European Commission

Introduction to the Energy Poverty Advisory Hub (EPAH) Handbooks: A Guide to Understanding and Addressing Energy Poverty

Energy Poverty Advisory Hub
2022

Introduction to the Energy Poverty Advisory Hub (EPAH) Handbooks: A Guide to Understanding and Addressing Energy Poverty
Published by the Energy Poverty Advisory Hub

Mundo-Madou
Avenue des Arts 7/8
1210 Brussels | Brussels

+32 2 400 20 67
info@energypoverty.eu
energy-poverty.ec.europa.eu

May 2022
Design: REVOLVE
Cover image: REVOLVE

Introduction to the Energy Poverty Advisory Hub (EPAH) Handbooks: A Guide to Understanding and Addressing Energy Poverty

Energy Poverty
Advisory Hub
2022

Energy poverty is a reality in the European Union (EU), where many households struggle to heat or cool their homes or to pay their energy bills on time. The ongoing inevitable transition of our energy systems affects all levels of society. Therefore, it is vital to consider the most vulnerable groups and support the least resilient population to ensure that all EU citizens benefit from the energy transition.

The “EPAH Handbooks: A Guide to Understanding and Addressing Energy Poverty” is a series of practical guidebooks for local governments and practitioners to ensure that the social dimensions of the local energy transition are addressed efficiently. This series consists of the **current introduction and three thematic handbooks** focused on the phases identified for local governments aiming to tackle energy poverty.

The three phases are:

1) assessment of energy poverty at an identified local level (Diagnosis)

2) development of an informed plan (Planning)

3) execution of an impactful energy poverty project (Implementation)

This introduction establishes the common background to all three handbooks. In particular, it presents the concept of energy poverty with the different approaches that can be useful for obtaining a general picture of energy poverty in your local government as well as the initial introduction to the methodology to tackle energy poverty. Each handbook will focus on one of the three main phases and provide additional practical information and concrete tools to apply. The handbooks are designed based on experiences and data collected over time and from different geographical contexts and are supported with additional material developed by the EU Energy Poverty Advisory Hub (EPAH).

Although the local energy poverty realities differ from place to place, the practical steps detailed in the handbooks are meant to provide a framework that can be applied in various geographical, cultural and economic contexts. The core of the methodology can be tailored to your context and support you in the development of a strong set of actions to alleviate existing energy poverty and/or avoid its increase in your municipality during your energy transition.

1. Energy poverty at the local level

Energy poverty is a complex, multifaceted challenge. It is commonly defined as the inability of households to ensure their energy needs, and it is linked to a combination of factors. Since the reasons for energy poverty can be many, this also means that there is not one type of or reason for energy poverty and its nature can vary even at the local level. It can be shown as a situation with long periods of power outages creating the inability to access energy, but also as a set of conditions where individuals or households are unable to adequately heat/cool or provide other required energy services in their homes at an affordable price.

Energy poverty occurs at the domestic level, which makes it challenging to identify and quantify its diffuse effect properly. To facilitate understanding, it is possible to see it as a combination of contextual and personal factors.

Contextual factors refer to the geographical location, climate, dwelling type, available heating/cooling equipment or the broader geopolitical aspects affecting energy prices. Personal factors refer to age, health status or household composition and other socio-economic elements that can exacerbate the situation.

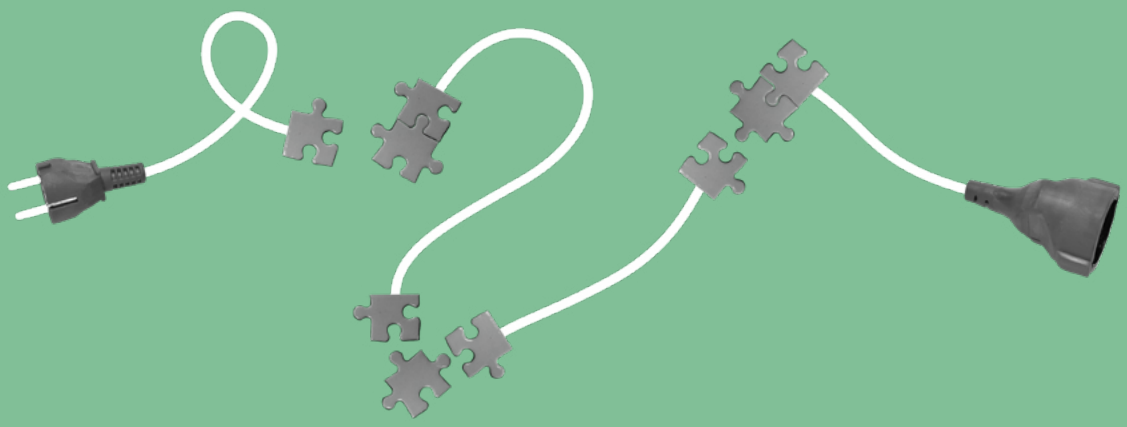
The effects of energy poverty are multiple. There are consequences for health and wellbeing. Extreme indoor temperatures are linked with the exacerbation of respiratory and cardiovascular illnesses, heat stroke or excess deaths. Children in energy-poor conditions can be affected by particularly low educational attainment and increased absences from school, more often develop cold related health conditions at a young age, and show lower social and emotional wellbeing. Energy poverty is also interconnected with climate change and other environmental challenges.

