, mutual learning and exchanges of best practice.
- Any analysis based on indicators at EU or national level is counterpointed and complemented by a bottom-up approach.

Energy Poverty - EC Recommendation 2020/1563 on Energy Poverty (2/5)

Energy poverty context and Spain's example

- Due attention should be given to investment barriers in energy-efficient housing and the profile of dwellings in most need of renovation, in line with national long-term renovation strategies ([see here](#)).
- MS must develop measures to address energy poverty that build on close cooperation between all levels of administration, including **close cooperation between regional and local authorities**, and **civil society organizations and private sector entities**.
- MS can explore the **role of energy service companies (ESCOs) and energy performance contracts** in providing renovation financing solutions for energy poor households that enable these vulnerable households to overcome high upfront costs (see [here](#) for ESCO barriers in Cyprus).
- MS have adopted different approaches to the definitions and indicators and public interventions are based on criteria unrelated to energy. **Some countries treat energy poverty not as an energy policy issue but rather as part of general poverty (this applies to Cyprus as well).** National **approaches vary considerably and include:** **o** general social policy measures targeting low-income or poor households in general, which may include support to help them pay their energy bills; **o** direct interventions in the price of supply of energy to energy-poor/vulnerable consumers (e.g. Belgium, Spain, Portugal); **o** energy vouchers (e.g. Bulgaria); **o** credit lines and subsidies (e.g. Poland); and **o** tax exemptions or reductions (e.g. France) to support building renovation and energy efficiency.
- **Some best practices include:** **o** setting up **Energy Poverty Observatories or institutions for monitoring**; - **platforms for dialogue** with local communities and the public; **o** close **cooperation** between different stakeholders (e.g. energy, environment, social policy, housing, finance, consumers) and between different levels of administration; **o** **cooperation** between municipalities, NGOs, energy communities, philanthropic bodies, private sector entities for increasing awareness on way to reduce energy bills and improve energy efficiency of dwellings (e.g. energy helpdesks for members of the public together with municipalities, technical partners and a social housing agency; energy communities); **o** improved **access to tools** to address energy poverty by simplifying procedures, making assistance available to certain customer groups without having to apply, provide upfront financial support etc.); **o** **targeted measures for multi-apartment blocks** renovations predominately through ESCOs and energy performance contracts; **o** **social services counseling** on addressing utility arrears.
- According to the EC Recommendation **Spain's National Strategy against energy poverty for 2019-2024 is well structured and indicators are based on refined Eurostat data and include an analysis of climate zones and the socio-demographic features of household**

Relevant Indicators - EC Recommendation 2020/1563 on Energy Poverty (3/5)

EC Recommendation on indicators

Indicators fall into four groups

1. **Indicators comparing spending on energy with income:** these quantify energy poverty by comparing the amount households spend on energy with an income measure (e.g. % or number of households spending more than a certain proportion of their disposable income on domestic energy services)
2. **Indicators based on self-assessment:** households asked directly to what extent they feel able to afford energy (e.g. ability to keep the home warm/cool)
3. **Indicators based on direct measurement:** these indicators measure physical variables to determine the adequacy of energy services (e.g. room temperature)
4. **Indirect indicators:** these measure energy poverty through **associated factors such as arrears on utility bills**, number of disconnections and housing quality

Indicators focusing on affordability of energy services

- a) **Share of population at risk of poverty (below 60% of national median equivalized disposable income) not able to keep their home adequately warm**, based on the question 'Can your household afford to keep its home adequately warm?' (Eurostat, **SILC** [ilc_mdcs01])
- b) **Share of total population not able to keep their home adequately warm**, based on the question 'Can your household afford to keep its home adequately warm?' (Eurostat, **SILC** [ilc_mdcs01])
- c) **Arrears on utility bills: share of population at risk of poverty (below 60% of national median equivalized disposable income) having arrears on utility bills** (Eurostat, **SILC**, [ilc_mdcs07])
- d) **Arrears on utility bills: share of population having arrears on utility bills** (Eurostat, **SILC**, [ilc_mdcs07])
- e) **Expenditure on electricity, gas and other fuels as a proportion of total household expenditure** (Eurostat, **HBS**, [hbs_str_t223])
- f) **2M - Proportion of households whose share of energy expenditure in income is more than twice the national median share** (source Eurostat, **HBS**, 2015)
- g) **M/2 Share of households whose absolute energy expenditure is below half the national median.** (Eurostat, **HBS** 2015)

Relevant Indicators - EC Recommendation 2020/1563 on Energy Poverty (4/5)

EC Recommendation on indicators

Complementary indicators

- a) Electricity prices for household consumers - average consumption band (Eurostat, [nrg_pc_204])
- b) Share of population at risk of poverty (below 60% of national median equivalized disposable income) with leak, damp or rot in their dwelling (Eurostat, SILC [ilc_mdho01])
- c) Share of population with leak, damp or rot in their dwelling - total population (Eurostat SILC, [TESSI292])
- d) Final energy consumption per square meter in the residential sector, climate-corrected (Odyssee-MURE project database)

Relevant Indicators - EC Recommendation 2020/1563 on Energy Poverty (5/5)

EC Recommendation on indicators

According to the SWD of the EC Recommendation (2020), households are classed as energy poor if they meet the following criteria, three of which refer to relative thresholds (EU Commission recommendation, 2016 study):

1. The household states that it **cannot keep the home warm enough**;
2. The household's energy expenditure is less than half the national median energy spending (**M/2 indicator**);
3. The share of income the household spends on energy services is more than twice the national median (**2M indicator**);
4. The **household's income after energy expenses are deducted falls below the general poverty line and the share of its income spent on energy is above the national median**. This indicator (also referred to as **Low Income, High Cost**) is more successful in excluding high-income groups compared with the 2M indicator and in lower-income groups it enables energy poverty to be distinguished from generalized poverty.

Useful sources to support with the calculation of the abovementioned indicators:

- ▶ National Indicators Uncovering New Possibilities for Expanded Knowledge (October 2023) - accessible [here](#)
- ▶ National Indicators Insights for a more effective measuring (October 2022) - accessible [here](#)
- ▶ EPOV Indicator Dashboard Methodology Guidebook, Johannes Thema and Florin Vondung (May 2020) - accessible [here](#)
- ▶ Selecting Indicators to Measure Energy Poverty, Rademaekers et al (2016) - accessible [here](#)
- ▶ Organization for Economic Co-operation and Development (OECD) equivalization factors

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



OVERVIEW

England uses LILEE indicator which considers factor such as: households income and energy expenditure, household population and age, median equivalized disposable income, energy efficiency of property. Relatively low income (or poverty) is defined as 60% of the median equivalized disposable income with a residual income.

Indicator details

- **Low Income (LI) is calculated** as follows: **1.** Take the full income of the household from the fuel poverty dataset; **2.** Subtract housing cost (mortgage or rent); **3.** Divide the after-housing cost by the After Housing Cost income equivalization factor which increases the income of single people and reduces the income of larger households; **4.** Calculate the income for each household by: (a) Taking the weighted median of all AHC equivalized incomes in dataset, (b) Calculate 60% of the value, (c) Adding on the equivalized required fuel cost of the particular household; **5.** Apply a fuel cost equivalization factor for each household according to number of people in household; **6.** Divide the required fuel costs by the equivalization factor to get the equivalized required fuel costs for that particular household.
- **Low Energy Efficiency (LEE):** Use an Energy Efficiency Threshold to **classify households between Low Energy Efficiency (LEE) and High Energy Efficiency (HEE)**. Households with Fuel Poverty Energy Efficiency Rating, FPEER (calculated using a *specific methodology*), of band D or below are classified as poor if they are also classified as Low Income.

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



Comments and Replicability

- The LILEE indicator considers income, energy expenditure and property energy efficiency, and as such it **can be deemed complete**. This indicator is **only used in England**, making the indicator impossible to compare with other MS.
- While the methodology for income criteria and expenditure could be adopted for Cyprus, the lack of information on property energy efficiency (EPCs are only available for 2% of existing properties) is **limiting the comprehensive application of such composite indicator**.
- This **indicator is partially replicable** since there is no information on energy efficiency of properties in Cyprus and **proxies might not give the complete picture**.
- 90% of building stock was built prior to the introduction of minimum energy performance requirements and as such their energy performance is deemed to be poor. The feasibility to **create accurate and representative proxies could be examined** to determine whether such indicator can be replicated and implemented in the future.

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



OVERVIEW

Spain uses four official indicators from the Energy Poverty Advisory Hub namely: (1) Disproportionate expenditure (2M); (2) Hidden energy poverty (HEP); (3) Inability to keep the home at an adequate temperature; (4) Delay in payment of bills. The four indicators are complemented with information from Spain National Family Budget and Living Conditions Survey and crossed with population characterization variables. Indicators 1 and 2 are obtained from the Family Budget Survey and 3 and 4 from the Living Conditions Survey.

Indicator details

- **High share of energy expenditure (2M)** - % of households whose energy expenditure in relation to their income is more than double the national median. This indicator belongs to the EPF and measures the percentage of the population for which real expenditure on domestic energy (as a percentage of total household income) is at least twice above the national median. The disproportionate expenditure indicator (2M) is complemented by an adapted indicator that studies household energy expenditure compared to double the median average of the last 5 years. With this, as with the previous indicator, a more structural and trend approach to national energy expenditure in the medium term is obtained
- **Hidden Energy Poverty, HEP (M/2)** - % of households whose absolute energy expenditure is less than half of the national median. This indicator also belongs to the EPF and is calculated on the median expenditure. A household will have reduced energy expenditure when it is below 50% of the state median. The indicator is complemented by another adapted indicator, in which household energy expenditure will be compared not with the national median for the year being studied, but with the average of the median expenditures in the last 5 years. This analyzes national energy expenditure is analyzed over a long period of time and structural trends can be observed. The diagnosis, therefore, is not distorted by circumstances that only have to do with the specific year (for example, economic, social or climatic circumstances in said year), but rather an evolution of energy expenditure is obtained.

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



Indicator details (cont.)

- **Inability to keep the home at an adequate temperature:** percentage of the population that cannot keep its home at an adequate temperature. This indicator belongs to the ECV and is based on two questions: ability to keep house at an adequate temperature during the cold months and ability to keep house at an adequate temperature during the warm months.
- **Delay in payment of bills:** percentage of the population that is late in paying bills for housing supplies. This indicator belongs to the ECV and is based on the question: "In the last twelve months, has the household had delays in paying bills for water, gas, heating, electricity, community, etc., for the main residence due to economic difficulties?". The indicator does not take into account other bills such as those associated with rent or mortgage. The indicator however does take into account other supplies such as water.

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



Comments and Replicability

- The selection of these indicators has **several advantages**. They are part of consolidated surveys for which there is an approved methodology nationally and across the EU; they enable comparison between MS; they have history therefore allow traceability; they combine different approaches thus allowing to capture households which will reduce their spending (captured through the 2/M indicator) as well as households that will increase their spending (captured through the 2M indicator)
- On the contrary, these indicators present different metrics of energy poverty which **may overestimate** numbers depending on the analyzed indicator. One indicator is **subjective on individual's perception** (adequate temperature in household).
- Data on these indicators is already captured in existing surveys and reported by each MS which makes it **easy to replicate and apply**.
- Household numbers for each indicator can be presented, as well as household numbers that meet more than one indicators.
- Indicators **consider income and energy expenditure** directly and **property energy efficiency** indirectly.

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



OVERVIEW

France has three indicators but currently only uses two indicators: (1) Energy Effort Rate (EER)* - a ratio between energy expenses and income of the household; (2) Cold indicator which relies on household occupant testimonials; (3) Low Income High Expenses, LIHE, a household indicator of low income and high energy expenditures (not currently in use)

Indicator details

- **EER** greater than 8% is applied to households in the first three deciles of disposable income per consumption unit and corresponds to the share of total energy expenditure in the home over the household's disposable income. The threshold beyond which a household is deemed to be energy poor is 8% (nearly twice the median). Analysis is limited to households in the first three deciles of disposable income per consumption unit (this criterion allows income to be weighted according to the size and composition of the household) as the remaining deciles are deemed to have an adequate income regardless their expenses.
- **Cold indicator** which relies on survey testimonials regarding the level of thermal comfort and budget constraints. The declaration of cold during the winter is applied to the first three deciles of disposable income per consumption unit. This indicator targets households having expressed a feeling of cold for reasons relating to energy poverty: poor insulation of the home, failure of heating equipment, lasting breakdown, restriction due to the cost of energy and supplier cut-off of energy. This is the only indicator based on the approach based on household perceptions. By selecting only households belonging to the first three deciles of income per consumption unit, it is possible to exclude households with comfortable resources. The "consumption unit" criterion allows income to be weighted according to the size and composition of the household.

**The ratio indicator between expenses and income is used by different countries such as Scotland, Wales and Ireland and by England up until 2021 when LILEE was introduced.*

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



Indicator details (cont.)

- **Low Income High Expenses (LIHE)** an indicator that capture low income and high energy expenditures (equivalized). The indicator includes two conditions, one on household energy expenditure, the other on the income remaining after deducting housing expenditure (excluding energy expenditure). The energy expenditure and the threshold are related to the surface area of the housing. The remaining income is divided by the number of consumption units, to take into account the composition of the household. These indicators therefore makes it possible to target households which must assume an energy expenditure higher than the majority of households while their remaining disposable income after allocation of the net costs linked to their housing (bank reimbursement, rent, co-ownership charges, energy expenditure, etc.) is less than 60% of the median remaining life.

Comments and Replicability

- EER and LIHE indicators take into account income and energy expenses, albeit they estimate the number differently. Different percentages can show energy poverty severance (e.g. Greater 20% indicates severe energy poverty and between 8-10% indicates risk of energy poverty).
- EER considers purely the income and expenses and LIHE considers and compares the income of other households. EER also considers fuel price and focuses only the first three deciles, and while it excludes high income households, it may hide households which under-consume due to financial issues (something that also applies to LIHE).
- Data on the cold indicator is **subjective on individual's perception** (adequate temperature in household).
- Data on some of these indicators is already captured in existing surveys and reported by each MS which could make it **easy to replicate and apply**.
- Household numbers can be presented for each indicator as well as for more than one indicators.

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



OVERVIEW

Netherlands has four indicators: (1) HEQ - High Energy Equote; (2) LIHE - Low-income combined with high energy bills; (3) LILEK - Low-income combined with low energy quality dwellings; (4) LEKWI - Low-income with low energy quality housing and little investment space to improve dwelling.

Indicator details

- **HEQ** - The energy equate is the part of the income spent on energy costs. Energy equals are considered high if a household pays more than 10% of the income on energy costs
- **LIHE** - Low income is seen here as an income of up to 130 % of the low-income threshold, excluding households with financial wealth among the highest 10 % in the Netherlands
- **LILEK** - Households covered by this indicator may experience problems in living comfort, for example due to dirty spaces or because the dwelling is difficult to heat. In addition, this group is vulnerable to increases in energy cost prices. This indicator is complemented by distinguishing between households with very poor energy quality (LEK), where it is very difficult to make the home comfortable.
- **LEKWI** - A low-income household as defined by LIHE or a household whose total financial capacity and excess value of the dwelling is less than EUR 40,000 and is therefore considered to be a household with little investment space. Specifically, LEKWI shows how many households are financially unable to get their homes due to the energy transition.

