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Comparative analysis of regional, national and EU policies in the fight against energy poverty

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1. Executive Summary

1.1 Key Findings

Energy poverty across the EU is a complex, multi-dimensional issue that persists despite ongoing efforts at all governance levels. It is driven by high energy costs, low household incomes, and inefficient housing—affecting vulnerable groups such as the elderly, single-parent families, and residents in under-resourced regions.

The EU has significantly improved its policy framework and measurement tools, notably through instruments like the European Green Deal, Social Climate Fund, and a refined set of energy poverty indicators. However, inconsistencies in implementation, data collection, and coordination among Member States remain critical obstacles.

Promising national and regional approaches are emerging. Slovenia demonstrates strong strategic alignment, supported by its Energy Act, NECP, and the Eco Fund. Yet, challenges such as stagnating poverty rates (7.3% in 2024), administrative barriers, and limited data integration persist. Notably, Slovenia's inclusion of energy-poor households in energy communities is seen as a best practice at the EU level.

In contrast, Hungary—despite full grid access—faces affordability issues and lacks a national definition or direct policy measures targeting energy poverty. Renovation efforts are slow, and vulnerable households struggle to access support. In many cases, civil society organizations like Habitat for Humanity fill crucial policy and service gaps.

New models like energy communities and digital tools (e.g., smart meters) offer potential, but require supportive legal frameworks. A whole-system, equity-based approach that includes social, housing, and climate dimensions is essential. Moving forward, inclusive policymaking and targeted interventions must be prioritized to ensure no one is left behind in the energy transition.

1.2 Recommendations

To effectively combat energy poverty and ensure a just and inclusive energy transition, this chapter outlines recommendations for EU institutions, national governments, regional authorities, and relevant stakeholders—including utilities, social services, and civil society organizations.

1. Enhance Energy Efficiency and Renewable Energy Access

Investments in **energy-efficient housing**, appliances, and decentralized **renewable energy systems** (e.g. rooftop solar, heat pumps) are essential to reduce consumption and lower household costs. Priority should be given to vulnerable populations living in poorly insulated or substandard housing. Expanding financial incentives and removing barriers to renovation and clean energy access is crucial.

2. Integrate Energy Poverty into National Frameworks

Energy poverty should be systematically addressed in all **National Energy and Climate Plans (NECPs)** and **Social Climate Plans**, in line with the European Commission's October 2023 recommendations. This alignment ensures that national strategies prioritize the identification, monitoring, and targeted alleviation of energy poverty.

3. Strengthen Consumer Protection and Social Safeguards

Member States and energy providers must adopt robust **consumer protection policies**, particularly during high-risk periods such as winter. These should include:

- Disconnection bans for vulnerable households,
- Flexible payment options,
- Automatic eligibility for support schemes based on income or housing conditions.

4. Foster Cross-Sectoral Collaboration

The European Commission urges active collaboration between stakeholders—**governments, civil society, social housing authorities, trade unions, energy cooperatives, health organizations, and consumer groups**. Such partnerships enhance the reach, credibility, and effectiveness of energy poverty interventions.

5. Simplify Access to Support and Funding

Application procedures for energy efficiency grants, subsidies, or social tariffs should be simplified. Streamlined digital and in-person advisory services should help **low-income, elderly, and marginalized groups** navigate bureaucratic hurdles. Local governments and NGOs should be empowered to act as trusted intermediaries.

6. Expand and Institutionalize Local Best Practices

Successful regional models—such as **Slovenia's Action Plan (2024–2026)** and local NGO-led outreach in Hungary—should be scaled up through national support and EU co-financing. Long-term sustainability should be prioritized over short-term project cycles.

7. Advance Data, Indicators, and Monitoring

National and EU institutions must invest in **harmonized, real-time data systems** to track energy poverty trends and policy outcomes. Energy poverty indicators should be integrated into statistical reporting, enabling responsive and transparent policymaking.