Addressing energy poverty could bring multiple benefits, including improved indoor comfort and personal wellbeing, a decrease in government expenditure on health, higher levels of educational attainment, economic development, and a reduction in carbon emissions.

The factors that influence energy poverty and its impacts are particularly visible at household level. For this reason local governments are the reliable frontline institutions and making a connection with citizens is essential to effectively tackling this socio-technical priority.

So, how do we start to digest this complex and growing challenge? One step at a time.

Like in a puzzle, each piece helps build the broader picture. In the following chapters three different perspectives are presented that highlight specific elements of energy poverty: first the main causes of energy poverty are presented, then the multifaceted concept of vulnerability, focusing on human and time factors, and finally the types of energy poverty information that can contribute to the diagnosis phase are discussed.

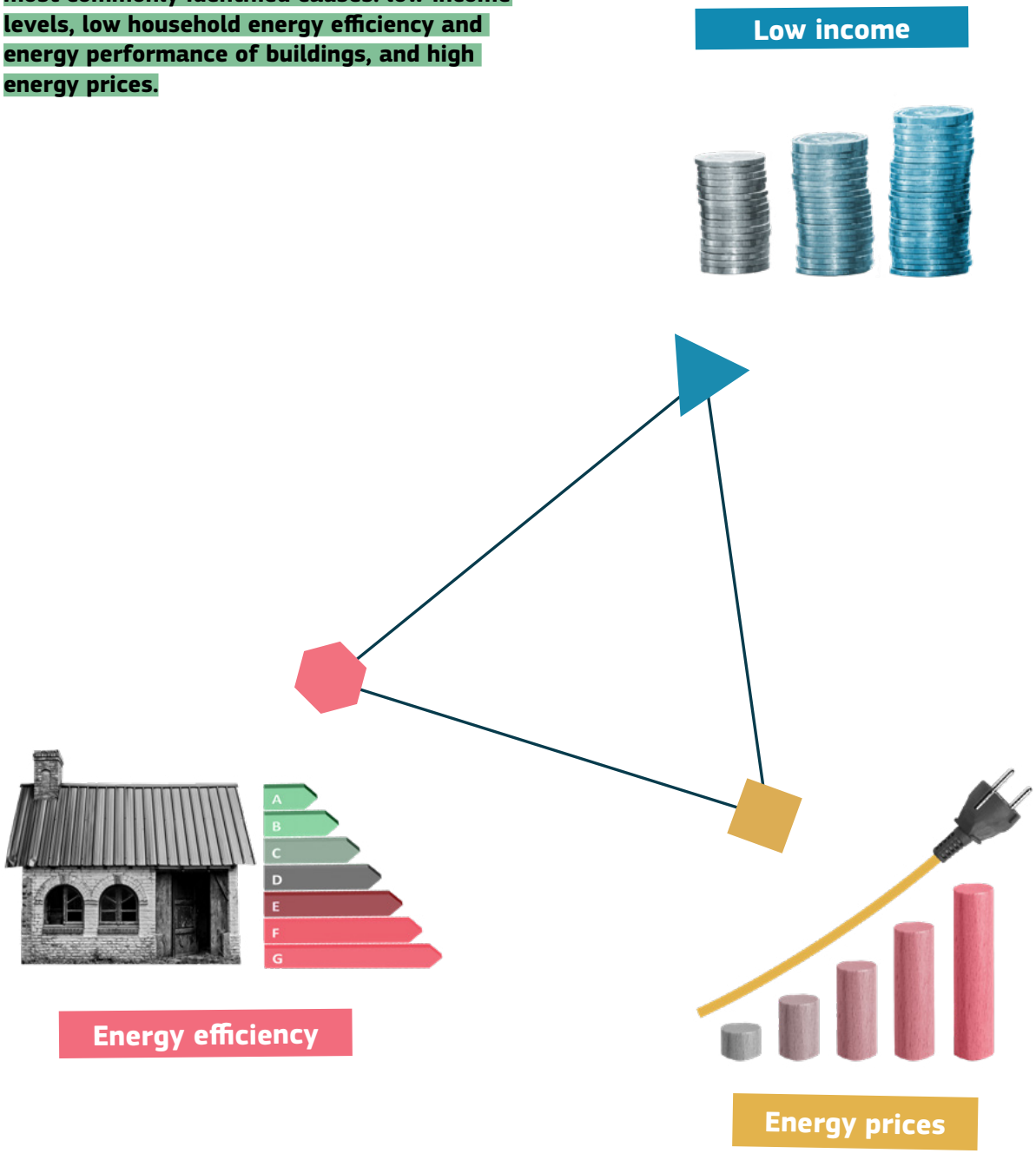


Used separately, these perspectives can help you draw conclusions on specific areas, while viewing them in combination can provide you with a solid understanding of the state of energy poverty in your municipality and prepare you for the practical steps that will be addressed in the following handbooks.

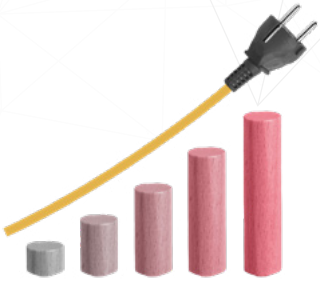
In some cases, the various perspectives can seem to overlap but the different ways in which they are presented helps to build a stronger understanding and thus design and implement more effective actions.

1.1 THREE MAIN CAUSES OF ENERGY POVERTY

The complexity of the causes of energy poverty require an in-depth, nuanced and highly detailed examination of the problem. However, to better understand this challenge, it is possible to focus on a simplified approach based on **the three most commonly identified causes: low income levels, low household energy efficiency and energy performance of buildings, and high energy prices.**



Low income



Energy prices

The effect of ***low income*** on energy poverty is indeed clear, and shows one of the main causes of energy poverty being poverty in the financial sense. Low income can result from low salary, job insecurity, unemployment, low social protection or a combination of these. The income levels of households is also tightly connected to the individual's ability to provide sufficiently for themselves and their energy bills, where the vulnerability inherent in single parenting, disability or old age are often noticed.