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



Comments and Replicability

- Netherlands uses LIHE and LILEK as the main indicator for demonstrating energy poverty in their NECP as it accounts both for low-income households as well as households with low energy quality.
- HEQ indicator could be seen as underestimating energy poverty as it excludes people who under-consume energy due to financial problems and on the other hand it might overestimate energy poverty by including households with high energy consumption. The latter issue can be corrected by excluding households of certain income.
- LIHE can be deemed as more accurate because it only considers households with low-income and high expenditure, however it could also fail to recognise households who under-consume due to financial problems.
- LILEK theoretically accounts for households missed by the previous two indicators by accounting for people who have low-income and live in buildings with low energy quality. In the absence of data on building energy performance, this indicator could however be ambiguous.
- LEKWI provides insights into unequal opportunities to participate in the energy transition and singles out households with limited financial capacity to improve the energy performance of their dwellings. Similarly, in the absence of data on building energy performance, this indicator could however be ambiguous.
- These indicators present different metrics of energy poverty and some **may overestimate or misestimate** numbers. The last two indicators are ambiguous as they are based on proxies and not actual building energy performance data.
- Data on some of these indicators is already captured in existing surveys and reported by each MS which could make it **easy to replicate and apply**.
- Household numbers for each indicator can be presented, as well as household numbers that meet more than one indicators.

Energy Poverty indicators analysis from best practices

Indicator analysis from best practice examples to explore their advantages/disadvantages and their replicability in Cyprus



OVERVIEW

Greece defines energy poverty as the households that meet the following criteria: (1) Ratio between Actual Recorded Energy Needs and Theoretical Energy Consumption Requirements; (2) Ratio between Actual Energy Cost and Annual Household Income

Indicator details






- Both indicators are at a household level.
- Households that have a ratio between Actual Recorded Energy Needs and Theoretical Energy Consumption requirements of less than 80%.
- Households have a ratio between Actual Energy Costs and Annual Household Income greater than 10%

Comments and Replicability

- The indicators consider income, energy expenditure and property's energy performance behaviour, and as such it **can be deemed complete**. This indicator is **only used in Greece**, making the indicator hard to compare with other MS.
- The first indicator considers primary data for actual energy consumption per household as well as modelled theoretical useful energy requirements based on Government typical building component thermal coefficient factors, mean monthly temperatures etc. as well as assumptions related to energy efficiency of appliances, fuel type, fuel costs, heating degree-days etc.
- The second indicator considers primary data on household energy expenditure and income. As such, the two indicators combined meet all three EU Commission criteria (income, energy efficiency, energy related expenses).
- While energy use and income data may be available, a detailed methodology will need to be developed to model theoretical energy consumption for typical properties.

Energy Poverty indicators analysis from best practices

Key takeaways from best practice examples and evaluation of their replicability and applicability to Cyprus

Country	EU Commission Criteria			Comments	CY Replicability & Applicability	Recommendation
	Income	High Exp. over income	EE			
 England	✓	✓	✓	Strong & complete. Hard to find data in CY. Not comparable.	Hard	Consider in the future
 Spain	✓	✓	•	Comprehensive & comparable. Available data in CY	Easy	
 France	✓	✓	•	Comprehensive & comparable. Available data in CY	Easy-Moderate	
 Netherlands	✓	✓	•	Relatively strong & relatively comparable. Limited data in CY.	Moderate-Hard	
 Greece	✓	✓	✓	Strong & complete. Modelling is required. Not comparable	Moderate	Consider in the future

The above table summarizes the best practices and provides an analysis on their replicability and applicability in Cyprus. Following discussions with MECl, a composite indicator was put together based on best practices and EC Recommendations, as well as available data. This is presented in subsequent pages.

Energy Poverty indicators analysis from best practices

Greek approach - to be considered in the future

- ▶ The following four indicators were identified as the most relevant ones based on the analysis of best practices and EC Recommendation SWD. All four indicators are derived from the HBS survey.
- ▶ Indicator 1 is based on EC Recommendation SWD and is also found in some EU MS. Indicator 2 is an indicator common across many EU MS, although the threshold used varies between MS.
- ▶ Indicator 3a and 3b are based on the methodology followed in Greece. Indicator 3a considers the energy efficiency of buildings. Applying Indicator 3a in Cyprus may be beneficial, however lack of readily available data prevented its immediate implementation.
- ▶ A simpler approach was therefore taken where the theoretical/typical energy consumption of buildings in Cyprus is assumed based on the year of construction. This methodology is presented in the following pages.
- ▶ Subsequent pages present how this indicator could be adapted for implementation in Cyprus in the future.

Data Source



1. Household's income after energy expenses are deducted falls below the general poverty line and the share of its income spent on energy is above the national median [EC Recommendation SWD]

HBS (5 years)



2. Maximum percentage ratio of energy expenses over income for selected deciles (e.g. 10% of first three deciles) [common amongst different MS]

HBS(5 years)



3a. The ratio of the actual recorded energy consumption over the theoretical energy consumption requirements for certain uses must be less than 80% [Greece Indicator 1]

HBS (5 years)



3b. The equivalized net income of each household on an annual basis must be lower than 60% of the median of the corresponding income for all households according to the definition of relative poverty [Greece Indicator 2]

HBS (5 years)

Energy Poverty Indicators for Cyprus

Composite indicators which capture income, energy expense and energy efficiency - Analysis

Best practice analysis showed that the HBS survey captures data that is relevant to Energy Poverty and as such it is the most appropriate one to use for the estimation of Energy Poverty. However, the latest HBS survey for Cyprus took place in 2015 and following discussions with MECI and CyStat it was deemed outdated. It was therefore agreed that the SILC survey would be used instead to estimate the number of Energy Poor Households in Cyprus. Given the importance of data the HBS collects (data is used by other Government departments such as the Ministry of Finance, Ministry of Interior and Social Insurance, the Economics Research Centre of the University of Cyprus etc.), it is **recommended that the HBS runs more regularly**, for example every year or every two years. Doing so, will help the better monitoring and report on Energy Poverty in Cyprus.

SILC Surveys

The available SILC survey questionnaires (2020, 2022 and 2023) were analysed to identify which questionnaire captures relevant indicators. Although the 2023 questionnaire had some ad-hoc and very relevant indicators, the results would not be available on time for the purposes of this project. As such, the 2020 dataset was deemed as the most complete of those readily available as it captured certain fields that were absent from the 2021 and 2022 surveys. The 2022 dataset was also analysed and compared with the 2020 results for completeness. Both results are presented in the following pages. A recommendation as to which fields of the 2023 survey would be useful for analysis is also presented so that they can be analysed as soon as they become available (see **Annex 1 - SILC Energy Poverty data requirements: Tab 1a Column D**). It is worth mentioning that each SILC survey may include a set of optional questions which are not necessarily repeated every year. The 2023 had some very relevant questions which were identified and it is **recommended that they are included in future SILC survey runs** (see **Annex 1 - SILC Energy Poverty data requirements: Tab 1a**). This was communicated both with MECI and CyStat.

Additionally, it is recommended that a similar analysis is performed once the HBS results are available in order to be compared with the SILC survey results.

Note: Due to the way the two surveys are executed (HBS collects data by monitoring different households over a period of time as opposed to SILC data which asks household occupants a series of questions, answers could be less accurate, especially around expenses), SILC data may therefore be of lower quality compared to that of HBS and as such results could be of less certainty. In the absence of HBS data however, SILC data acts as a proxy for the period in between the HBS surveys.

Energy Poverty Indicators for Cyprus

Composite indicators which capture income, energy expense and energy efficiency - Analysis

A set of indicators were analysed and presented to MECI (shown in the following pages):

1. Income compared to At Risk Of Poverty (AROP) threshold, as this is defined each year by CyStat
 - a. Households (HH) equivalized income is below AROP threshold (€10,022 in 2020 according to CyStat - [available here](#))
 - b. HH equivalized income net of Housing cost is below AROP threshold
 - c. HH equivalized income net of Energy Expenses is below AROP threshold (the energy expenses considered for this purpose were electricity, heating fuel, gas and firewood)
2. Share of income spent on Energy Expenses (Energy Expense/Income)
 - a. Energy Expense / Income > National Median (~4%)
 - b. Energy Expense / Income > a set threshold (7% based on what other EU MS use)

The above indicators were analysed for HHs with and without Low Energy Efficiency where Low Energy Efficient households were flagged in the dataset based on the following:

- In the 2020 dataset, Low Energy Efficient HHs were identified using their date of construction, i.e. all HHs constructed before 2000, and any HHs constructed between 2001-2010 AND had a housing contract before or on 2007 (year of construction was captured in decades i.e. 1990-2000, 2000-20010 etc. and minimum energy performance requirements were introduced in Cyprus in 2007)
- In 2022 dataset, only rented properties had construction dates available, thus the ownership date was used which reduced the accuracy of this particular indicator.

The methodology and calculations can be found in [Annex 2a - ENERGYPOV 2020](#) and [Annex 2b - ENERGPPOV 2022](#)

Energy Poverty Indicators for Cyprus

Composite indicators which capture income, energy expense and energy efficiency - Analysis

					Yes and low energy efficiency
		Yes	No	Total	
1a	HH equivalized income below poverty line?	54,137 16.2%	279,863 83.8%	334,000 100%	45,994 13.8%
1b	HH equivalized income net of Housing Cost below poverty line?	58,653 17.6%	275,347 82.4%	334,000 100%	49,271 14.8%
1c	HH equivalized income net of Energy Expenses below poverty line?	66,864 20.0%	267,136 80.0%	334,000 100%	56,728 17.0%
1c	HH equivalized income net of Energy Expenses below poverty line? <i>In first 3 income deciles</i>	66,864 20.0%	267,136 80.0%	334,000 100%	56,728 17.0%
2a	Energy Expense / Income > National Median - 4%	156,196 47%	177,804 53.2%	334,000 100%	126,852 38.0%
2b	Energy Expense / Income > Set threshold%	42,011 13%	291,989 87.4%	334,000 100%	35,857 10.7%
2b	Energy Expense / Income > Set threshold% <i>In first 3 income deciles</i>	30,045 9%	303,955 91.0%	334,000 100%	26,235 7.9%

Notes:

- According to the above analysis, energy expense has a greater impact on these type of households than Housing Costs and that most households are of low energy efficiency.

Energy Poverty Indicators for Cyprus

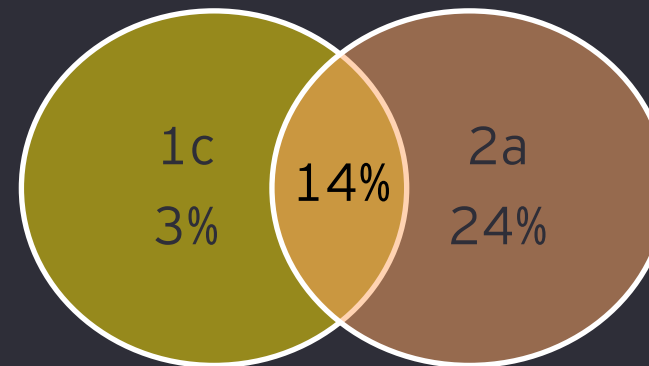
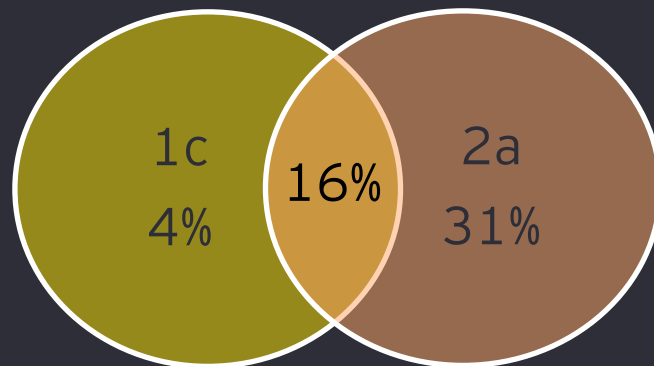
Composite indicators which capture income, energy expense and energy efficiency - Analysis

<i>All households</i>		Yes both	No both	Only 1c	Only 2a	Total
1c	HH equivalized income net of Energy Expenses below poverty line?	54,173	165,114	12,691	102,023	334,000
	AND					
2a	Energy expense / Income > National Median - 4%	16.2%	49.4%	3.8%	30.5%	100.0%
<i>Only low energy efficiency HHs</i>		Yes both	No both	Only 1c	Only 2a	Total
1c	HH equivalized income net of Energy Expenses below poverty line?	46,702	120,527	10,026	80,150	257,405
	AND					
2a	Energy expense / Income > National Median - 4%	14.0%	36.1%	3.0%	24.0%	77.1%

Notes:

- The above analysis shows that the number of households that meet both indicators 1c and 2a is 54,173 (16.2%), and the number of households that meet indicators 1c and 2a and are of Low Energy Efficiency (i.e. households prior to 2007) are 46,702 (14%)

All households



Low Energy Efficient households

Energy Poverty Indicators for Cyprus

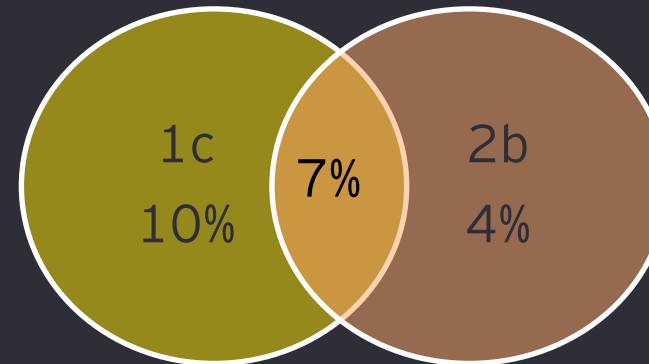
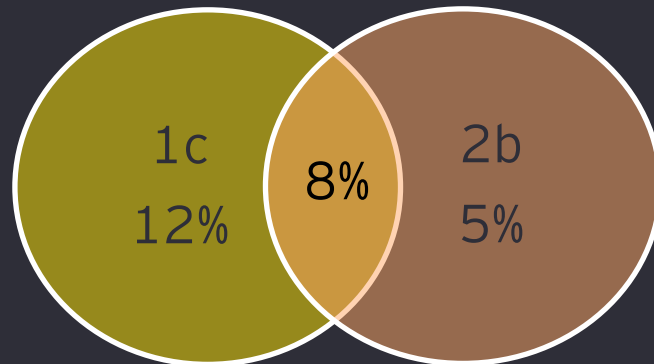
Composite indicators which capture income, energy expense and energy efficiency - Analysis

<i>All households</i>		Yes both	No both	Only 1c	Only 2b	Total
1c	HH equivalized income net of Energy Expenses below poverty line?	25,779	250,905	41,085	16,231	334,000
	AND					
2b	Energy expense / Income > Set threshold (7%)	7.7%	75.1%	12.3%	4.9%	100.0%
<i>Only low energy efficiency HHs</i>		Yes both	No both	Only 1c	Only 2b	Total
1c	HH equivalized income net of Energy Expenses below poverty line?	22,891	187,711	33,837	12,965	257,405
	AND					
2b	Energy expense / Income > Set threshold (7%)	6.9%	56.2%	10.1%	3.9%	77.1%

Notes:

- The above analysis shows that the number of households that meet both indicators 1c and 2b is 25,779 (7.7%), and the number of households that meet indicators 1c and 2b and are of Low Energy Efficiency (i.e. households prior to 2007) are 22,891 (6.9%)

All households



Low Energy Efficient households

Energy Poverty Indicators for Cyprus

Composite indicators which capture income, energy expense and energy efficiency - Analysis

Remarks on analysis

- ▶ 16.2% of HHs fall under poverty. The number increases to 20% once energy expenses are taken into account.
- ▶ Indicator 1c is comprehensive and captures low-income people, as all HHs belong in the first three income deciles.
- ▶ Complementing 1c with 2a or 2b potentially excludes HHs that have reduced energy expenses because of the implementation of energy efficiency interventions OR due to Hidden Energy Poverty i.e. low income HHs which underspend on energy and therefore have low energy expense to Income ratio.
- ▶ Indicator 1c is expected to capture HEP if their income is low enough so that even a low expense will push the difference below the AROP threshold
 - ▶ However, in the case that such a person received subsidies and aid, their energy expense will probably remain the same, with increase in their comfort levels, and hence this indicator would potentially flag them up
- ▶ For indicator 2b, a threshold of 7% was used as it was deemed reasonable based on the normalisation of the dataset and other EU MS best practices. Alternatively, 5.5% can also be used which is the median expense to income of the 30% poorest HHs.
- ▶ To improve the accuracy of the estimation, information on renovations, PVs etc. will need to be incorporated in future surveys (some of this information is captured in the 2023 SILC (see [Annex 1 - SILC Energy Poverty data requirements: Tab 1a](#)).