8. Prioritize Equity in the Green Transition

All climate and energy policies should incorporate the **principles of equity and justice**, ensuring that the most vulnerable are protected and empowered. This includes explicitly addressing energy poverty in **climate resilience planning**, housing policy, and social welfare systems.

2. Introduction

2.1 Definition of Energy Poverty

Energy poverty in the European Union (EU) refers to the condition where individuals or households are unable to afford essential energy services, such as heating, cooling, and lighting, necessary for maintaining a decent standard of living. This issue predominantly affects vulnerable groups, including low-income households, elderly individuals, and those living in poorly insulated homes. As of recent data, over 42 million EU residents struggle to keep their homes adequately warm, underlining the widespread nature of the problem. [1] [2]

The EU's response to energy poverty has been proactive, integrating it into broader climate and social policies. Key initiatives include the Clean Energy for All Europeans package and the Just Transition Mechanism, which aim to support socially equitable energy transitions. Member states are required to address energy poverty through their National Energy and Climate Plans (NECPs). Tools like the Energy Poverty Observatory and its successor, the Energy Poverty Advisory Hub, provide critical frameworks and indicators to assess and tackle energy poverty effectively across member states. [1] [3]

The complexity of energy poverty stems from its multifaceted nature, driven by high energy prices, inadequate energy efficiency, and socioeconomic disparities. Addressing these factors requires an integrated approach, focusing on improving housing insulation, regulating energy markets, and offering targeted financial support to affected populations. These efforts not only aim to alleviate immediate hardships but also contribute to long-term goals of sustainability and resilience in the EU energy sector. [1] [3]

2.2 Scope of the Report

At the project level, resources will be collected as a basis for reviewing policies aimed at combating energy poverty, adopted either by Slovenian, Hungarian authorities, or the European Commission. Within this framework, EU directives and guidelines related to energy poverty will also be thoroughly analyzed. Additionally, an analysis of the commitments implemented at both national levels will be conducted.

This report will ensure a systematic overview of policies at various levels and evaluate the commitments made and adapted by national and regional/local decision-makers where applicable.

The prepared overview will serve as the basis for the following workpackage – Concept of prevention and elimination of energy poverty with recommendations for decision makers. A comprehensive policy review to combat energy poverty will be prepared in English, while national inputs will be drafted in their respective national languages. Interesting findings or examples of good policy approaches, such as the successful implementation of an EU directive into national legislation, will be presented through two short prepared presentations aimed at communication and engagement with decision-makers.

2.3 Structure of the Report

The structure of the report is comprehensive and logically organized, catering to a systematic exploration of energy poverty. Here's a description of its structure:

1. **Executive Summary**
   - Provides a high-level overview of the report, summarizing key findings and actionable recommendations to ensure accessibility for readers needing a quick grasp of the document.
2. **Introduction**
   - Outlines the context and significance of the report. It includes a clear definition of energy poverty, establishes the scope of the analysis, and explains how the report is organized, helping orient the reader.
3. **Energy Poverty: An Overview**
   - Discusses the root causes and consequences of energy poverty, coupled with an explanation of how it is measured using specific indicators and metrics.
4. **Regional Policies in Tackling Energy Poverty**
   - Examines approaches at the regional level, presenting an overview, best practices through case studies, and highlighting implementation challenges.
5. **National Policies in the Fight Against Energy Poverty**

- Focuses on national strategies, detailed examples of programs, and evaluates successes and limitations of national efforts.

6. **EU Policies and Initiatives**
   - Explores EU-level strategies, legal frameworks, and key programs, shedding light on funding mechanisms that support energy poverty alleviation.
7. **Comparative Analysis of Policies**
   - Offers a cross-level analysis, comparing regional, national, and EU policies, assessing their effectiveness, and extracting lessons learned.
8. **Policy Integration and Coordination**
   - Identifies gaps in the alignment of policies across governance levels and provides recommendations for improving coherence and coordination.
9. **Emerging Trends and Innovations**
   - Highlights innovative solutions, including technological advancements, public-private partnerships, and evolving policy directions aimed at combating energy poverty.
10. **Conclusions and Recommendations**
    - Synthesizes the key findings, articulates policy recommendations for stakeholders, and proposes a roadmap for future research efforts.
11. **References**
    - Includes a comprehensive list of sources, ensuring the credibility and traceability of the information provided.