Energy efficiency

Low income has a straightforward connection with energy poverty, but the low energy performance of buildings, types of fuels and the ***energy efficiency*** of equipment used also play a role. Poor quality dwellings and appliances influence the quantity of energy needed to guarantee a comfortable and healthy way of living for a household. Residents of energy inefficient homes need to spend more energy to maintain thermal comfort. On top of this, it can often be that residents have limited options for improving the energy efficiency of their house, especially when they reside in rented properties or they can only afford to own or purchase low-quality properties (due to the high housing prices in combination with their low income).

High ***energy prices*** clearly affect whether consumers are able to access sufficient energy to guarantee their wellbeing. The cost of energy per household is related to specific needs and this particularly affects vulnerable people that present special needs in respect to resilience to fluctuating prices. Energy prices are affected by geopolitical and economic factors but also by climate change policies and measures.

The way these main causes are interconnected varies considerably from one context to another, even at small spatial scales (sometimes even inside the same city, neighbourhood or building). Moreover, they are distinctly influenced by macro-level socio-political-technical systems and natural events, as mentioned in the previous paragraph. Depending on the geographical context, certain elements may play a more decisive role and more deeply expose the overall vulnerability of the population, therefore, requiring more pressing attention and a more immediate response. **These three main causes are particularly useful when you are looking for the reasons for energy poverty or an increase in the vulnerability of households.**

A concrete example can be drawn by considering the possibility of a consumer losing his or her job. This results in a reduction in household income and subsequently a reduction in expenditures including those related to energy. In this case, energy poverty has been caused (or aggravated) by the loss of a job and might be overcome if the consumer finds a new job.