Energy Poverty Indicators for Cyprus

Sensitivity Analysis

► Initial Estimation

		Yes	No	Total	Yes and low en efficiency
1a	HH equivalised income below poverty line?	54,137 16.2%	279,863 83.8%	334,000	45,994 13.8%
1b	HH equivalised income net of Housing Cost below poverty line?	58,653 17.6%	275,347 82.4%	334,000	49,271 14.8%
1c	HH equivalised income net of Energy Expenses below poverty line?	66,864 20.0%	267,136 80.0%	334,000	56,728 17.0%
1c	HH equivalised income net of Energy Expenses below poverty line? <i>In first 3 income deciles</i>	66,864 20.0%	267,136 80.0%	334,000	56,728 17.0%
2a	En.exp/ Income > National Median - 4%	156,196 47%	177,804 53.2%	334,000	126,852 38.0%
2b	En.exp/ Income > Set threshold%	42,011 13%	291,989 87.4%	334,000	35,857 10.7%
2b	En.exp/ Income > Set threshold% <i>In first 3 income deciles</i>	30,045 9%	303,955 91.0%	334,000	26,235 7.9%

► Sensitivity - increase 5% in AROP

		Yes	No	Total	Yes and low en efficiency
1a	HH equivalised income below poverty line?	64,115 19.2%	269,885 80.8%	334,000	54,431 16.3%
1b	HH equivalised income net of Housing Cost below poverty line?	68,742 20.6%	265,258 79.4%	334,000	57,962 17.4%
1c	HH equivalised income net of Energy Expenses below poverty line?	77,016 23.1%	256,984 76.9%	334,000	65,174 19.5%
1c	HH equivalised income net of Energy Expenses below poverty line? <i>In first 3 income deciles</i>	76,961 23.0%	256,984 77.0%	333,945	65,119 19.5%
2a	En.exp/ Income > National Median - 4%	156,196 47%	177,804 53.2%	334,000	126,852 38.0%
2b	En.exp/ Income > Set threshold%	42,011 13%	291,989 87.4%	334,000	35,857 10.7%
2b	En.exp/ Income > Set threshold% <i>In first 3 income deciles</i>	30,045 9%	303,955 91.0%	334,000	26,235 7.9%

Energy Poverty Indicators for Cyprus

Sensitivity Analysis

► Initial Estimation

		Yes	No	Total	Yes and low en efficiency
1a	HH equivalised income below poverty line?	54,137 16.2%	279,863 83.8%	334,000	45,994 13.8%
1b	HH equivalised income net of Housing Cost below poverty line?	58,653 17.6%	275,347 82.4%	334,000	49,271 14.8%
1c	HH equivalised income net of Energy Expenses below poverty line?	66,864 20.0%	267,136 80.0%	334,000	56,728 17.0%
1c	HH equivalised income net of Energy Expenses below poverty line? <i>In first 3 income deciles</i>	66,864 20.0%	267,136 80.0%	334,000	56,728 17.0%
2a	En.exp/ Income > National Median - 4%	156,196 47%	177,804 53.2%	334,000	126,852 38.0%
2b	En.exp/ Income > Set threshold%	42,011 13%	291,989 87.4%	334,000	35,857 10.7%
2b	En.exp/ Income > Set threshold% <i>In first 3 income deciles</i>	30,045 9%	303,955 91.0%	334,000	26,235 7.9%

► Sensitivity - increase 10% in AROP

		Yes	No	Total	Yes and low en efficiency
1a	HH equivalised income below poverty line?	75,471 22.6%	258,529 77.4%	334,000	63,556 19.0%
1b	HH equivalised income net of Housing Cost below poverty line?	78,649 23.5%	255,351 76.5%	334,000	66,096 19.8%
1c	HH equivalised income net of Energy Expenses below poverty line?	86,094 25.8%	247,906 74.2%	334,000	72,934 21.8%
1c	HH equivalised income net of Energy Expenses below poverty line? <i>In first 3 income deciles</i>	85,727 25.7%	247,906 74.3%	333,633	72,567 21.8%
2a	En.exp/ Income > National Median - 4%	156,196 47%	177,804 53.2%	334,000	126,852 38.0%
2b	En.exp/ Income > Set threshold%	42,011 13%	291,989 87.4%	334,000	35,857 10.7%
2b	En.exp/ Income > Set threshold% <i>In first 3 income deciles</i>	30,045 9%	303,955 91.0%	334,000	26,235 7.9%

Energy Poverty Indicators for Cyprus

Sensitivity Analysis

► Initial Estimation

		Yes	No	Total	Yes and low en efficiency
1a	HH equivalised income below poverty line?	54,137 16.2%	279,863 83.8%	334,000	45,994 13.8%
1b	HH equivalised income net of Housing Cost below poverty line?	58,653 17.6%	275,347 82.4%	334,000	49,271 14.8%
1c	HH equivalised income net of Energy Expenses below poverty line?	66,864 20.0%	267,136 80.0%	334,000	56,728 17.0%
1c	HH equivalised income net of Energy Expenses below poverty line? <i>In first 3 income deciles</i>	66,864 20.0%	267,136 80.0%	334,000	56,728 17.0%
2a	En.exp/ Income > National Median - 4%	156,196 47%	177,804 53.2%	334,000	126,852 38.0%
2b	En.exp/ Income > Set threshold%	42,011 13%	291,989 87.4%	334,000	35,857 10.7%
2b	En.exp/ Income > Set threshold% <i>In first 3 income deciles</i>	30,045 9%	303,955 91.0%	334,000	26,235 7.9%

► Sensitivity - increase 5% in Energy Expense

		Yes	No	Total	Yes and low en efficiency
1a	HH equivalised income below poverty line?	54,137 16.2%	279,863 83.8%	334,000	45,994 13.8%
1b	HH equivalised income net of Housing Cost below poverty line?	58,653 17.6%	275,347 82.4%	334,000	49,271 14.8%
1c	HH equivalised income net of Energy Expenses below poverty line?	67,741 20.3%	266,259 79.7%	334,000	57,558 17.2%
1c	HH equivalised income net of Energy Expenses below poverty line? <i>In first 3 income deciles</i>	67,741 20.3%	266,259 79.7%	334,000	57,558 17.2%
2a	En.exp/ Income > National Median - 4%	168,665 50%	165,335 49.5%	334,000	136,209 40.8%
2b	En.exp/ Income > Set threshold%	48,898 15%	285,102 85.4%	334,000	42,072 12.6%
2b	En.exp/ Income > Set threshold% <i>In first 3 income deciles</i>	33,314 10%	300,686 90.0%	334,000	29,243 8.8%

Energy Poverty Indicators for Cyprus

Sensitivity Analysis

► Initial Estimation

		Yes	No	Total	Yes and low en efficiency
1a	HH equivalised income below poverty line?	54,137 16.2%	279,863 83.8%	334,000	45,994 13.8%
1b	HH equivalised income net of Housing Cost below poverty line?	58,653 17.6%	275,347 82.4%	334,000	49,271 14.8%
1c	HH equivalised income net of Energy Expenses below poverty line?	66,864 20.0%	267,136 80.0%	334,000	56,728 17.0%
1c	HH equivalised income net of Energy Expenses below poverty line? <i>In first 3 income deciles</i>	66,864 20.0%	267,136 80.0%	334,000	56,728 17.0%
2a	En.exp/ Income > National Median - 4%	156,196 47%	177,804 53.2%	334,000	126,852 38.0%
2b	En.exp/ Income > Set threshold%	42,011 13%	291,989 87.4%	334,000	35,857 10.7%
2b	En.exp/ Income > Set threshold% <i>In first 3 income deciles</i>	30,045 9%	303,955 91.0%	334,000	26,235 7.9%

► Sensitivity - increase 10% in Energy Expense

		Yes	No	Total	Yes and low en efficiency
1a	HH equivalised income below poverty line?	54,137 16.2%	279,863 83.8%	334,000	45,994 13.8%
1b	HH equivalised income net of Housing Cost below poverty line?	58,653 17.6%	275,347 82.4%	334,000	49,271 14.8%
1c	HH equivalised income net of Energy Expenses below poverty line?	68,228 20.4%	265,772 79.6%	334,000	57,879 17.3%
1c	HH equivalised income net of Energy Expenses below poverty line? <i>In first 3 income deciles</i>	68,228 20.4%	265,772 79.6%	334,000	57,879 17.3%
2a	En.exp/ Income > National Median - 4%	179,693 54%	154,307 46.2%	334,000	143,843 43.1%
2b	En.exp/ Income > Set threshold%	54,369 16%	279,631 83.7%	334,000	46,250 13.8%
2b	En.exp/ Income > Set threshold% <i>In first 3 income deciles</i>	35,877 11%	298,123 89.3%	334,000	31,072 9.3%

Energy Poverty Indicators for Cyprus

2022 SILC Survey Analysis for Comparison

					Yes and low en efficiency
		Yes	No	Total	
1a	HH equivalised income below poverty line?	53,619 15%	292,381 85%	346,000	27,765 8%
1b	HH equivalised income net of Housing Cost below poverty line?	58,350 17%	287,650 83%	346,000	30,884 9%
1c	HH equivalised income net of Energy Expenses below poverty line?	77,075 22%	268,925 78%	346,000	40,636 12%
1c	HH equivalised income net of Energy Expenses below poverty line? AND in first 3 income deciles	76,942 22%	18,570	346,000	40,588 12%
2	En.exp/ Income > Set threshold% (Y/N)	45,674 13%	300,326 87%	346,000	25,108 7%

Notes:

- The percentages that fulfil each threshold are very similar to 2020 data
- Low energy efficiency HHs seem significantly less than those for 2020, however this is due to lack of data for owned HHs in 2022 dataset.

Energy Poverty Indicators for Cyprus

Composite indicators which capture income, energy expense and energy efficiency - Recommendation

Energy Poor Households

Based on the above analysis and following discussion with MECl, it was concluded that **Energy Poor Households in Cyprus are those that meet the following requirements:**

- Indicator 1c: Household (HH) equivalized income net of energy expenses is below the At Risk Of Poverty (AROP) threshold, as this is defined each year by CyStat; **AND**
- Indicator 2a: HH Energy Expense / Income is greater than the national median (~4%); **AND**
- Low Energy Efficiency: HH have a low energy performance (it is assumed that the majority of households in Cyprus that received a building permit to 2007 which is when minimum energy performance requirements were introduced are of low energy efficiency).

As presented in previous pages, **households that meet all three indicators are estimated to be 46,702 (14%)**. However, an additional 3% of households met indicator 1c but not 2a, meaning that although their income net of their energy expenses was less than the AROP threshold, their expense was less than the national median (~4%) and therefore they were not captured in this composite indicator.

This 3% of households however could potentially include households with energy efficiency measures already implemented (not captured in the SILC survey) or households that cannot afford to spend that much money on energy expenses, which may be an indicator of Hidden Energy Poverty (HEP).

To ensure that some of these households are captured in Energy Poverty, this additional 3% of households was further analyzed. The ability of these households to keep adequately warm was used as a proxy (using the relevant survey question response) to investigate the number of Low Energy Efficiency households that met Indicator 1c but not 2a. The analysis showed that that approximately 1/3 of these households were unable to keep house adequately warm (1.1%). The analysis was sense checked by comparing it to the average of the following four indicators (as per EU Directive 2023/1791): (i) Total Population living in a dwelling with a leaking roof, damp walls, floor or foundation, or rot in window frames or floor (ii) Inability to keep home adequately warm (iii) Arrears on utility bills (iv) At risk of poverty rate (cut-off point 60% of median equivalized income. This analysis produced a similar number (1.3%).

As such, **a further 1.1% of households was deemed appropriate to be added to the 14% of energy poor, raising the total to 15.1%.**

The above analysis is presented in the following page.

Energy Poverty Indicators for Cyprus

Hidden Energy Poverty and sense checking

To ensure that the 3% of households that met indicator 1c but not 2a were not completely disregarded, the following analysis was undertaken to potentially estimate households that could experience Hidden Energy Poverty.

In this exercise, the households captured by indicator 1c (i.e. have income net of energy expenses less than the AROP threshold) but are not captured by 2a (i.e. they do not have a ratio of energy expense to income more than the national median) were isolated and analyzed further. These HHs are expected to have low income, as they are captured by 1c which uses the AROP threshold as a baseline, but they also have low energy expenses since their energy expenses to income ratio is not high enough to be captured by 2a. This could be because they have already taken actions to mitigate the impact of energy expense (e.g. implementing energy efficiency measures and therefore their expense is low - something that the 2020 SILC survey did not capture) or they selectively underspend on energy due to cost.

This group of households was analyzed by flagging the number of houses that responded in the survey that they do not have the ability to keep their home adequately warm (1.1%).

This result was sense checked by taking the average of the following four indicators as per EU Directive 2023/1791:

(i) Total population living in a dwelling with a leaking roof, damp walls, floor or foundation, or rot in window frames or floor; (ii) Inability to keep home adequately warm; (iii) Arrears on utility bills; (iv) At risk of poverty rate (cut-off point 60% of median equivalized income).

The analysis can be found in [Annex 2a - ENERGPOV 2020: Tabs HEB exercise and HEB Sense Check](#)

Ability to keep home adequately warm		
	No HHs	% on total HHs (from total)
Yes	6,438	1.9%
No	3,588	1.1%
Dwelling with leaking roof, damp walls, floor or foundation, or rot in window frames or floor		
	No HHs	% on total HHs (from total)
Yes	4,592	1.37%
No	5,433	1.63%
Arrears on utility bills		
	No HHs	% on total HHs (from total)
Yes - once	220	0.28%
Yes - twice	711	
No	7,171	2.15%
(blank)	1,923	0.58%
At risk of poverty rate (cut-off 60% of median equivalized income)		
	No HHs	% on total HHs (from total)
Yes	8,634	2.59%
No	1,392	0.42%

Average (1.1%, 1.37%, 0.28%, 2.59%) = 1.3%

Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

The following Tables and Charts present the analysis of Energy Poor (number of households and number of people) as this was extrapolated based on the analysis of the SILC Survey Data. Based on this, it is estimated that there is a total number of 50,290 Energy Poor Households and 116,324 Energy Poor people.

The tables and complete analysis can be found in [Annex 3 - Analysis of EP HHs and people](#).