This structure ensures that the report is both detailed and accessible, moving from a broad overview to specific policy analysis and concluding with actionable insights and forward-looking perspectives.

3. Energy Poverty: An Overview

3.1 Causes and Consequences of Energy Poverty

Energy poverty arises from a combination of economic, infrastructural, and policy-related factors, and it results in profound socio-economic and environmental consequences. Below is a detailed analysis:

Causes of Energy Poverty

1. **Economic Constraints**
   - Low household incomes, combined with high energy costs, force families to make trade-offs between energy and other necessities like food and healthcare.
   - Fluctuating energy prices, influenced by global markets or regional dependencies, exacerbate this challenge.
     References: Studies by the European Commission and the International Energy Agency highlight the strong correlation between income levels and energy access [1] [2]
2. **Inefficient Infrastructure**
   - Poorly insulated housing and outdated appliances result in higher energy demands for heating and cooling, disproportionately affecting low-income households.
     References: The EU Energy Poverty Observatory emphasizes the role of energy-inefficient buildings in perpetuating energy poverty [3]
3. **Energy Market and Policy Failures**
   - Lack of consumer protection mechanisms, insufficient subsidies for low-income households, and high dependency on fossil fuels contribute to energy inaccessibility.
     References: Policy reviews by the European Parliament identify gaps in energy market regulation as a major cause [1] [2]
4. **Geographic and Climate Factors**
   - Harsh climates significantly increase heating or cooling needs. Rural or remote areas may also face infrastructural inadequacies, such as unreliable electricity grids.
     References: Research from academic journals on energy poverty in Europe documents the geographic disparities in access to energy [3]
5. **Societal Vulnerabilities**
   - Elderly individuals, single-parent households, and marginalized communities are more susceptible to energy poverty due to socio-economic disadvantages.
     References: Reports by NGOs and think tanks like Friends of the Earth Europe highlight these demographic disparities [2] [3]

Consequences of Energy Poverty

1. **Health Impacts**
   - **Physical Health:** Cold homes and inadequate ventilation lead to respiratory and cardiovascular diseases, while reliance on polluting fuels contributes to indoor air pollution.
   - **Mental Health:** Energy poverty is associated with stress, depression, and anxiety.
     References: Health studies linked to the EU Energy Poverty Observatory detail these impacts [1] [2]
2. **Educational and Social Inequality**
   - Children in energy-poor households face challenges in maintaining a conducive learning environment, affecting their academic performance and future prospects.
   - Energy poverty perpetuates social inequalities by disproportionately affecting vulnerable demographics.
     References: European Commission reports emphasize the societal costs of energy poverty [2] [3]
3. **Economic Strain**
   - Households with limited energy access experience reduced disposable income, which impedes long-term investments in education, healthcare, or energy-efficient upgrades.
   - Public costs, such as increased healthcare expenditure, burden governments and delay broader economic progress.
     References: International Energy Agency research links energy poverty with systemic economic challenges [1]
4. **Environmental Impacts**
   - Energy-poor households often rely on polluting fuels (e.g., coal or wood), increasing local air pollution and greenhouse gas emissions.
   - These behaviors hinder national and global sustainability goals.
     References: Climate action reports from the EU highlight the environmental trade-offs of inadequate energy access [3]
5. **Energy Insecurity**
   - Disconnection risks and reliance on subpar energy sources lead to intermittent energy access, compounding societal and individual instability.
     References: Policy analyses show the cascading effects of energy insecurity on social cohesion and economic resilience [1] [2]

Addressing these causes and mitigating the consequences requires an integrated approach involving policy reforms, technological solutions, and targeted social support.