1.2 THE VULNERABILITY FACTORS

Households and individual citizens are vulnerable to energy poverty in different ways. Vulnerability is situational and can be determined by many internal and external factors that are often combined and interlinked in a way that can make reasoning non intuitive. To approach this topic, five macro areas of vulnerability are presented below to help us understand what factors can make us more vulnerable to energy poverty, and therefore also as guidance on where to search for energy poverty among our citizens. The macro areas are not exhaustive and additional local factors should be considered when developing your actions to tackle energy poverty.

- ***Sociodemographic factors:*** Refers to groupings of individual citizens that are commonly known to be at higher risk of energy poverty. This could include, for instance: social aid beneficiaries, social housing tenants, people living in a rented home, people with low levels of education, or ethnic minorities.

- ***Household composition:*** Refers to the composition of households that are associated with a higher risk of energy poverty. This could be, for instance: single parents, pensioners, families with people with disabilities, or young students in rental apartments.

- ***Health:*** Refers to households that are commonly known to be at risk of energy poverty. For instance: people with illnesses that either require special attention to indoor thermal conditions like cardiovascular, respiratory diseases or other illnesses that weaken the immune system.

- ***Energy literacy:*** Refers to individuals unable to make use of technological, economic or regulatory advancement for the energy transition. For instance: lack of awareness of the problem and little knowledge of domestic energy issues, lack of financial opportunities, and poor household energy planning.

- ***Cultural:*** Refers to people whose culture hinders their perception of energy poverty and influences their behaviour in a way that makes it more difficult to tackle the issue. For instance: people that underestimate the problem due to historic habituation to cold, or have historical and contextual preference for low efficiency equipment.

In addition to the above-described vulnerability factors, there are other elements that can have an impact, such as the typology of the territory. Energy poverty can differ in rural and urban areas and if the vulnerable family or citizen owns or rents their property.

All these often occur and are tackled locally, but despite being a global challenge, climate change is a major local vulnerability factor. Extreme weather events, such as heat waves and floods, pose considerable risk to everyone but affect mostly the least resilient members of the population.

These factors should all be considered as ever changing in time. Our social situation changes throughout life, either through personal choices or externalities, and so does our vulnerability and the risk of becoming energy poor.

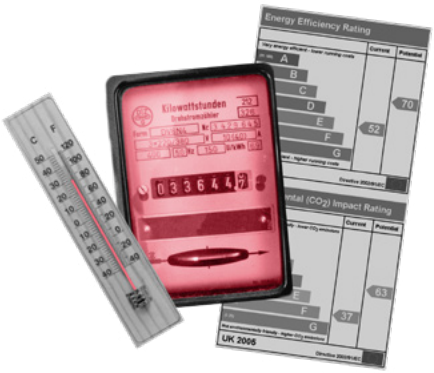
1.3 TYPES OF ENERGY POVERTY INFORMATION

Energy poverty is not always easy to identify at the local level. The subject is often sensitive to those affected and a thorough search and cross checking of information is needed to be able to put together a local energy-poverty diagnosis. Roughly speaking, information can be divided into two overall categories or types:

- measurable energy poverty – objective information
- perceived energy poverty – subjective information

A lot of relevant information may already be available and accessible for your analysis. It is, however, often a matter of comparing and combining social and technical information that is more rarely analysed together.

- ***Measurable energy poverty*** can occur when we collect and combine quantifiable information such as national or regional statistics on energy consumption, energy prices, income levels, the energy performance and efficiency of buildings, household electricity consumption from metered data, or energy expenditure from energy bills. This information, with a few exceptions, is considered unbiased and thus categorised as **objective information**. Combined, these data provide numerical information that replies directly to questions such as: *How often, how many* and *how much?*



- ***Perceived energy poverty*** refers to more intangible and personal subjective judgements, such as the thermal comfort and quality of living in your municipality. For example, perceived thermal comfort may be different from one person to another despite the thermometer indicating the same value. To some people, one temperature may seem refreshing while to others it may be considered uncomfortable. The perceived energy poverty is thus a different type that can be identified through the lived experience of households using qualitative methods, such as observations, audits and interviews. This information is highly subjective and mainly responds to questions starting with *Why?*.

Individual use of the two types of data is possible but will miss out on information that can often be revealed when searching for both measurable and perceived energy poverty. A concrete example could be an unusual reduction of energy consumption to heat a house, which can be considered *hidden energy poverty*. This information alone is not significant when determining the presence of energy poverty. The reduction can either be caused by an improvement in heating insulation, personal preferences for low indoor temperatures, becoming used to uncomfortable temperatures, or because the household might follow the logic of prioritising *heating* or *eating*.