Number of Elderly Energy Poor Households and People (>65 years)

Category	Number of EP HH	% of total number of EP HH
EP HHs that have at least one person >65 years	24,220	48%
Total EP HHs	50,290	
EP HHs that are occupied only by elderly people (>65 years)	16,411	33%
Total EP HHs	50,290	

Category	Number of EP People	% of total number of EP people
EP people >65years	34,245	29%
Total EP people	116,324	

Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Family size of Energy Poor Households

Number of people in each EP HH	Number of EP HHs with that number of people	% of EP HH with that number of people
1	12,469	24.8%
2	24,006	47.7%
3	4,954	9.9%
4	4,802	9.5%
5	2,963	5.9%
6	820	1.6%
7	164	0.3%
8	110	0.2%
10	-	0.0%
12	-	0.0%
	50,290	

Number of Children in of Energy Poor Households

Number of children in each EP HH	Number of EP HHs with that number of children	% of EP HHs with that number of children
0	40,839	81%
1	4,774	9%
2	2,387	5%
3	1,929	4%
4	331	1%
5	-	0%
6	29	0%
	50,290	

Note: Children <14 years

Number of Female Energy Poor

Category	Number of Female EP	% of Female that are EP
Number EP people that are female	65,372	56%
Total EP people	116,324	

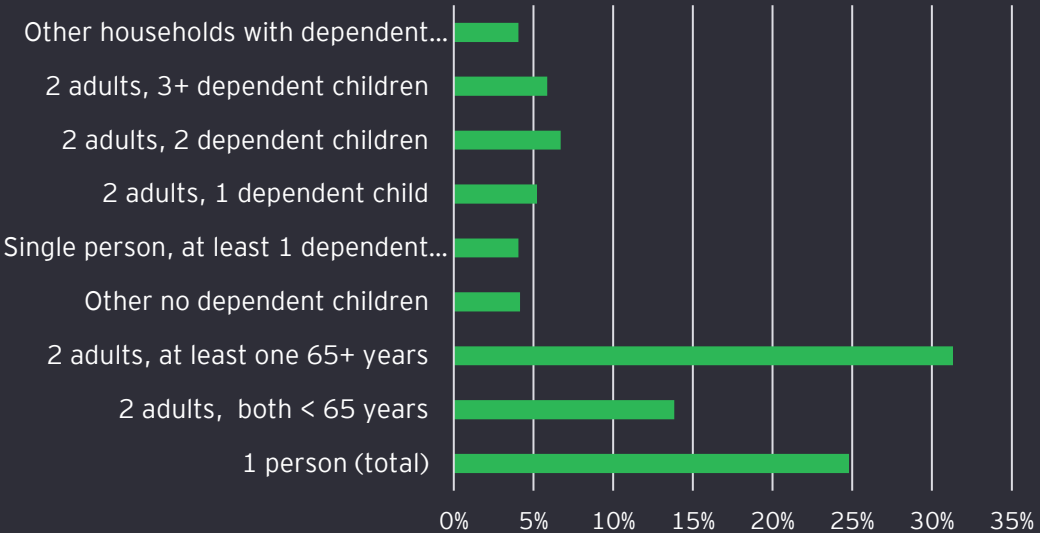
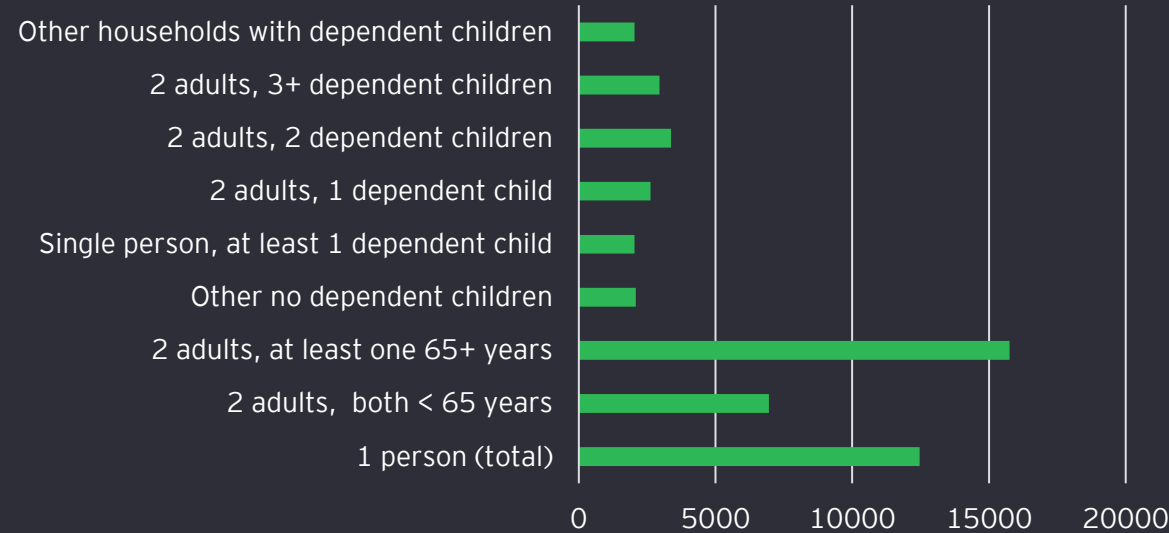
Category	Number of Female Adults EP	% of Female Adults that are EP
Number of EP adults (>=14 years) that are female	56,890	57%
Total EP people >=14 years	99,490	

Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Energy Poor Household Composition

Household type	EP HHs of this type	% of total
1 person (total)	12,469	25%
2 adults, both < 65 years	6,955	14%
2 adults, at least one 65+ years	15,754	31%
Other no dependent children	2,091	4%
Single person, at least 1 dependent child	2,037	4%
2 adults, 1 dependent child	2,626	5%
2 adults, 2 dependent children	3,371	7%
2 adults, 3+ dependent children	2,952	6%
Other households with dependent children	2,036	4%
Total:	50,290	



Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Energy Poor Households by Citizenship (survey collects citizenship only for people ≥ 16 years)

Category	Number of EP HHs	% of EP HH
Number of EP HHs that everybody (≥ 16) is CY	33,354	66%
Number of EP HHs that nobody (≥ 16) is CY	8,563	17%
Number of EP HHs of mixed ethnicities (both CY and other)	8,374	17%
	50,290	

Energy Poor People by Citizenship (survey collects citizenship only for people ≥ 16 years)

Citizenships (hid citizenships with 0 EP people)	Number of EP people	% of EP people	Country
CY	71,796	74%	Cyprus
BG	859	1%	Bulgaria
EL	3,757	4%	Greece
HU	50	0%	Hungary
IT	139	0%	Italy
LV	32	0%	Latvia
NAF	236	0%	North Africa
NME	4,114	4%	Near and Middle East
OAF	130	0%	Other Africa
OAS	7,844	8%	Other Asia
OEU	1,111	1%	Other European countries
PL	227	0%	Poland
RO	4,382	5%	Romania
RS	150	0%	Republic of Serbia
UK	1,320	1%	United Kingdom
WAF	456	0%	West Africa
Total EP people (≥ 16)	96,603		

Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Energy Poor Households with unemployed people

Number of people in a HH unemployed for >3 months	EP HHs with these many unemployed people	% of total
0	38,775	77%
1	9,546	19%
2	1,866	4%
3	104	0%
	50,290	

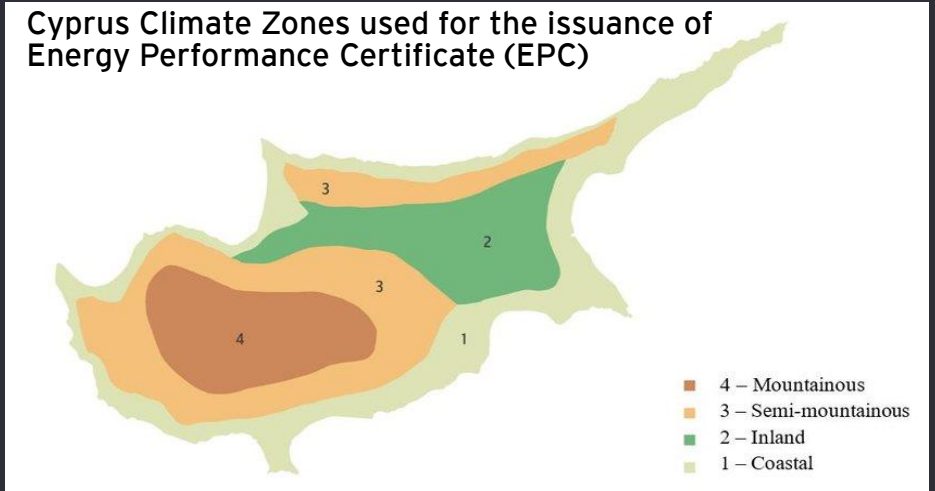
Number of people in a HH unemployed for >6 months	EP HHs with these many unemployed people	% of total
0	41,279	82%
1	7,377	15%
2	1,530	3%
3	104	0%
	50,290	

Energy Poor Households per Climate Zone

Climate zone	EP HHs in this zone	% of total
1 - Coastal	8,755	17%
2 - Inland	2,050	4%
3 - Semi-mountainous	11,097	22%
4 - Mountainous	28,389	56%
	50,290	

Energy Poor Households per Degree of Urbanization

Degree of urbanization	EP HHs in this zone	% of total
1 - Densely populated area	29,139	58%
2 - Intermediate area	8,588	17%
3 - Thinly populated area	12,564	25%
	50,290	



Note: Allocation per Climate Zone and Degree of Urbanization cannot be estimated with certainty

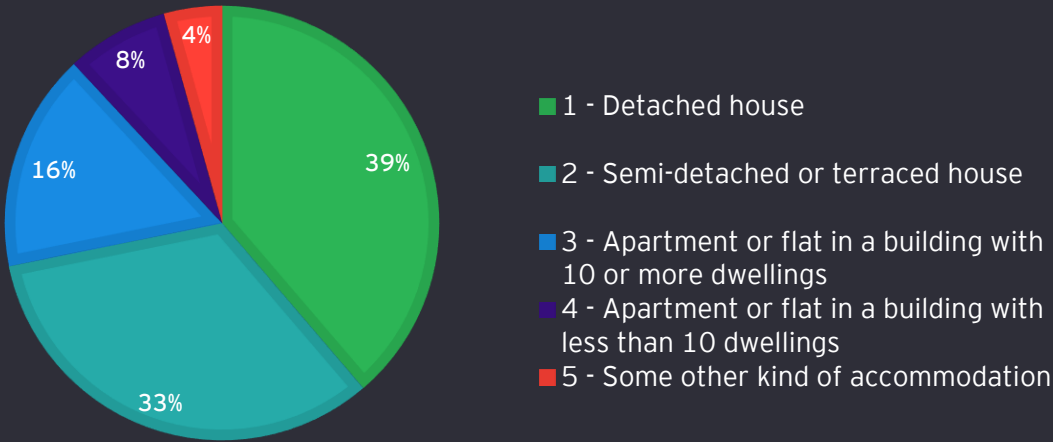
Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Energy Poor Households Dwelling Type

Dwelling type	EP HHs in this zone	%
1 - Detached house	19,479	39%
2 - Semi-detached or terraced house	16,641	33%
3 - Apartment or flat in a building with 10 or more dwellings	8,184	16%
4 - Apartment or flat in a building with less than 10 dwellings	3,818	8%
5 - Some other kind of accommodation	2,168	4%
	50,290	

ENERGY POOR HOUSEHOLDS DWELLING TYPE



Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Energy Poor Households Dwelling Type per Climate Zone (number of households)

Dwelling type	Climate zones				Total
	1 - Coastal	2 - Inland	3 - Semi-mountainous	4 - Mountainous	
1 - Detached house	5,169	1,439	2,746	10,125	19,479
2 - Semi-detached or terraced house	2,397	557	3,165	10,521	16,641
3 - Apartment or flat in a building with 10 or more dwellings	675	-	3,134	4,376	8,184
4 - Apartment or flat in a building with less than 10 dwellings	451	-	1,419	1,947	3,818
5 - Some other kind of accommodation	62	54	633	1,419	2,168
Total:	8,755	2,050	11,097	28,389	50,290

Energy Poor Households Dwelling Type per Climate Zone (percentage of households)

Dwelling type	Climate zones				Total
	1 - Coastal	2 - Inland	3 - Semi-mountainous	4 - Mountainous	
1 - Detached house	10%	3%	5%	20%	39%
2 - Semi-detached or terraced house	5%	1%	6%	21%	33%
3 - Apartment or flat in a building with 10 or more dwellings	1%	0%	6%	9%	16%
4 - Apartment or flat in a building with less than 10 dwellings	1%	0%	3%	4%	8%
5 - Some other kind of accommodation	0%	0%	1%	3%	4%
Total:	17%	4%	22%	56%	100%

Note: Allocation per Climate Zone and Degree of Urbanization cannot be estimated with certainty

Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Energy Poor Households Tenure Status

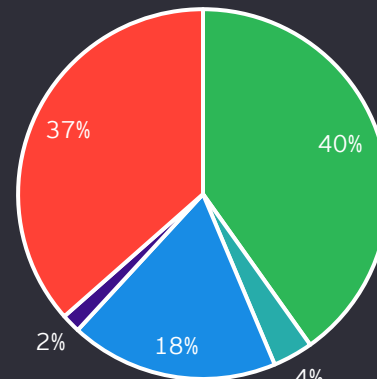
Tenure status	EP HHs in this zone	%
1 - Outright owner	20,194	40%
2 - Owner paying mortgage	1,763	4%
3 - Tenant or subtenant paying rent at prevailing or market rate	9,147	18%
4 - Accommodation is rented at a reduced rate	830	2%
5 - Accommodation is provided free	18,356	37%
	50,290	

Energy Poor Households Tenure Status

Note 1: Accommodation is provided rent free when the owner is not a member of the households but no rent is paid by anyone. Such cases are:

- The property is offered for free by the owner
- The title deed of the property was transferred to a child who does not live in the residence and the parents continue to live there
- The title deed of the property belongs to the parents, but their children live in it without the parents
- Refugee settlements where title deeds have not yet been issued

Note 2: Properties where the employer pays for rent or cost is covered by housing benefits are captured under rented properties.



- 1 - Outright owner
- 2 - Owner paying mortgage
- 3 - Tenant or subtenant paying rent at prevailing or market rate
- 4 - Accommodation is rented at a reduced rate
- 5 - Accommodation is provided free

Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Energy Poor Households Tenure Status and Dwelling Type (number of households)

Tenure status	Dwelling type					Total
	1 - Detached house	2 - Semi-detached or terraced house	3 - Apartment or flat in a building with 10 or more dwellings	4 - Apartment or flat in a building with less than 10 dwellings	5 - Some other kind of accommodation	
1 - Outright owner	9,784	6,961	1,941	1,417	92	20,194
2 - Owner paying mortgage	733	234	533	264	-	1,763
3 - Tenant or subtenant paying rent at prevailing or market rate	1,350	3,066	2,835	1,095	801	9,147
4 - Accommodation is rented at a reduced rate	37	409	349	35	-	830
5 - Accommodation is provided free	7,575	5,972	2,527	1,007	1,275	18,356
Total:	19,479	16,641	8,184	3,818	2,168	50,290

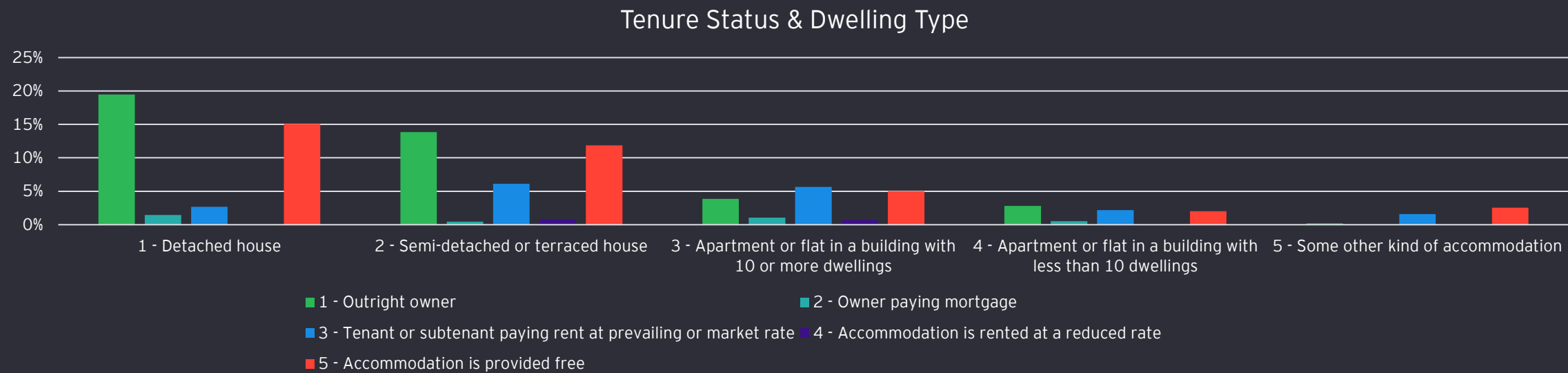
Energy Poor Households Tenure Status and Dwelling Type (percentage of households)

Tenure status	Dwelling type					Total
	1 - Detached house	2 - Semi-detached or terraced house	3 - Apartment or flat in a building with 10 or more dwellings	4 - Apartment or flat in a building with less than 10 dwellings	5 - Some other kind of accommodation	
1 - Outright owner	19%	14%	4%	3%	0%	40%
2 - Owner paying mortgage	1%	0%	1%	1%	0%	4%
3 - Tenant or subtenant paying rent at prevailing or market rate	3%	6%	6%	2%	2%	18%
4 - Accommodation is rented at a reduced rate	0%	1%	1%	0%	0%	2%
5 - Accommodation is provided free	15%	12%	5%	2%	3%	37%
Total:	39%	33%	16%	8%	4%	100%

Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Energy Poor Households Tenure Status and Dwelling Type (percentage of households)



Note 1: Accommodation is provided rent free when the owner is not a member of the households but no rent is paid by anyone. Such cases are:

- The property is offered for free by the owner
- The title deed of the property was transferred to a child who does not live in the residence and the parents continue to live there
- The title deed of the property belongs to the parents, but their children live in it without the parents
- Refugee settlements where title deeds have not yet been issued

Note 2: Properties where the employer pays for rent or cost is covered by housing benefits are captured under rented properties.