3.2 Indicators and Metrics for Measuring Energy Poverty

Energy poverty represents a complex and multi-dimensional phenomenon, making its measurement challenging but essential for evidence-based policymaking. To effectively address energy poverty, it is crucial to define the concept clearly and establish robust indicators to monitor and evaluate its extent and impact. This chapter explores the primary indicators and metrics utilized to measure energy poverty, highlighting their applications and limitations.

The 2023 Social Climate Fund regulation and the revised Energy Efficiency Directive define energy poverty as "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." This lack is typically caused by a combination of non-affordability, insufficient disposable income, high energy expenditures, and poor energy efficiency of homes. [4]

Building on this definition, the European Union (EU) and its Member States recognize the necessity of indicators to evaluate energy poverty and to ensure appropriate interventions at national and local levels. [4]

Primary Indicators

Energy poverty is multi-dimensional and cannot be encapsulated by a single metric. The Energy Poverty Advisory Hub (EPAH) and the EU Energy Poverty Observatory (EPOV) have outlined several primary indicators that offer insights into the prevalence and severity of energy poverty. These include:

1. **Inability to Keep Homes Adequately Warm**:
    - Data from Eurostat and surveys assess the proportion of households unable to maintain adequate indoor temperatures during colder months.
    - This indicator is significant for identifying regions and demographic groups disproportionately affected by cold-related energy poverty.
2. **Arrears on Utility Bills**:
    - The share of the population at risk of poverty with overdue payments for energy services reflects economic stress and affordability issues.
    - Persistent arrears highlight systemic challenges in energy pricing and social support.
3. **High Energy Expenditure as a Share of Income**:
    - Households spending an excessive proportion of their income on energy services (twice the national median share) are identified as experiencing energy poverty.
    - This metric is particularly relevant for comparing disparities between income groups.
4. **Low Absolute Energy Expenditure**:

- Households whose energy expenditures fall below half the national median may indicate either high energy efficiency or suppressed energy consumption due to affordability constraints.

Complementary Indicators

In addition to the primary indicators, complementary metrics provide broader context to energy poverty. These include:

- **Housing Quality Metrics**:
  - Proportion of the population living in dwellings with leaks, damp, rot, or inadequate insulation.
  - Indicates the structural inefficiencies contributing to high energy costs and poor living conditions.
- **Energy Prices for Consumers**:
  - Data on electricity and gas prices segmented by consumption bands.
  - Assesses the affordability of energy in different economic contexts.
- **Risk of Poverty Metrics**:
  - Share of the population below 60% of national median income, with specific focus on energy expenses.
  - Links general economic vulnerability with energy poverty risks.
- **Seasonal Impacts**:
  - Indicators that account for summer and winter energy poverty, such as access to cooling solutions in warmer climates.

Composite Indices and Advanced Metrics

Recognizing the limitations of single indicators, composite indices, such as the European Domestic Energy Poverty Index (EDEPI), offer an aggregated view. EDEPI includes:

1. Share of energy expenditures as a proportion of total income.
2. Share of low-income households unable to maintain comfortable indoor temperatures in winter and summer.
3. Proportion of low-income households living in substandard housing.

These indices allow cross-country comparisons and help policymakers target regions or populations at higher risk of energy poverty.

Applications and Limitations

Applications:

- Indicators and metrics guide the development and evaluation of policies such as social energy tariffs, energy efficiency subsidies, and renovation initiatives.
- Localized data support community-specific interventions, ensuring that vulnerable populations receive targeted support.

Limitations:

- Data Availability:
  - Time lags in data collection (e.g., EU-SILC, Eurostat) reduce the immediacy of policy interventions.
- Subjective vs. Objective Measures:
  - Self-assessed metrics (e.g., perceived ability to keep warm) may differ from quantitative measures, leading to inconsistencies.
- Geographical and Seasonal Variations:
  - Differences in climate, housing stock, and energy systems require tailored approaches, complicating comparisons.