2. Planning actions to tackle energy poverty – A circular methodology

Action planning often follows a circular approach as we continue to improve a certain situation via new supporting activities. Energy poverty is no exception. The **local diagnosis** is the ideal starting point if you are aiming to design actions to tackle energy poverty. The local diagnosis can offer you an understanding of the current local reality. The information can then be used to create a *Local Social Climate Plan* where concrete actions are **identified, planned and are ready to be implemented.** The **implementation** will conclude with an *impact assessment* and monitoring followed by a new round of analysis that is part of a new diagnosis. Collecting this information completes the circle and forms the beginning of a new, hopefully improved circle of action and so forth.

The **three phases** are the key to successfully tackling local energy poverty and are the subject of the three handbooks in this trilogy. Each handbook will examine in detail each phase and present relevant **practical steps** and inspirational examples to follow. Each municipality is at a different stage so it is possible that you may already have covered some of the steps and thus you can skip to a more advanced stage. The handbooks serve as a checklist to ensure that every detail of the three phases is covered.

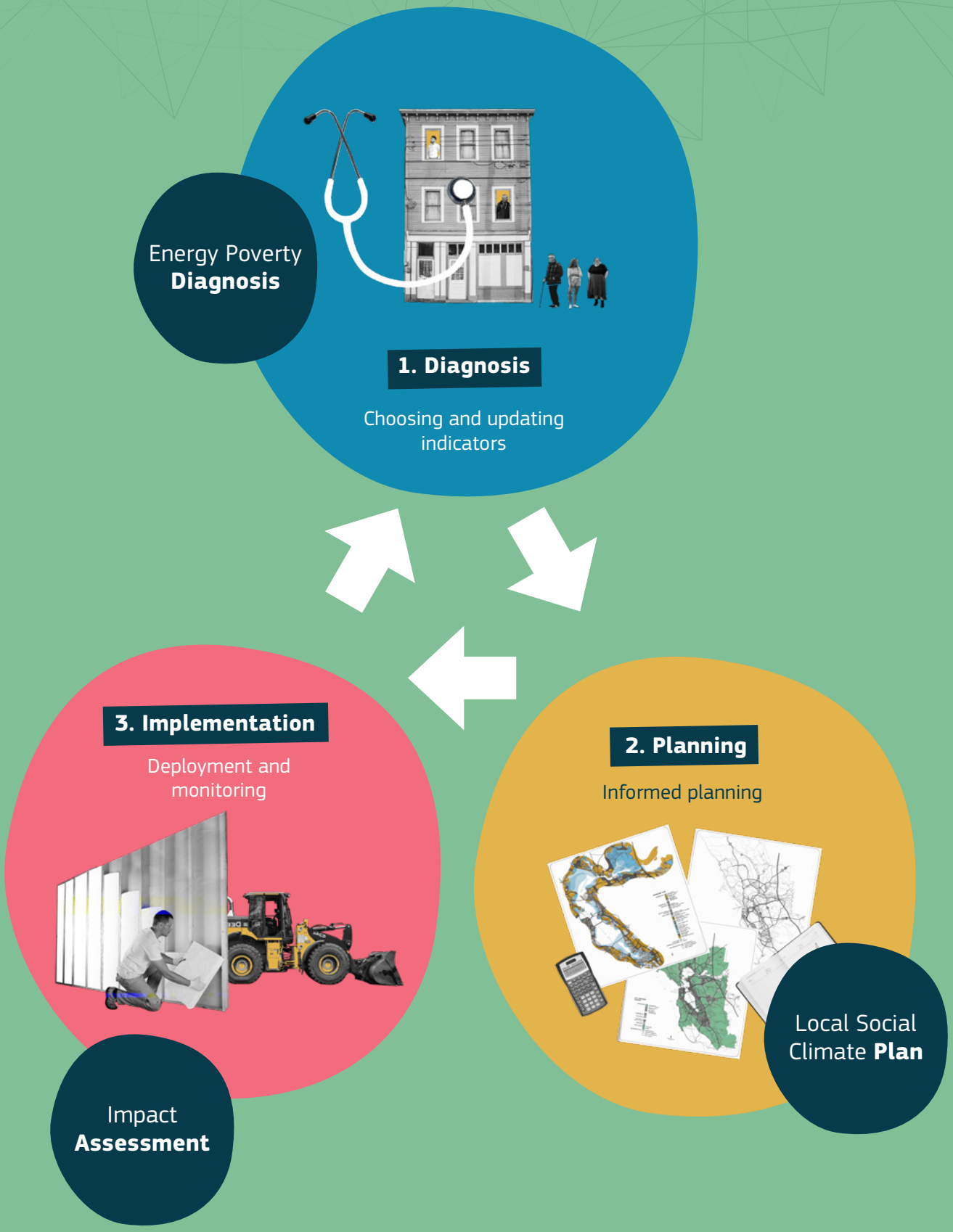


Diagram 1
Energy poverty phases

2.1. DIAGNOSIS

Diagnosis is the first phase in the process of designing local energy poverty initiatives. Overall, it is the refining of your understanding of local energy poverty and sets the scene for planning actions. It includes identifying the energy-poor population, evaluating the degree of vulnerability that the population is facing, mapping supporting stakeholders or updating the current diagnosis with impact assessments from an implemented project.