Energy Poverty Indicators for Cyprus

Analysis of Energy Poor Households

Energy Poor Households - Owned, Rented and Year of Construction

Owned	Number of EP HHs	% of total
1 - Before 1946	909	2%
2 - 1946-1960	4,172	10%
3 - 1961-1970	5,242	13%
4 - 1971-1980	11,002	27%
5 - 1981-1990	8,748	22%
6 - 1991-2000	5,308	13%
7 - 2001-2010	4,932	12%
	40,314	

Rented	Number of EP HHs	% of total
1 - Before 1946	98	1%
2 - 1946-1960	1,412	14%
3 - 1961-1970	1,490	15%
4 - 1971-1980	3,906	39%
5 - 1981-1990	2,122	21%
6 - 1991-2000	948	9%
7 - 2001-2010	-	0%
	9,976	

Totals	Number of EP HHs	% of total
1 - Before 1946	1,007	2%
2 - 1946-1960	5,585	11%
3 - 1961-1970	6,732	13%
4 - 1971-1980	14,909	30%
5 - 1981-1990	10,870	22%
6 - 1991-2000	6,256	12%
7 - 2001-2010	4,932	10%
	50,290	

Energy Poverty Indicators for Cyprus

Key demographic characteristics of Energy Poor - Summary

Key characteristics

- Almost half of the Energy poor Households (48%) have at least one person over 65 years old and one third of (33%) are occupied only by elderly people over 65 years old
- Almost one third of the Energy Poor population (29%) is over 65 years old
- 25% of the Energy Poor Households have just 1 person and 48% have 2 people
- 80% of Energy Poor Households have no children and 9% of Households have 1 child
- 75% of Energy Poor Households are households with Cypriots and 25% are households with Migrants (Greece, Romania, Bulgaria, Asian countries)
- 57% of the Energy Poor population are women (over 14 years old)
- 78% of Energy Poor Households are in mountainous and semi-mountainous zones and 17% in Coastal zones
- 39% of Energy Poor Households are detached houses and the 33% are semi-detached or terraced houses
- 16% of Energy Poor Households are apartments or flats in buildings with 10 or more dwellings and 8% are apartments or flats in buildings with less than 10 dwellings
- 80% of Energy Poor Households are owned outright or are provided free of accommodation and 20% of rented
- 61% of Energy Poor Households are owned detached or semi-detached/terrace (including free accommodation) and 9% of households are owned apartments (split incentives between owner and remaining tenants)
- 7% of Energy Poor Households are apartments which are provided rent free (split incentive between owner and remaining tenants)
- 10% of Energy Poor Households are rented detached or semi-detached/terrace houses (split incentive between landlord and tenant)
- 9% of Energy Poor Households are rented apartments (double split incentive between owner and remaining tenants and landlord and tenant)

Energy Poverty Indicators for Cyprus

Identification of the Energy Poor Households

Criteria for identifying Energy Poor

The previous pages presented an estimation of the number of Energy Poor Households in Cyprus along with an analysis of their demographic characteristics. However, to easily identify the actual energy poor households, **a set of criteria must be developed to define specific characteristics of these Energy Poor Households so the eligible households can seek the necessary Government support.**

Following discussions with MECI and Deputy Ministry of Welfare and Social Insurance it was agreed that the identification of the energy poor must be simple to prevent demanding administrative processes, and simplify external communication.

A set of **identification criteria** should therefore be developed which **consider income, expense and the energy efficiency** of the dwelling they live in. These **criteria should take energy expenses into account implicitly**, and not explicitly.

Developing a new set of simple criteria to capture the energy poor household population captured by another set of more complex criteria (i.e. the composite indicator presented in previous pages), will inevitably create a mismatch between the two. This however was deemed as an acceptable approach to simplify the identification process.

As such, a set of criteria were developed and tested based on the different household types, as these are defined by Eurostat and captured in the SILC survey (Table below). This criteria use the AROP threshold (equivalized according to the household composition) along with the amount each household type spends on energy (4th decile expense).

Household Composition	Household Type (code)
Single person (no dependent children)	HT 5
2 adults, both <65 years (no dependent children)	HT 6
2 adults, at least one > 65 years (no dependent children)	HT 7
Other, no dependent children (no dependent children)	HT 8
Single person, at least 1 dependent child	HT 9
2 adults, 1 dependent child	HT 10
2 adults, 2 dependent children	HT 11
2 adults, 3+ dependent children	HT 12
other with dependent children	HT 13

Energy Poverty Indicators for Cyprus

Identification of the Energy Poor Households

Criteria for identifying Energy Poor

For each type of household the following were taken into consideration: the **AROP threshold equivalized according to household composition** (i.e. the AROP threshold was multiplied by an equivalization factor according to the number of people living in each household) and **the typical energy expense of each household type** (4th decile). The energy expense was added on top of the equivalized income threshold to produce a total income threshold per household type under which the household would be deemed as energy poor. Usually, the equivalization factors are 1 for the first adult in the household, 0.5 for each person in the household that is over 14 years of age, and 0.3 for each person in the household that is under 14 years of age.

For household types 5 to 7 (i.e. HT5, HT6, HT7) this analysis is simple since the equivalization factor is either 1 or 1.5. For the remaining households however, the equivalization factor depends both on the number of occupants as well as their age. This makes the definition of the criteria not as straightforward. As such, an equivalization factor of 0.5 was therefore assumed for every additional household occupant regardless of age.

As per Table below, the analysis showed that in total the new criteria capture 48,355 of the estimated Energy Poor Households (i.e. 96.2%), fail to capture 1,936 of the estimated Energy Poor Households (3.8%) and capture an additional 7,993 households that were not included in the original estimation of Energy Poor Households, taking the total number of **identified** households to 56,347 as opposed to the estimated 50,290, a deviation of 10%. Further analysis on the number of households lost and gained revealed that the households lost are above the AROP threshold but have high energy expense and the households gained are below the AROP threshold but have low energy expense (see **Annex 4 - EP Criteria Exercise**). The results of this analysis were deemed acceptable.

	HT 5	HT 6	HT 7	HT 8	HT 9	HT 10	HT 11	HT 12	HT 13	Totals
EP HHs captured	11,633	6,908	14,975	2,054	2,037	2,626	3,298	2,952	1,872	48,355
EP HHs not captured	836	48	779	36	-	-	72	-	164	1,936
Not EP HHs captured	2,089	762	2,890	270	161	232	450	415	722	7,993
Not EP HHs not captured	54,766	43,680	40,913	27,479	8,407	28,628	33,403	14,335	24,106	275,717
Total HHs	69,325	51,397	59,558	29,839	10,605	31,486	37,224	17,702	26,864	334,000

Energy Poverty Indicators for Cyprus

Identification of the Energy Poor Households

Criteria for identifying Energy Poor

Taking the above into consideration, a set of income thresholds were defined based on the occupancy mix of each household.

An **Energy Poor household** is therefore a household that has an income less the amount shown in table below (depending on the household composition) and lives in a property that has an Energy Performance Class D or below D.

Note: The household income includes an assumed energy expense based on the analysis of the energy expense per household (see **Annex 4 - EP Criteria Exercise**).

Note 2: Thresholds were calculated based on the defined 2020 AROP threshold and the 2020 energy expenses from the SILC survey data (2019 as reference year). The thresholds were increased to take account of inflation, using inflation factors provided by CyStat.

The 2022 AROP was used (with reference year 2021) which is €10,713 and was inflated using the associated Consumer Price Index (CPI) to estimate the 2023 AROP threshold. Similarly, the energy costs were inflated using the Energy Sub Index to estimate 2023 energy costs. The actual 2023 AROP and associated energy index should be available in Q3 of 2024 and the below should be updated accordingly.

2020 data, inflated to 2023 with reference year 2022	Total threshold	Plus additional person
Number of people	€	€
1	12,371	
2 (2 adults, 1 adult & 1 dep)	18,620	
3 (3 adults, 2 adults & 1 dependent, 1 adult 2 dependent)	24,826	
4 (1 adult & 3 dependent, 2 adults & 2 dependent etc.)	28,407	5,806

Energy Poverty Indicators – Greece approach

Greek indicators – how they could be applied in Cyprus in the future

Greek indicators – summary

- ▶ In 2021, Greece has developed an [*action plan to fight energy poverty*](#) which presents how energy poverty is measured, policies and measures to tackle energy poverty, and how the implementation of the action plan will be monitored.
- ▶ The action plan refers to the four indicators mentioned earlier (ability to keep home warm, arrears in utility bills, 2M and M/2), as these are the indicators that are used by different MS to effectively monitor energy poverty. Additionally, Greece's Centre of Renewable Energy Sources, CRES (Κέντρο Ανανεώσιμων Πηγών Ενέργειας, ΚΑΠΕ) has recommended two additional indicators for the quantification of energy poverty. Therefore energy poor households are those that meet both of the following conditions:
 1. The households that cannot cover at least 80% of their minimum energy needs for space heating, water heating and for cooking as the ratio of the actual recorded energy consumption over the theoretical energy consumption requirements for certain uses; and
 2. The equivalized net income of each household on an annual basis must be lower than 60% of the median of the corresponding income for all households according to the definition of relative poverty.
- ▶ The composite indicator considered the EC Directive 2019/944 parameters on income, energy expenses and energy efficiency.
- ▶ Data must be analysed so that energy poor are categorised to differentiate between:
 - ▶ Household location (EPC climate zones; urban-rural; and/or by province); and
 - ▶ Owned and rented properties;
- ▶ For the calculation of the above indicators the following data is required:
 - ▶ Household energy related expenses (HBS);
 - ▶ Household net income (HBS);
 - ▶ Various household characteristics such as occupants, building characteristics to estimate the minimum energy consumption on an annual basis (HBS).

Energy Poverty Indicators – Greece approach

Greek indicators – how they could be applied in Cyprus in the future

Greek indicators – summary (cont.)

- ▶ The minimum energy consumption for each household is estimated using the following information from the HBS:
 - ▶ Household province;
 - ▶ Information on household members (presence of elderly people or children, employed or unemployed);
 - ▶ Type of property (detached, flat etc.);
 - ▶ Age and area of the property; and
 - ▶ Type of system used for heating.
- ▶ The system operating hours and minimum temperature depends on the type of property and household occupancy mix.
- ▶ The current indicator only takes into account energy for heating which is the main energy use and is directly related with energy poverty.
- ▶ For the determination of total energy consumption, the average electricity consumption for cooling, hot water, lighting and electrical appliances for a typical household (as this is calculated by CRES and submitted to Eurostat) is added to the minimum energy consumption for heating.
- ▶ According to the action plan, the indicator can be further improved by taking into account new subjective parameters such as the household's level of satisfaction of their existing energy consumption and the associated level of comfort or their desire for higher consumption for specific energy uses despite the limitations of high energy price; evaluation of the inclusion of energy costs related to transportation; validation of the chosen system operating hours based on information collected; inclusion of energy uses associated hot water and cooking; detailed investigation into various model assumptions; evaluation of the income levels; inclusion of additional parameters such as household debt, cost of housing, cost of utility bills etc.

Energy Poverty Indicators for Cyprus

Explaining the Greek indicators and applying them in Cyprus

Stage 1: Identify and define the basic energy needs.

- The Greek model identifies space heating, space cooling, production of hot water, lighting and cooking as the main energy usages in a house. However, since heating makes up the majority of energy consumption in Greek households, the model prioritised the incorporation of that parameter first.

Applying it to Cyprus

In Cyprus, as shown in the table below, the majority of energy needs is for space cooling, followed by space heating. As such, it would be best if the Cypriot model takes into consideration both to start with.

Building type	Age	Space Heating	Space Cooling	Water Heating	Lighting	Appliances	Cooking	Heating/Total	Cooling/ Total	Heat & Cooling/ Total
Single House	Before 1981	54	72	23	8	20	6	30%	39%	69%
	1981-2006	40	54	18	7	15	4	29%	39%	68%
	After 2006	36	50	15	6	14	4	29%	40%	69%
Semi-detached and Row houses	Before 1981	59	58	23	9	21	6	34%	33%	66%
	1981-2006	43	44	18	7	16	4	33%	33%	66%
	After 2006	39	40	15	6	15	4	33%	34%	66%
Appartment blocks	Before 1981	45	105	23	8	19	6	22%	51%	73%
	1981-2006	33	84	18	6	15	4	21%	53%	73%
	After 2006	30	76	15	6	13	4	21%	53%	74%
Other type of building	Before 1981	56	53	23	4	8	0	39%	37%	76%
	1981-2006	41	41	18	3	8	0	37%	37%	74%
	After 2006	37	38	15	3	7	0	37%	38%	75%

Energy Poverty Indicators for Cyprus

Explaining the Greek indicators and applying them in Cyprus

Stage 2: Calculate the theoretical required useful energy to meet basic energy needs.

- ▶ Calculation of the theoretical required useful energy to meet basic needs for each category (heating, hot water, cooking) based on its specific characteristics. The calculation is for the minimum energy requirements which theoretically meet the household's basic needs based on specific demographics, location, building characteristics along with certain assumptions.
- ▶ The thermal power was calculated using the following formula: $P_{gen} = \left(A * U_m * 1.5 + \frac{V}{3} \right) * \Delta T$ where
 - ▶ P_{gen} is the calculated maximum required thermal power of the buildings heating unit [W]; A is the total true external surface of the building shell (walls, roofs, floor, windows) which is exposed to external air and/or in touch with other buildings and/or not heating spaces and/or in touch with the ground; U_m is the average thermal coefficient of all surfaces (A) [W/m²K]; ΔT is the difference in temperature for the sizing of the system (specific degrees for each Climate Zone); 1.5 is a scaling factor which accounts for intermittency in the power distribution network; V is the total supply of fresh air in the heated space (15m³/h/person for detached houses and apartment blocks).
- ▶ A is calculated based on the following formula: $A = 2 * \frac{A_h}{7} * 3 + 2 * \frac{A_h}{7} * 3 + 2 * A_h$ where
 - ▶ A is the total surface of the building shell [m²]; A_h is the surface of the building [m²]
- ▶ Average thermal coefficient of the building for each type of building with buildings being categorised under three categories: single house, apartment on top or ground floor, apartment in middle floor. For each building category the following assumptions are considered: window openings make up 15% of the total surface area; for each building the surface area of the roof or floor is the equal to the surface area of the building; the surface area of the wall is the remaining percentage of the total surface area of the building shell.
- ▶ The thermal coefficient is the weighted coefficient based on the individual coefficients of each surface (wall, roof, floor, windows). Typical thermal coefficients for each surface for each building year are assumed.