Future Directions

The EU and its Member States must continue refining energy poverty indicators to address emerging challenges, such as:

- Integrating real-time data from smart energy meters to improve timeliness and accuracy.
- Harmonizing definitions and methodologies across countries to enable better comparisons.
- Developing indicators for emerging forms of energy poverty, including transport and digital access.

Efforts to address energy poverty should also leverage advancements in geospatial analytics and machine learning to predict and mitigate risks in vulnerable communities.

By adopting a diverse set of indicators and continuously refining them, policymakers can better understand and combat energy poverty, ensuring that the transition to a sustainable and climate-neutral economy is both equitable and inclusive.

4. EU Policies and Initiatives

The European Union (EU) has developed a comprehensive strategy to address energy poverty, implementing a range of policies and initiatives aimed at ensuring access to essential energy services for all citizens. This chapter provides an overview of key EU policies and initiatives designed to tackle energy poverty, highlighting their objectives, instruments, and implementation frameworks.

To effectively present a comparative analysis of policies in a **table form**, we suggested to organize the table based on key dimensions of analysis that highlight similarities, differences, and effectiveness of the policies.

Table structure for overview of EU policies

Policy	Title
Policy Objectives	EU-wide objectives
Key Instruments	EU directives and funding mechanisms
Target Groups	Pan-European focus
Timeframe	
Implementation	European Commission, member states
Funding Sources	EU funds (e.g., Cohesion Fund, Social Climate Fund)
Monitoring & Evaluation	EU-wide audits and reviews
Effectiveness	Moderate uniformity across member states
Challenges	Need for harmonization
Best Practices	Example: [specific case]
Recommendations	Improve EU-national integration

4.1 EU Strategy and Legal Framework

The European Union (EU) has implemented various strategies and legal frameworks to combat energy poverty, addressing the issue through legislative and non-legislative measures. This chapter provides an in-depth analysis of key policies, structured to present their objectives, instruments, and effectiveness.

Policy	European Green Deal
Policy Objectives	Achieve climate neutrality by 2050 while ensuring a just energy transition and tackling energy poverty.
Key Instruments	Legislative measures (e.g., Energy Efficiency Directive), funding mechanisms (e.g., Cohesion Fund).

Policy	European Green Deal
Target Groups	Vulnerable households, regions with energy-inefficient infrastructure.
Timeframe	Initiated in 2019, with milestones extending to 2050.
Implementation	European Commission provides guidance; Member States adopt national action plans.
Funding Sources	EU funding programs, including Horizon Europe and the Social Climate Fund.
Monitoring & Evaluation	EU-level audits, reports by Member States, and Energy Poverty Advisory Hub monitoring tools.
Effectiveness	Progress is observed in Member States prioritizing energy efficiency improvements.
Challenges	Variability in national-level commitment and resource allocation.
Best Practices	Renovation Wave initiative focusing on social housing renovation.
Recommendations	Increase national integration of EU measures and allocate more resources for low-income groups.

Policy	Social Climate Fund (SCF)
Policy Objectives	Mitigate the social impacts of the extended Emissions Trading System (ETS) by supporting households in energy poverty.
Key Instruments	Financial compensation mechanisms tied to ETS revenues.
Target Groups	Energy-poor households and low-income individuals.
Timeframe	Enacted in 2023, with ongoing evaluations tied to ETS adjustments.
Implementation	Managed by the European Commission, with Member States required to submit Social Climate Plans by June 2025 to access funding.
Funding Sources	ETS revenues, complemented by national co-financing.
Monitoring & Evaluation	Progress linked to milestones in reducing energy poverty; Member States submit periodic reports.
Effectiveness	Early implementation highlights benefits, but the adequacy of funds remains under scrutiny.
Challenges	Addressing shortfalls in funding and ensuring Member State compliance.
Best Practices	Countries like Germany prioritize financial assistance for low-income households.
Recommendations	Expand SCF coverage and enhance accountability measures.