It is also an important exercise for you to increase your understanding of factors or behaviours that characterise the vulnerable groups and impact their level of vulnerability in your municipality. Finding the relevant information can be organised using the three main causes of energy poverty explained above (low income, energy efficiency, energy prices) and/or the types of energy poverty (measurable, perceived and hidden). The diagnosis is meant to depict the levels of energy poverty at a specific moment in time and for a specific geographical area. Key activities in this phase include: data collection, indicators and metrics selection, data analysis, interpreting, and mapping the results.

Indicators and data represent the cornerstone of this process. The diagnosis phase is inevitably shaped by the available data and the indicators chosen for your municipality. The selection of different approaches can result in more diverse information, so it is important to carefully decide how to use this phase to start the process. Different approaches can also require the involvement of a different number of resources. It is always important to keep in mind the overall goal and carefully calibrate the resources invested to obtain a result.

In short, the more diverse approaches you use to identify your local energy poverty, the more information you will have available to ensure an impactful Local Social Climate Plan in the next phase. More detailed information can be found in the EPAH report "Bringing Energy Poverty Research into local practice – Exploring Subnational Scale Analyses".

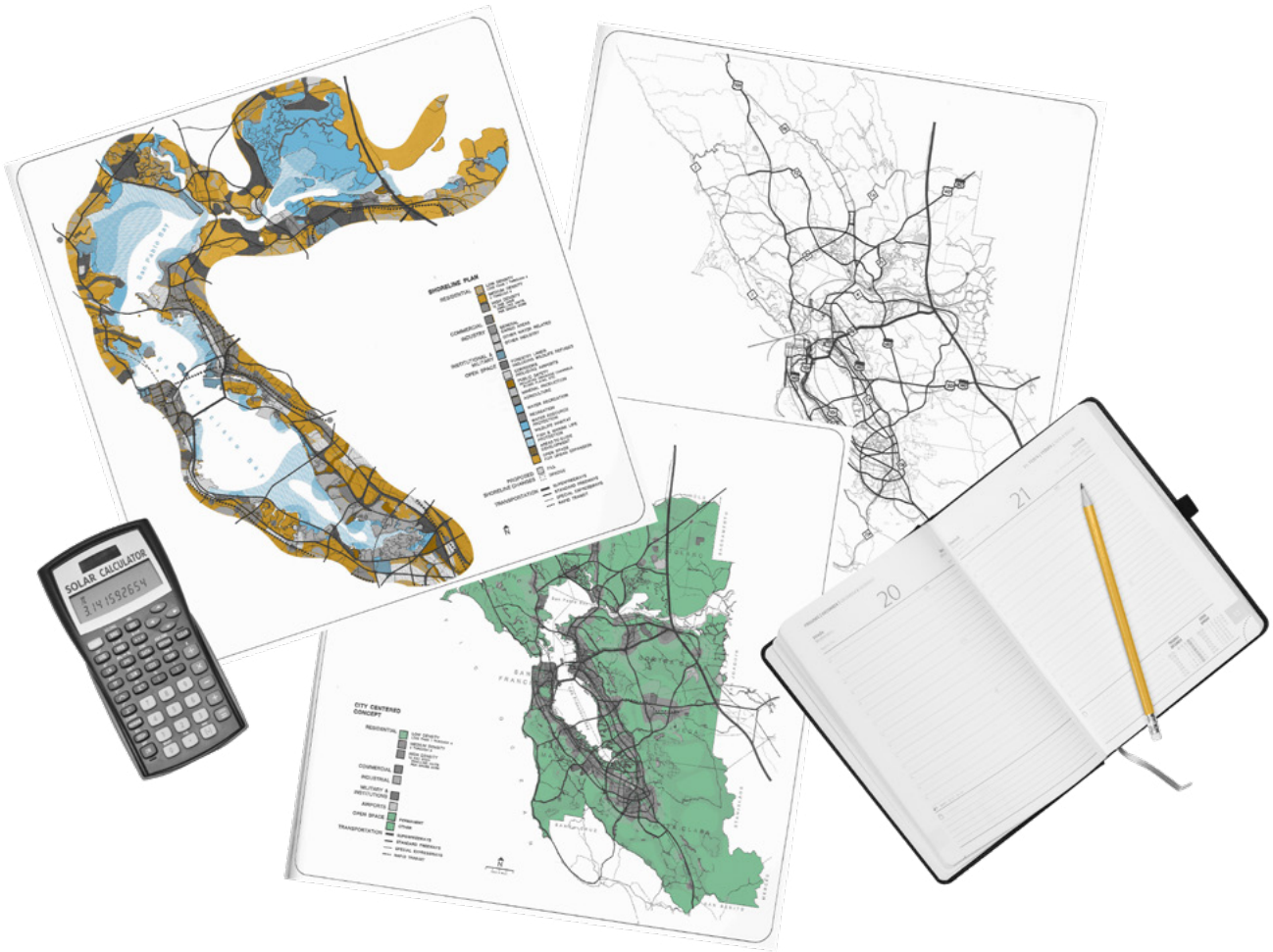
The expected output of the diagnosis phase can be a document that includes a summary of the collected information and a data analysis that can be used as the starting point for designing an informed plan.