Energy Poverty Indicators for Cyprus

Explaining the Greek indicators and applying them in Cyprus

Stage 2: Calculate the theoretical required useful energy to meet basic energy needs (cont.).

- ▶ The difference in temperature during heating is defined based on the difference between the recommended temperature in the building at the climate zone the property is at. The recommended temperature is based on the characteristics of the household occupants and the assumption that the temperature depends on the household tenants. Based on these, three tenant categories were defined: household with only employed people, households without employed people, household with children up to 15 years old and elderly born prior to 1947.
- ▶ The model defines the recommended temperature as 16°C for households without children or elderly people and 17°C for households with at least one unemployed person. For households with children and/or elderly, the temperature is defined as 18°C.
- ▶ The desired minimum temperature is integrated with the heating degree-days for each of the climate zone the building is in and the recommended temperature for each building (16°C, 17°C and 18°C). The heating degree-days were determined from <http://www.degreedays.net> as the average value for 18°C for each climate zone. Heating degree-days for 16°C and 17°C were not available but these were adjusted using the degree-days available for 18°C.
- ▶ The useful energy requirements are calculated based on the typical operating hours of each heating system and depend on the occupants of each household (5 hours/day for households with just employed people; 8 hours for households with at least one unemployed person; 12 hours for households with children and elderly).

Energy Poverty Indicators for Cyprus

Explaining the Greek indicators and applying them in Cyprus

Stage 2: Calculate the theoretical required useful energy to meet basic energy needs

Applying it to Cyprus

- ▶ The Table on the right shows the typical Area for each type of property according to the construction period. A set of representative buildings have already been constructed as part of different projects such as the Long-term Renovation Strategy which can be used to define typical building characteristics for different building types depending on their construction year. These can be used to define A , A_h and U_m , percentage of window openings values accordingly. Typical values for Cyprus are shown on Episcopo and Tabula website (from CySat) available [here](#).
- ▶ The methodology used in Cyprus for the development of Energy Performance Certificates takes into account four climate zones (shown [here](#)) along with statistics of degree-days for various thresholds (e.g. 18°C, 20°C, 22°C). These can be used and adjusted accordingly to estimate the ΔT .

Building type	Construction period	Area (m ²)	Volume (m ³)	Floor number	Window surface	Surface	Household number
					(m ²)	External wall (m ²)	
Single House	Before 1970	132.1	396.3	1	10	188.4	1
	1971-1990	151.2	453.6	1	17.9	148.8	1
	1991-2007	141.4	424	1	22.1	155.6	1
	After 2008	202.2	606.6	2	43.3	276.6	1
Semi-detached	Before 1970	265.4	796.2	1	20	342	2
	1971-1990	300.2	900.7	1	30.9	231.6	2
	1991-2007	302.4	900.7	2	38.8	297.6	2
	After 2008	302.8	908.4	2	35.7	319.2	2
Terraced houses	Before 1970	718.5	2155.5	1	92.1	801	3
	1971-1990	842.7	2528.2	1	89.2	802.5	3
	1991-2007	1001.6	3004.8	1	127.1	921.6	3
	After 2008	1335.5	4006.4	1	169.5	1228.8	4
Apartment blocks	Before 1970	345.4	1022.6	3	62.3	380.3	3
	1971-1990	690.8	2072.4	3	133	916.8	6
	1991-2007	690.8	2072.4	3	133	916.8	6
	After 2008	861.4	2181.7	4	164	1064	8

Energy Poverty Indicators for Cyprus

Explaining the Greek indicators and applying them in Cyprus

Stage 3: Calculation of the theoretically desirable final energy to meet basic energy needs.

- Calculation of the theoretically desirable final energy to service basic needs based on the information available on the heating systems used for each households. A set of assumptions were taken for the performance level of each heating system (e.g. 85% performance level for diesel heating system; 99% for storage heaters; 220% for split units etc.)

Applying it to Cyprus

- Similar performance levels could be applied for the heating (and cooling) systems used in Cyprus. Tables on the right and below show the typical heating and cooling systems in Cyprus.

Cooling systems	Fuel	Single house	Semi-detached and terrace houses	Apartment blocks	Other properties
Central system with heat pump	Electricity	4% (4%)	4% (4%)	5% (5%)	0% (0%)
Central system with ground heat exchanger	Electricity	0% (0%)	0% (0%)	0% (0%)	0% (0%)
Split units	Electricity	62% (62%)	62% (62%)	61% (61%)	65% (65%)
High efficiency split units	Electricity	16% (16%)	16% (16%)	15% (15%)	16% (16%)
Other or no cooling systems	N/A	18% (18%)	18% (18%)	18% (18%)	18% (18%)

Heating Systems	Fuel	Single house	Semi-detached and terrace houses	Apartment blocks	Other properties
Central heating with Diesel Boiler	Diesel	41% (27%)	35% (25%)	17% (5%)	23% (9%)
Central heating with condensing boiler	Diesel or LPG	0% (0%)	0% (0%)	0% (0%)	0% (0%)
Diesel heater	Diesel	2% (2%)	2% (2%)	2% (1%)	1% (2%)
Central heating with gas boiler	LPG	3% (3%)	1% (2%)	0% (1%)	0% (1%)
Gas heater	LPG	11% (17%)	11% (19%)	9% (13%)	28% (21%)
Heat pump	Electricity	4% (3%)	4% (2%)	5% (2%)	0% (2%)
Heat pump with heat exchanger	Electricity	0% (0%)	0% (0%)	0% (0%)	0% (0%)
Split units	Electricity	17% (17%)	23% (19%)	35% (42%)	14% (19%)
High efficiency split units	Electricity	4% (4%)	6% (5%)	9% (11%)	4% (5%)
Electric heater	Electricity	8% (10%)	9% (12%)	11% (15%)	20% (29%)
Storage heater (EAC)	Electricity	2% (1%)	3% (1%)	6% (1%)	0% (0%)
Fireplace	Biomass	4% (13%)	3% (12%)	1% (2%)	1% (3%)
Other or no heating	N/A	3% (2%)	2% (2%)	5% (8%)	7% (9%)

Energy Poverty Indicators for Cyprus

Explaining the Greek indicators and applying them in Cyprus

Stage 4: Calculation of theoretically required costs to meet basic energy needs.

- ▶ The cost is calculated using typical energy costs from Eurostat (e.g. electricity price, heating diesel price, natural gas, biomass/wood)

Applying it to Cyprus

- ▶ Similar costs could be identified for Cyprus.

Stage 5: Calculation of the indicator

- ▶ Comparison between theoretical expenses for each household to cover their minimum energy need for heating with their actual expenses as these were recorded in the HBS.

Applying it to Cyprus

- ▶ The same comparison could be done for Cyprus.

2.2. Future state establishment

Task 2.2.2. Definition of vulnerable customers

Vulnerable consumers, vulnerable customers and vulnerable electricity customers

- ▶ **Vulnerable consumers are an exception to the concept of the average consumer.** Compared to average consumer who is reasonably well informed, observant and circumspect, vulnerable consumers require additional protection as they are particularly vulnerable due to their mental or physical infirmity, age (children and elderly) or credulity (gullibility). Vulnerable consumers may struggle to maintain basic needs due to circumstances such as financial difficulties, health issues or other factors.
- ▶ In the **context of energy, the concept of vulnerable customers considers specific factors such as energy expenditure as well as critical dependance on electricity to maintain operation of electrical equipment related to health issues.** These factors are related to the energy efficiency of the dwelling they are living in as well as the necessity to maintain electricity connection due to financial difficulties or other unforeseen circumstances. Both vulnerable consumers and vulnerable electricity customers can access a range of protections under various laws and industry codes. These might include flexible payment plans, discounted tariffs, or support in combating energy poverty.
- ▶ Energy poor are a subset of vulnerable customers with their vulnerability arising from a combination of factors such as low income, high-energy expenditure, poor energy performance of their property.
- ▶ **Existing National Legislation does not define Vulnerable Customers nor Energy Poor.** However, through several Decrees, Cyprus identifies and defines category groups that are classed as Vulnerable (Link to Decrees [309/2023](#)) along with associated measures (Link to Decrees [307/2023](#) and [310/2023](#)). See [here](#) for relevant information on Energy Poverty.
- ▶ The number of Vulnerable Customers is currently calculated according to the recipients of the relevant benefits.
- ▶ Following discussions with MECl, it was concluded that a definition for both vulnerable customers and energy poor is required. The following pages present the analysis and recommended definitions first on energy poverty and then on vulnerable customers.





Vulnerable Consumers (European Parliament, May 2021)

Vulnerable consumers across sectors and markets

- ▶ The **Unfair Commercial Practices Directive** defines **vulnerable consumers** as an exception to the concept of the average consumer. Compared to the average consumer who is reasonably well informed, observant and circumspect, some **consumer require additional protection as they are particularly vulnerable due to their mental or physical infirmity, age** (children and elderly) or **credulity** (gullibility).
- ▶ There are **two main approaches** in identifying vulnerable consumers:
 - **Class-based vulnerability** which **emphasises on individual characteristics** of consumer (e.g. low income, unemployment, low education level or not being able to speak a particular language). These characteristics increase the (theoretical) risk of becoming vulnerable. This approach has the **advantage** that it provide legal certainty as to who is considered vulnerable and is easier to legislate.
 - **State-based vulnerability takes context into account** and suggest that all consumers can become vulnerable due to **the interplay between their individual characteristics, personal circumstances and the economic market**. This can happen due to events that temporarily lower their ability to make rational decisions on the marketplace e.g. being in mourning over losing a loved one, going through a divorce, facing a serious illness or other stressful life events. Other factors are market characteristics where the markets offer complex products that make it difficult for them to compare different ones such as finance or energy services. This approach has the **advantage** is dynamic as consumers can move in or out of vulnerability depending on their individual state
- ▶ According to a 2016 study for the Commission, **vulnerability is best viewed as a spectrum rather than a binary state**.
- ▶ Consumers can be **vulnerable due to their socio-demographic characteristics, behavioural characteristics, personal situation or market environment**.
- ▶ According to a 2019 consumer conditions scoreboard, **vulnerability is mainly linked to a difficult financial situation**.
- ▶ Parliament stresses the diversity of situations vulnerable consumers can find themselves in and adopted the view that as well as being **permanently vulnerable** (due to their endogenous or inherent characteristics such as age, credulity or mental, physical or psychological disability), consumers can also become **temporarily vulnerable** due to a gap between their individual state and characteristics and their external environment (e.g. electricity prices).





Energy Poverty definitions analysis

Energy poverty definitions across countries

	Official Energy Poverty Definitions	EU Directive 2019/944 Article 28 - Vulnerable Customers Criteria			Comments
		Income Level	Energy exp/disp. income	Energy efficiency	
England 	<p>“Fuel poverty is measured using the Low -Income Low Energy Efficiency (LILEE) indicator. Under this indicator, a household is fuel poor if:</p> <p>(a) they are living in a property with a fuel poverty energy efficiency rating of band D or below (E,F or G); and</p> <p>(b) when they spend the required amount to heat their home, they are left with a residual income below the official poverty line.</p> <p>Only those households in band D-G homes who fall below the poverty line after energy costs are considered as being in fuel poverty.”</p>	✓	✓	✓	
France 	<p>Energy poverty is attributed to people who encounter difficulties in getting adequate energy supply to satisfy basic needs in their dwellings. This is often due to insufficient resources or inadequate housing conditions.</p>	✓	•	✓	
Spain 	<p>Energy poverty is the situation where a household finds itself in which the basic needs for energy supplies cannot be met, as a consequence of an insufficient level of income and which, where appropriate, may be aggravated by having an energy inefficient housing.</p>	✓	•	✓	
Ireland 	<p>Energy poverty is a situation whereby a household is unable to attain an acceptable level of energy services (including heating, lighting, etc.) in the home due to an inability to meet these requirements at an affordable cost.</p>	✓	✓		

Energy Poverty definitions analysis

Energy poverty definitions across countries

	Unofficial Energy Poverty Definitions - Not included in a National Law	EU Directive 2019/944 Article 28 - Vulnerable Customers Criteria			Comments
		Income Level	Energy exp./disp. income	Energy efficiency	
Italy 	Difficulty for buying a minimum basket of energy goods and services, or condition where access to energy services implies a diversion of resources (in terms of expenditure or income) higher than socially acceptable	✓	✓		
Austria 	Energy poverty is attributed to households considered as energy poor if their income is below the at-risk-of-poverty threshold and, at the same time, it must cover above-average energy costs.	✓	✓		
Romania 	Impossibility of the vulnerable consumer to meet their minimum energy needs for the optimal heating of the home during the cold season	✓		✓	No clear distinction between Vulnerable and Energy Poor
Greece 	No definition for Energy Poverty				

Potential Energy Poverty Definitions to explore

Energy poverty definitions presented to MECI

Justification

Considering European Parliament position, the relevant EU Directive and best practices analysis, a list of potential definitions is presented.

According to COMMISSION RECOMMENDATION of 20/10/2023 on energy poverty Section I , par 1: *Take swift steps to transpose and implement the definition on energy poverty pursuant to Article 2, point (52), of Directive (EU) 2023/1791 into national law."*

1

Energy Poverty means a household's lack of access to essential energy services that provide basic levels and decent standards of living and health, including adequate heating, hot water, cooling, lighting, and energy to power appliances, existing social policy and other relevant policies, caused by a combination of factors, including but not limited to non-affordability, insufficient disposable income, high energy expenditure and poor energy efficiency of homes;

Article 2, point (52), of Directive (EU) 2023/1791

2

Energy poverty is attributed to people and households who encounter difficulties in getting adequate energy supply to satisfy basic needs in their dwellings. This is often due to insufficient resources or housing energy efficiency conditions.

3

Energy poverty is the situation where a household finds itself in which the basic needs for energy supplies cannot be met, as a consequence of an insufficient level of income and which, where appropriate, may be aggravated by having an energy inefficient housing.

Potential Energy Poverty Definitions to explore

Energy poverty definitions presented to MECI

Justification

Considering European Parliament position, the relevant EU Directive and best practices analysis, a list of potential definitions is presented.

4

Energy poverty is the lack of access to essential energy services that enable households to maintain a basic standard of living and health. The condition arises from factors which may include insufficient disposable income, high energy expenditure, and poor energy efficiency of homes.

5

Energy poverty refers to the inability of people to obtain sufficient energy to meet basic needs in their homes. This can be due to limited resources or inadequate housing conditions.

6

Energy poverty occurs when a household is incapable of obtaining the needed energy supplies to meet basic needs due to an insufficient level of income, which can be further compounded by having an energy-inefficient dwelling.

Potential Energy Poverty Definitions to explore

Energy poverty definitions presented to MECI

Justification

Considering European Parliament position, the relevant EU Directive and best practices analysis, a list of potential definitions is presented.



Energy poverty refers to a situation where a household is spending an excessive portion of its income on energy costs, often depriving them of basic energy needs. This can be driven by a combination of factors such as a lack of access to affordable energy, income inadequacy, and poor energy efficiency of homes.

Consideration

Decide whether definition is qualitative or quantitative (i.e. state what an excessive portion of income means).