Policy	Energy Efficiency Directive (EED)
Policy Objectives	Reduce overall energy consumption and alleviate energy poverty through efficiency improvements.
Key Instruments	National energy savings obligations, prioritizing vulnerable groups.
Target Groups	Energy-poor households, particularly in substandard housing.
Timeframe	Initial directive (2012), revisions in 2023 to include energy poverty indicators.

Implementation	Member States implement measures through National Energy and Climate Plans (NECPs).
Funding Sources	Cohesion Fund and private-public partnerships.
Monitoring & Evaluation	Annual reporting by Member States and independent evaluations.
Effectiveness	Positive outcomes in countries with robust energy-saving programs.
Challenges	Data collection inconsistencies and insufficient funding in some regions.
Best Practices	Implementation of smart metering to optimize energy usage in low-income households.
Recommendations	Focus on energy-efficient retrofitting for rental housing.

Policy	**Renovation Wave Initiative**
Policy Objectives	Increase the rate and depth of building renovations, with a focus on worst-performing structures.
Key Instruments	Support for deep renovations and minimum energy performance standards.
Target Groups	Social housing residents and energy-poor homeowners.
Timeframe	Launched in 2020, with targets through 2030.
Implementation	Local government-led renovation projects, supported by EU guidance.
Funding Sources	Cohesion Policy funds and private investment.
Monitoring & Evaluation	Use of Energy Performance Certificates to measure progress.
Effectiveness	Significant improvements in housing stock in Western Europe.
Challenges	Scaling up efforts in Eastern European Member States.
Best Practices	Netherlands' social housing retrofitting programs.
Recommendations	Harmonize renovation standards across the EU and expand financial incentives.

4.2 Key EU Programs and Funding Mechanisms

The EU's multifaceted approach to combating energy poverty encompasses legislative measures, funding mechanisms, and collaborative initiatives. While significant progress has been made, ongoing efforts are essential to ensure that all citizens have access to affordable and sustainable energy services.

- **Horizon Europe**: The EU's flagship funding program for research and innovation, supporting projects in clean energy, climate action, and social inclusion. It fosters collaboration between member states and other regions.
- **LIFE Programme**: Focuses on environmental and climate action, including energy poverty. It finances projects that improve energy efficiency and tackle the energy needs of vulnerable groups.

- **Cohesion Fund**: Supports less-developed EU regions in implementing energy infrastructure and projects, aiming to reduce regional disparities in energy access and efficiency.
- **European Regional Development Fund (ERDF)**: Funds projects focusing on reducing energy poverty and improving energy efficiency in buildings, particularly in rural and urban regions facing higher poverty rates.
- **European Social Fund (ESF)**: Supports the social inclusion of vulnerable communities, funding initiatives to address energy poverty through social innovation, education, and skills development.
- **Energy Poverty Advisory Hub (EPAH)**: A dedicated initiative to support local and regional authorities in mitigating energy poverty. EPAH offers technical assistance and resources to implement effective measures at the local level.
- **EU Green Deal Financing**: Under the European Green Deal, funding opportunities for reducing energy consumption, supporting green innovation, and promoting clean energy access for marginalized groups.
- **InvestEU**: Facilitates investment in energy efficiency, renewables, and poverty reduction through private-public partnerships.

5. National Policies in the Fight Against Energy Poverty

To effectively present a comparative analysis of policies in a **table form**, we suggested to organize the table based on key dimensions of analysis that highlight similarities, differences, and effectiveness of the policies.