2.2. PLANNING

Once you have identified the "who-how-where" and the extent of energy poverty in your municipality, you are sufficiently well informed to start integrating the social aspect into your Local Climate Plan. It is important to do this without creating an isolated energy poverty plan but an integrated approach in combination with your existing climate action plans (e.g. SECAPs or other municipal plans). You should therefore look at the information collected and integrate this with your existing energy and climate data coming from external assessments and declared commitments (e.g. quality of air, GHG emissions, risk of flooding, etc).

The planning phase is the moment to establish both short-term action-oriented objectives and mid and long-term strategic eradication goals before you start implementing your plan. Setting up a strategy will help you to consolidate a direction that can involve different activities such as training for professionals, support for social services, advice points, tax reductions etc. Building on the diagnosis phase will help to define SMART (specific, measurable, achievable, relevant, time bound) objectives based on the evidence collected.

At the end of the planning phase, the social element should be clearly present and recognisable in the existing plans with integrated energy poverty actions planned. The plan can now be considered a Local Social Climate Plan.



2.3. IMPLEMENTATION

The implementation phase constitutes the actual execution of the Local Social Climate Plan. This is the phase where all your efforts come together and “the shovel starts to move earth”. This phase primarily entails standard project management activities to ensure successful and timely implemented activities and sound budgeting, and organising the stakeholders involved. This phase also leads to assessing the impact of your actions in relation to alleviating energy poverty. An impact assessment of the implemented activities and plans should include positive results and constructive feedback to pave the way for the next steps.

Based on the impact assessment, the local energy poverty diagnosis phases can be updated with renewed understanding of how the situation has been altered by the implemented plan and in light of the actions taken.

3. Next steps

This introduction to energy poverty is meant to set a common background that can facilitate navigating through the different phases. The following handbooks will present each phase of the circular methodology and provide practical information on how to address the different aspects of energy poverty.

Local realities differ and the tools provided can be used in a broader sense keeping in mind the characteristics of each context. You are welcome to tailor the advice provided and develop your own specific methodology for your local context. In some cases, some of the advised steps have already been performed, even if not in the suggested order. In some other cases, the suggested activity can be affected by external factors (available human resources, time and/or available budget). The best advice is to use the concept in this introduction and the different steps as a guide and a checklist to follow and try to achieve the final result of each step even if at a different depth. The circular methodology also has the benefit that even small and easily implemented actions still constitute a step forward in the process and can therefore generate positive results that can be converted into larger activities.

Publications Office
of the European Union