Energy Poverty definition for Cyprus

Based on the above analysis, and following discussion with MECI with regards to the possible definitions, it was concluded that a definition for Energy Poverty should be established that is separate to Vulnerable Customers. The definition should be qualitative and that quantification of Energy Poverty will not be included in the definition. As such, the following two definitions were short-listed with the final decision pending on the review of this deliverable. The two preferred definitions are presented below. The first one is the same as that presented in *Article 2, point (52), of Directive (EU) 2023/1791* whereas the second one is an adaptation of the French and Spanish definitions.

Option 1 - English

Energy Poverty means a household's lack of access to essential energy services that provide basic levels and decent standards of living and health, including adequate heating, hot water, cooling, lighting, and energy to power appliances, existing social policy and other relevant policies, caused by a combination of factors, including but not limited to non-affordability, insufficient disposable income, high energy expenditure and poor energy efficiency of homes.

Option 1 - Greek

Ενεργειακή φτώχεια είναι η έλλειψη πρόσβασης ενός νοικοκυριού σε απαραίτητες ενεργειακές υπηρεσίες, όταν οι εν λόγω υπηρεσίες παρέχουν βασικά επίπεδα και αξιοπρεπή πρότυπα διαβίωσης και υγείας, συμπεριλαμβανομένων της επαρκούς θέρμανσης, του ζεστού νερού, της ψύξης, του φωτισμού και της ενέργειας τροφοδοσίας ηλεκτρικών συσκευών, την υφιστάμενη εθνική κοινωνική πολιτική και άλλες σχετικές εθνικές πολιτικές, η οποία προκαλείται από συνδυασμό παραγόντων, συμπεριλαμβανομένων, τουλάχιστον, της οικονομικής αδυναμίας, του ανεπαρκούς διαθέσιμου εισοδήματος, των υψηλών ενεργειακών δαπανών και της χαμηλής ενεργειακής απόδοσης των κατοικιών.

Option 2- English

Energy poverty is attributed to people and households who encounter difficulties in getting adequate energy supply to satisfy basic needs in their dwellings. This is often due to insufficient resources or housing energy efficiency conditions.

Option 2 - Greek

Ενεργειακή φτώχεια αποδίδεται σε ανθρώπους και νοικοκυριά που αντιμετωπίζουν δυσκολίες στην απόκτηση επαρκούς παροχής ενέργειας για να ικανοποιήσουν βασικές ανάγκες στις κατοικίες που διαμένουν. Αυτό συμβαίνει συχνά λόγω ανεπαρκών πόρων ή ακατάλληλης ενεργειακής απόδοσης της κατοικίας τους.

Vulnerable customer definitions analysis

- ▶ In addition to the energy poverty definition, an analysis of the EU opinion along with best practices from other EU MS was conducted to identify and propose a recommendation for vulnerable customers.
- ▶ Following discussion with MECI with regards to the possible definitions, it was concluded that a definition for vulnerable customers that is separate to energy poverty should be established, with an inclination to refer to it. Similar to energy poverty, the definition should be qualitative since the categorization and quantification of vulnerable customers would be assessed on a case-by-case basis and following consultation between the relevant ministers and Government departments.
- ▶ Additionally, an analysis on the existing vulnerable customer categories and the categories eligible for the special tariff was performed (shown on the right). It is obvious from the analysis that most categories focus solely on health-related issues.
- ▶ It **is recommended** that the parameter of income should be included for some health-related categories. Furthermore, the Government could explore incorporating other categories such as mental health, language limitations, people in remote areas, people with limited or no digital skills and/or people with no internet access, as well as widening the age criteria.
- ▶ The following pages present the EU approach on Vulnerable Customers as well as definitions from various countries which will be used as an indication to establish a definition for Cyprus.

Decree 309 - Vulnerable Customers

Criteria	Number of Categories
Income	0
Family Status	0
Health	15
Age, Health & Income	1
Age & Income	1
Income & Family Status	2
Total:	19

Decree 307 - Special Tariff

Criteria	Number of Categories
Income	2
Family Status	1
Health	14
Age, Health & Income	1
Total:	18

Vulnerable customer definitions analysis

EU approach on vulnerable customers



Definition and Approaches

EC Directive 2019/944

Article 28 - Vulnerable Customers

The concept of vulnerable customers may refer to energy poverty” and shall take measures to protect customers and ensure that there are adequate safeguards to protect vulnerable customers (including customers in remote areas) which may refer to energy poverty and, inter alia, to the prohibition of disconnection of electricity to such customers in critical times. The Directive states that the concepts of vulnerable customers may include:

- income levels,
- the share of energy expenditure of disposable income,
- the energy efficiency of homes,
- critical dependence on electrical equipment for health reasons,
- age, or
- other criteria.

Article 29 - Energy Poverty

MS shall establish and publish a set of criteria, which may include:

- low income,
- high expenditure of disposable income on energy, and
- poor energy efficiency.



European Parliament

Two main approaches in identifying vulnerable consumers: ▸ Emphasises on individual characteristics of consumer (e.g. low income, unemployment, low education level or not being able to speak a particular language). ▸ Takes context into account and suggest that all consumers can become vulnerable due to the interplay between their individual characteristics, personal circumstances and the economic market (e.g. electricity price).

Vulnerability is best viewed as a spectrum rather than a binary state.





Vulnerable customer definitions analysis

Vulnerable customer definitions across countries

	Definition	EU Directive 2019/944 Article 28 - Vulnerable Customers Criteria					Comments
		Income Level	Energy exp./disp. income	Energy efficiency	Critical dependence	Other	
England 	BEIS - Under the vulnerability principle, BEIS considers the needs of low-income households most at risk from the impact of living in a cold home while designing fuel poverty policy. BEIS considers market low-income households to be vulnerable if at least one member of the household is: 65 or older; Younger than school age; Living with a long-term health condition which makes them more likely to spend most of their time at home, such as mobility conditions which further reduce ability to stay warm; or Living with a long-term health condition which puts them at higher risk of experiencing cold-related illness - for example, a health condition which affects their breathing, heart or mental health.	✓			✓	✓	Definition focuses on age (>65 or younger than school age), health conditions related to mobility (i.e. unable to move) and health conditions related to breathing, heart and mental.
	OFGEM Definition of Vulnerability: When a consumer's personal circumstances and characteristics combine with aspects of the market to create situations where he/she is: - Significantly less able than a typical consumer to protect or represent his/her interests in the energy market; and/or - Significantly more likely than a typical consumer to suffer detriment, or that detriment is likely to be more substantial.	✓		✓	✓	✓	Definition seems to be vague but comprehensive as it captures characteristic, personal and wider circumstances as well as the role of the market
Spain 	Vulnerable consumer is the consumer of electrical energy or thermal uses who is in a situation of energy poverty and may be a beneficiary of the support measures established by the administrations.	✓	✓			✓	Includes energy poor in definition



Vulnerable customer definitions analysis

Vulnerable customer definitions across countries

	Definition	EU Directive 2019/944 Article 28 - Vulnerable Customers Criteria					Comments
		Income Level	Energy exp./disp. income	Energy efficiency	Critical dependence	Other	
Ireland 	A vulnerable customer is defined as a household customer who is: "a. critically dependent on electrically powered equipment, which shall include but is not limited to life protecting devices, assistive technologies to support independent living and medical equipment, or b. particularly vulnerable to disconnection during winter months for reasons of advanced age or physical, sensory, intellectual or mental health".				✓		Definition focuses purely on health issues and dependency on electricity
Italy 	Definition of vulnerable customers: 1. Persons in economically disadvantaged conditions or who are in (or are) in a severe state of health, requiring the use of life-saving medical and therapeutic equipment powered by electricity; 2. People with disabilities; 3. Entities whose users are located in the minor islands which are not interconnected; 4. Persons whose users are located in emergency housing facilities following catastrophic events; 5. Persons over 75 years of age	✓			✓	✓	Definition includes other criteria such as age, isolated locations, people with disabilities
Slovakia 	Act No 251/2012, on Energy, defines vulnerable and protected customers. A vulnerable household electricity consumer is a household electricity consumer whose life functions are dependent on electricity or is heavily disabled and uses electricity for heating and has reported and demonstrated this fact himself or through his electricity supplier to the operator of the distribution system to which his/her point of sale is connected, in the manner given in the market rules. The same applies for gas consumers.				✓		Definition focuses purely on health issues
Hungary 	Vulnerable customers/households are those who have difficulties in securing the basic energy needs of their homes.	✓	✓				Simple and focuses purely on energy poverty



Vulnerable customer definitions analysis

Vulnerable customer definitions across countries

	Definition	EU Directive 2019/944 Article 28 - Vulnerable Customers Criteria					Comments
		Income Level	Energy exp./disp. income	Energy efficiency	Critical dependence	Other	
Poland 	<p>The 2013 amendment of the Energy Law introduced two crucial terms for vulnerable electricity and gas customers.</p> <p>“A vulnerable electricity customer is a person who is eligible to receive a housing allowance (income support) because the level of their income is below a given threshold.”</p>	✓					Focuses purely on income
Greece 	<p>According to Article 52 of Law 4001/2011, vulnerable consumers include the following categories of consumers: <i>(updated 2022)</i></p> <ol style="list-style-type: none"> 1. Low-income domestic consumers in energy poverty. 2. Consumers who or whose spouse or persons living with them of whom they have care and control by law are heavily dependent on an uninterrupted energy supply. This category includes consumers who require life support, especially those who require a continuous electricity supply to power machines that support or monitor vital functions (such as respiratory or cardiac support, dialysis and similar machines). 3. Elderly consumers (aged 70 and over), provided they are not living with a person below that age. 4. Consumers with serious health problems, especially persons with a serious physical or mental disability, learning disabilities, serious audiovisual or mobility problems or multiple disabilities or chronic illnesses who cannot therefore manage and negotiate their contractual arrangements with the supplier. 5. Consumers in remote areas, especially on non-interconnected islands, who are entitled to the same services as other consumers in terms of prices and in terms of the standard and security of supply and transparent terms and conditions. 	✓			✓	✓	Definition includes other criteria such as age, isolated locations, people with disabilities

Vulnerable customer definitions analysis

Vulnerable customer definitions across countries

	Definition	EU Directive 2019/944 Article 28 - Vulnerable Customers Criteria					Comments
		Income Level	Energy exp./disp. income	Energy efficiency	Critical dependence	Other	
Romania 	<p>- At the end of 2020, ANRE approved order No 235/2019 approving the Regulation for supply of electricity to final consumers. In accordance with the regulation, the vulnerable consumer is considered to be the person with low income and/or with health conditions, electricity suppliers having a series of obligations in relation to the respective persons - securing the supply of electricity as a priority, limiting planned interruptions and prohibiting disconnection from the electricity grid in electricity crisis situations.</p> <p>- Under the new Law (2021), vulnerable consumers are defined as single people or families who, due to illness, age, insufficient income or isolation from energy sources, would benefit from social protection measures and additional services ensuring their minimum energy needs.</p>	✓	✓		✓	✓	Includes health, age, income and difficult access to energy sources.
Sweden 	<p>The Swedish definition of vulnerable customers is set out in the Ordinance (2016: 742) laying down instructions for the Energy Market Inspectorate and reads 'vulnerable customers shall mean persons who are permanently unable to pay for the electricity or natural gas transmitted or supplied to them for purposes which are outside the economic activity</p>	✓			✓	✓	Purposes which are outside the economic activity might refer to health, critical dependence and other reasons. Needs to be clarified.

Vulnerable customer definition analysis

Vulnerable customer definitions comparability to EU Commission Criteria

Country	EU Commission Criteria					Comments
	Income Level	Energy exp./disp. income	Energy efficiency	Critical dependence	Other	
 England: BEIS	✓			✓	✓	
 England: Ofgem	✓		✓	✓	✓	
 Spain	✓	✓			✓	
 Ireland				✓		
 Italy	✓			✓	✓	
 Slovakia				✓		
 Hungary	✓	✓				
 Poland	✓					
 Greece	✓			✓	✓	
 Romania	✓	✓		✓	✓	
 Sweden	✓			✓	✓	

Potential vulnerable customer definitions to explore

Vulnerable customer definitions presented to MECI

Considering European Parliament position, the relevant EU Directive and best practices analysis, a list of potential definitions is presented.

According to COMMISSION RECOMMENDATION of 20/10/2023 on energy poverty Section I , par 1: “the national definition should distinguish the concept of ‘energy poverty’ from the concept of vulnerable customers, based on Article 3 of Directive 2009/73/EC, on Article 28 of Directive (EU) 2019/944 and on Article 24(1), first subparagraph, of Directive (EU) 2023/1791.”

1

Vulnerable customers are customers who require additional protection and support due to their personal circumstances and characteristics. These could include, but not limited to, income criteria, family status, age, health conditions and dependency on energy/electricity supply. Energy poor, as defined, are classed as a subset of vulnerable customers, with their own specific characteristics.

2

Vulnerable customers are those who face difficulties in accessing and paying for electricity and require special protections and assistance to maintain adequate levels of health and comfort.

3

Vulnerable customers are those who are economically, socially, or medically vulnerable and may require assistance to maintain access to the necessary levels of electricity to ensure their health, well-being, and safety.

Potential vulnerable customer definitions to explore

Vulnerable customer definitions presented to MECI

Considering European Parliament position, the relevant EU Directive and best practices analysis, a list of potential definitions is presented.

4

Vulnerable customers include households or individuals who have critical dependence on electricity supply due to medical reasons, living in energy-inefficient homes, having low income or are an advanced age, and are at risk of disconnection or inadequate supply if not properly assisted.

According to COMMISSION RECOMMENDATION of 20/10/2023 on energy poverty Section I , par 1: "the national definition should distinguish the concept of 'energy poverty' from the concept of vulnerable customers, based on Article 3 of Directive 2009/73/EC, on Article 28 of Directive (EU) 2019/944 and on Article 24(1), first subparagraph, of Directive (EU) 2023/1791."

Consideration

Decide whether definition is qualitative or quantitative (i.e. state what an excessive portion of income means) and whether it should explicitly mention Energy poor

Energy Poverty definition for Cyprus

Based on the above analysis, and following discussion with MECI with regards to the possible definitions, it was concluded that a definition for Vulnerable Customers should be qualitative and that it could include reference to energy poverty. The categorization and quantification of vulnerable customers would be assessed on a case-by-case basis and following consultation between the relevant ministers and Government departments. As such, the following two definitions were short-listed with the final decision pending on the review of this deliverable.

Option 1 - English

Vulnerable customers are customers who require additional protection and support due to their personal circumstances and characteristics. These could include, but not limited to, income criteria, family status, age, health conditions and dependency on electrical equipment. Energy poor, as defined, are classed as a subset of vulnerable customers, with their own specific characteristics.

Option 1 - Greek

Οι ευάλωτοι πελάτες είναι οι πελάτες που απαιτούν επιπλέον προστασία και υποστήριξη λόγω των προσωπικών τους περιστάσεων και χαρακτηριστικών. Μεταξύ άλλων, αυτά μπορεί να περιλαμβάνουν επίπεδα εισοδήματος, οικογενειακή κατάσταση, ηλικία, θέματα υγείας και την κρίσιμη εξάρτηση στον ηλεκτρικό εξοπλισμό. Οι ενεργειακά φτωχοί, όπως αυτοί ορίζονται ξεχωριστά, κατατάσσονται ως μια υποομάδα των ευάλωτων πελατών, με τα δικά τους συγκεκριμένα χαρακτηριστικά.

Option 2- English

Vulnerable customers are those who are economically, socially, or medically vulnerable and may require assistance to maintain access to the necessary levels of electricity to ensure their health, well-being, and safety.

Option 2 - Greek

Οι ευάλωτοι πελάτες είναι οι πελάτες που είναι οικονομικά, κοινωνικά ή ιατρικά ευάλωτοι και μπορεί να χρειάζονται βοήθεια για να διατηρήσουν την απαραίτητη πρόσβαση ηλεκτρικής ενέργειας για να διασφαλίσουν την υγεία, ευημερία και την ασφάλεια τους.

2.2. Future state establishment

Task 2.2.3. Examine whether new policies and measures are needed to comply with EU provisions

Directive 2019/944/EU on common rules for the internal market for electricity

Article 5 - Market-based
supply prices

DEROGATION - According to Article 66 of the Directive, Article 5 shall not apply to Cyprus until 1 January 2025

Article 28 -Vulnerable
Customers

1. Member States **shall** take appropriate measures to protect customers and **shall** ensure, in particular, that there are adequate safeguards to protect vulnerable customers. In this context, each Member State **shall** define the concept of vulnerable customers which **may** refer to energy poverty and, inter alia, to the prohibition of disconnection of electricity to such customers in critical times. The concept of vulnerable customers **may** include:

- income levels,;
- the share of energy expenditure of disposable income;
- the energy efficiency of homes;
- critical dependence on electrical equipment for health reasons;
- Age; or
- other criteria.

Member States **shall** ensure that rights and obligations linked to vulnerable customers are applied. In particular, they **shall** take measures to protect customers in remote areas. They **shall** ensure high levels of consumer protection, particularly with respect to transparency regarding contractual terms and conditions, general information and dispute settlement mechanisms.

2. Member States **shall** take appropriate measures, such as providing benefits by means of their social security systems to ensure the necessary supply to vulnerable customers, or providing for support for energy efficiency improvements, to address energy poverty were identified pursuant to point (d) of Article 3(3) of Regulation (EU) 2018/1999, including in the broader context of poverty. Such measures **shall not** impede the effective opening of the market set out in Article 4 or market functioning and shall be notified to the Commission, where relevant, in accordance with Article 9(4). Such notifications **may** also include measures taken within the general social security system.

Directive 2019/944/EU on common rules for the internal market for electricity

Article 29 - Energy Poverty

Each MS **shall** assess the number of households in energy poverty based on the point (d) of Article 3(3) of the Regulation (EU) 2018/1992. The MS **shall** establish and publish a set of criteria, which **may** include:

- low income,
- high expenditure of disposable income on energy; and
- poor energy efficiency.

The adoption of protection measures (which may differ according to the particular circumstances in each MS) **could be**:

- social or energy policy measures relating to the payment of electricity bills,
- investment in the energy efficiency of residential buildings, or
- consumer protection such as disconnection safeguards.

Member States should collect the right information to monitor the number of households in energy poverty. Accurate measurement should assist each MS in identifying households that are affected by energy poverty to provide support.

Article 59 - General objectives of regulatory authority

(h) helping to achieve high standards of universal service and of public service in electricity supply, contributing to the protection of vulnerable customers and contributing to the compatibility of necessary data exchange processes for customer switching.

Examination of national policies and measures, and compliance with EU provisions

This section presents an assessment of whether addressing the issue of energy poverty is compatible with the new provisions of the Electricity Directive 2019/944/EE and the relevant national Electricity Law or whether further policies and measures are needed in order to comply with the provisions of the legislation

General EU-National Legislation compliance analysis is presented in [pages 45-49](#).

Summary

1. Overall, the national legislation is harmonized with the Directive 2019/944/EE, however, there are some important comments related to Articles 28 and 29 that need addressing.
2. According to Article 28 of the Directive, the National Legislation includes criteria for vulnerable customers and energy poverty but no specific definitions. According to the Article, the Legislation **shall include an official definition of vulnerable customers**, which may refer to energy poverty based on a set of criteria which:
 - **For Vulnerable customers these could be:** income, share of energy expenditure of disposal income, energy efficiency of homes, critical dependence of electrical equipment for health reasons, age, other); and
 - **For Energy poverty these could be:** low-income, poor energy efficiency, high expenditure of disposable income on energy..
3. With regards to Article 29, although the National Legislation includes criteria for Energy Poverty, **energy poor are defined solely on poverty criteria, so are the indicators that monitor it**. Therefore, **it is recommended that the National Legislation should expand the relevant definitions and define a set of energy poverty indicators that are more comprehensive**. Additionally, the National Legislation should include a set of official guidelines for collecting the right information to monitor the number of households in energy poverty based on the indicators.
4. The National Legislation, through associated Decrees, refers to several policies and measures for the protection and the support of the Vulnerable and Energy Poor, however, best practice analysis identified a set of actions that could be considered to develop a more comprehensive approach. These are presented in subsequent pages and will be analyzed in more detail in Deliverable 3.

EU – National Legislations Compliance

Comments on policies and measures according to Directive 2019/944 requirements

By reviewing the Directive 2019/944 and the National Legislation for electricity market (N. 130(I)/2021 Law for the Regulation of the Electricity Market 2021), it has been found that some **additional actions-policies are needed to comply with EU provisions** (Directive 2019/944).

The table below shows which actions are needed for each particular article of the Directive 2019/944.

Article	Actions/Policies needed	Suggested Actions/Policies (Not compulsory)
Article 5 - Market-based supply policies	Derogation - No Action/Policy needed	No suggested Actions/Policies
Article 28 - Vulnerable Customers	<p>National Legislation shall include an official definition of vulnerable customers which may consider energy poverty, based on a set of criteria suggested by the EC:</p> <ul style="list-style-type: none">• Vulnerable customers: income, share of energy expenditure of disposal income, energy efficiency of homes, critical dependence of electrical equipment for health reasons, age, other); and• Energy poverty: low-income, poor energy efficiency, high expenditure of disposable income on energy.	<p>The categories of vulnerable customers could be refined to include customers with mental illness, households with poor energy efficiency, link health related categories with income levels, elderly people and people in remote areas, with limited (or no) digital skills and/or with no internet access.</p>
Article 29 - Energy poverty	<p>National Legislation shall establish a set of indicators to monitor the number of households in energy poverty based on the above indicators which may include income levels, energy expenditure, energy efficiency of properties. Currently, the indicators measure poverty levels.</p>	<p>This could materialize through the establishment of a National Energy Poverty Observatory (as found in several other countries such as France, Spain, Italy, Greece). The criteria should be expanded to include energy expenditure and energy efficiency.</p>
Article 59 - General objectives of regulatory authority	No Actions/Policies needed	No Actions/Policies suggested

List of policies and measures extracted from best practices

The tables below present several policies and measures that were extracted from the best practice analysis. These were sorted into three categories (Social Policy Measures; Structural Policies; and Behavioural/Informational Policies). The table also identifies in red the policies and measures that are currently adopted by the Cypriot Government for vulnerable customers and energy poor. Although these are currently in place, additional policies and measures could be established to better address energy poverty, particularly addressing the root. According to the Directive 2019/944 Article: “Member States shall take appropriate measures, such as providing benefits by means of their social security systems to ensure the necessary supply to vulnerable customers, or providing for support for energy efficiency improvements, to address energy poverty.....”

Social Policy Measures	Structural Policies (Addressing root cause)	Behavioral/Informational Policies
Energy Price Cap calculated based on typical household consumption.	Large energy suppliers (Energy Obligatory Parts) to provide energy efficiency and heating measures.	Public helpline providing assistance to vulnerable groups on social tariffs, grants, flexible payments, etc.
Minimum energy efficiency requirements for landlords who let out properties with poor Energy Performance.	Loans for home energy efficiency improvements paid back over time through energy bills.	National Energy Agency (NEA) courses to assist households with fuel poverty, energy efficiency, etc. to provide vulnerable households with useful advice
Energy bill discount, paid back each year for 5 years.	Various Government Grants for energy efficiency measures with higher subsidies for vulnerable. Subsidies may depend on intensity of energy poverty	Promotion of EPC for rented properties
Cold weather payments triggered if temperature falls below 0°C for 7 consecutive days.	Energy Efficiency and low-carbon heating vouchers.	Priority Service Register - obligation on energy suppliers to keep a dedicated fuel priority register to provide vulnerable customers with non-financial services.
Winter fuel payment - a tax-free annual automatic payment to help older people with heating bills	Innovative Green Finance products.	Local governments offering advice to households around improving energy efficiency, energy contracts, disconnection rights, etc.
Warm homes discount - a rebate on electricity bills provided by electricity suppliers.	Risk assessment tool used by LA to assess hazards in residential properties, including excess cold	Local initiatives and workshops at the municipal level to train and advise families on reducing their energy bills.
Social tariff for vulnerable customers.	LA schemes to raise energy efficiency rating of low income and low EPC rating homes.	Local government advice on how households can improve their energy efficiency, check energy contracts, and protect their disconnection rights.
Electricity disconnection prohibition.	Establishment of Local Energy Hubs which support LA, community groups, businesses and residents to lead energy projects. Ministry of Energy of MS allocated specific budget to these hubs for fuel poverty work.	Capacity building and training, communication campaigns, consumer advice, etc., targeted for women and women-led households as evidence suggests they are disproportionately affected by energy poverty.
An income tax credit for expenditures related to certain building renovation work to improve energy efficiency of private dwellings or modernization of heating installations.	Financial support to increase RES self consumption (e.g. including a diagnostic section, strategy execution, consumer administrative info, info on consumption habits and health, info for public administrations, repository of regulations & publications.	Website that provides a single access point for information on EP,

List of policies and measures extracted from best practices

Social Policy Measures	Structural Policies (Addressing root cause)	Behavioral/Informational Policies
Energy allowance in the form of a voucher issued to the lowest income households to combat fuel poverty (av. €150) based on eligibility criteria (e.g., income, number of consumption units).	Subsidies for the replacement of energy using equipment with more efficient ones (e.g., refrigerators, thermal equipment, washing machine, boilers, ovens/hons). Subsidy may reach 100% of the total cost depending on intensity of Energy Poverty.	Information on consumption habits, energy savings, and improvement of Energy Efficiency.
Winter truce (respite) scheme related to energy where suppliers are required to maintain supply between Nov-Apr.	Energy Audits and interventions in homes organized at local level offering homes advice on how to enhance energy efficiency	Permanent communication channel of news on EP to interested groups (e.g., mailbox for complaints and suggestions, submission of alert system for extreme weather conditions, periodic newsletter with info and news).
A subsidy for households heating with wood. Financial aid of 50 to 200 is paid on resource conditions.	Regional energy efficiency programs for renovations and RES	Several projects on raising awareness to vulnerable consumers regarding EE, renovation, self-consumption, RES, etc.
Reduction in electricity tax for households and businesses.	Bonus for low-income households to convert old vehicles to new (double bonus for very low-income). Develop an offer for public transport/car sharing and alternatives targeting most vulnerable communities.	Train people to advise households on EE, low-cost dwelling renovation, self-consumption.
Motorists receive a discount of 18 cents per liter at the pump (and 35 cents per liter for the diesel used by boats in the fishing industry).	Tackle energy poverty by providing financial, technical, social support to households suffering from fuel poverty, covering 25%-50% of the cost of energy renovation works aiming at least 25%-35% energy savings.	Direct training of vulnerable consumers and social agents on energy consumption, energy efficiency, and improving comfort.
Heating oil allowance, financial support to cover heating oil costs. Eligibility based on income and property in 2021. Amount depending on location and household composition .	Energy suppliers encouraged to support disadvantaged groups through White Certificates (WC) for energy poverty. These certificates make it possible to deploy a support program for sustainability in isolated areas and for people in situations of economic/social vulnerability.	An online tool that develops a personalized energy diagnosis so that social agents can use to advise vulnerable.
Households will receive €150 in energy cost compensation, an amount that will be doubled for those in need.	Incentives for energy suppliers to increase implementation of energy efficiency measures in low-income households.	Communication on the benefit of smart meters for vulnerable and energy-poor.
Low-income households do not pay additional costs linked with green electricity production.	Additional support to vulnerable households from energy fixing teams.	Educational activities in public schools around energy consumption and energy communities in vulnerable areas.
Financial support to cover costs of heating, eligibility requirements. Size of support differ from region to region.	Scheme to replace heating oil boilers. Grants focused on low-income households to replace heating oil with natural gas boilers.	Communication campaigns, consumer advice at the local level informing of consumer vulnerability and energy poverty and actions to increase efficiency.

List of policies and measures extracted from best practices

Social Policy Measures	Structural Policies (Addressing root cause)	Behavioral/Informational Policies
Prepayment electricity and gas meters for indebted households.	National Program for Local Heat Transition that provides support to municipalities in this regard. Through the Heat Fund, they provide even cheaper financing for low and (low) middle-income earners.	Communication campaigns, consumer advice at the local level informing of consumer vulnerability and energy poverty and actions to increase efficiency.
Special supplementary housing benefit for people who meet the requirements to receive social assistance (but who do not necessarily receive the support) and who have high housing costs or high costs to support large families can receive a special supplementary housing benefit.	National building fund loans. Supplying interest-free loans for building insulation and renovation works.	Deliver training on efficient consumer habits and consumer rights.
Raise the one-off energy allowance for people on incomes around the level of social assistance.	Better Housing Scheme: supports homeowners in the implementation of energy efficiency measures through a 'one-stop-shop' concept, assisting homeowners in the renovation process from start to finish.	Energy Advice Points (Barcelona) - a free municipal service seeking social inclusion not just on matters of energy but wider social issues.
Lower rate of Value Added Tax (VAT) on energy from 21% to 9%, and cut the excise duty on petrol and diesel by 21% from 1 April 2022 until the end of the year.	A program for the energy upgrade of residential buildings.	Subsidy for energy audits for low-income households.
Energy bill support provided by local energy banks.	Financial support to Obligated Parties for the installation of efficient heating and cooling systems in affected households.	Training of social workers on energy issues.
Heating allowance for pensioners. Reimbursement of excessive heating costs for low-income pensioners.	A grant to replace their oil heating system.	Energy mediator supports energy poor tenants of the private rented sector in a socio-technical diagnostic visit and mediation with the landlord to negotiate and support the decision and implementation of works.
Personal allowance cover reasonable and emergency costs, such as the payment of additional costs for heating or electricity.		Local Authority schemes to identify and help energy poor households.
Provision of "energy card" to energy-poor households. This card enables affected households to consume a certain amount of energy products.		Education and communication of best behaviors to save energy by visiting and witnessing household behavior.

List of policies and measures extracted from best practices

Social Policy Measures	Structural Policies (Addressing root cause)	Behavioral/Informational Policies
Social electricity tariff with eligibility based on income (e.g., below €9,000/year for a single-member household), property (up to €120,000 value) and residence criteria.		Local Authority schemes to identify and help energy poor households.
Universal Service scheme acts as a last resort supply measure to provide electricity to consumers shunned by suppliers.		Practical guides for families to include explanations of behaviors and purchasing practices; advice on all possible ways of saving energy (water, electricity, lighting, multimedia, heating, insulation); clearly illustrated visual messages.
Provision of preferential electricity supply to protect affected households from energy poverty. This measure includes the adoption of a preferential electricity sale price for affected households experiencing energy poverty. The preferential tariff relates to the amount of electricity until the minimum thermal comfort conditions are met, including the electricity consumption of the other uses of the affected households.		Carrying out targeted information and training actions to provide specialized technical advice by obligated parties to affected households under the 2021-2030 enforcement schemes.
Launch of an online platform providing direct payments to consumers to offset the high cost of road transportation fuels. The transport fuel subsidy is 0.15-0.2 EUR/liter for up to 60 liters of fuel per month and is available to consumers with an annual income below an amount.		Practical guides for families which are tools for educating families. Guides include explanations of behaviors and purchasing practices; advice on all possible ways of saving energy (water, electricity, lighting, multimedia, heating, insulation); clearly illustrated visual messages.