Table structure for overview of National policies

Policy	Title
Policy Objectives	National priorities and goals
Key Instruments	National programs and incentives
Target Groups	Broader national population
Timeframe	
Implementation	National governments
Funding Sources	National budgets, public/private partnerships
Monitoring & Evaluation	National reporting mechanisms
Effectiveness	Varied based on national priorities
Challenges	Political and economic barriers
Best Practices	Example: [specific case]
Recommendations	Align with national strategies

5.1 Slovenia

Adequate availability of heat, cold and electricity for lighting and powering household appliances and electronic devices is essential for a decent life, thermal comfort and human health. When energy costs represent a large share of household income or consumers are forced to reduce their household energy use to contain costs, we speak of energy poverty. Low household incomes and energy inefficient buildings and appliances contribute to energy poverty.

According to the Statistical Office of the Republic of Slovenia, in 2023 the poverty risk rate in Slovenia was the same as in 2022. The percentage of energy-poor households was around 7%. Some groups of the population are more energy-poor, in particular single-person households, the elderly (aged 65 and over), and single-parent families.

Compared to 2022, the percentage in causes of energy poverty has changed in 2023. According to the statistics, the proportion of households that would default on their housing costs has decreased. On the other hand, the proportion of households below the energy poverty line, the proportion of households financially unable to provide adequate heating and the proportion of households living in inadequate housing conditions have increased.

5.1.1 National Strategies and Frameworks

National policies to tackle energy poverty in the Republic of Slovenia are aimed at ensuring access to affordable and sustainable energy for all citizens, especially for vulnerable groups most at risk from high energy costs. Energy poverty in Slovenia often occurs as a consequence of high energy costs, low incomes and poor energy efficiency of buildings. Various policies have been adopted to address these problems, including financial incentives for energy renovations, as well as specific measures to protect vulnerable consumers and measures to promote energy efficiency and the use of renewable energy sources in households. These policies are aligned with the European Sustainable Development Goals and include measures to reduce CO_2 emissions and improve the quality of life of energy-poor households.

Slovenia, like Hungary and many other EU member states, has recognized energy poverty as a significant economic ans social issue. Slovenia has developed several national strategies, mostly aligned with EU energy policy, the European Green Deal, and its own national energy and climate objectives, highlighting the key governmental and legislative efforts to tackle this issue at a strategic level.

5.1.2 Case Studies: Selected National Programs

The main strategies addressing energy poverty in Slovenia are:

Policy	**Energy Act (Energetski zakon - EZ-1)**[1] The Energy Act is Slovenia's core legislative framework for energy and includes provisions for protecting vulnerable consumers, such as: • Prohibiting disconnection during critical periods, • Obligating energy suppliers to offer flexible payment options, • Enabling support schemes through the Eco Fund and ENSVET advisory services.
Policy Objectives	The Slovenian Energy Act includes provisions aimed at addressing energy poverty, reflecting both national priorities and European Union directives. The main objectives of the Act related to energy poverty are: • Ensuring Access to Energy for Vulnerable Consumers, • Identification and Protection of Vulnerable Consumers, • Promoting Energy Efficiency in Low-Income Households, • Monitoring and Reporting, • Cooperation with Social Services and • Awareness and Education

[1] https://pisrs.si/pregledPredpisa?id=ZAKO6665

Key Instruments	The key instruments of the Slovenian Energy Act (EZ-1) related to energy poverty are legal, regulatory, and financial tools designed to identify, protect, and support vulnerable and energy-poor households. These instruments include: • Definition and Identification of Vulnerable Customers, • Public Service Obligations, • Energy Efficiency Programs for the Poor, • Financial Support Measures, • Consumer Information and Advisory Services and • Monitoring and Reporting Mechanisms The Act provides for a number of specific measures to reduce energy poverty, including the promotion of energy efficiency in households, including subsidies for energy renovation of homes and other measures to reduce energy consumption and the resulting costs. Helping vulnerable groups such as the elderly, people with disabilities, low-wage individuals and families with children is crucial. The law provides energy cost subsidies for low-income households to help them pay for energy products and prevent the risk of energy poverty.
Target Groups	Under the Slovenian Energy Act (Energetski zakon – EZ-1), the primary target group concerning energy poverty is defined as vulnerable consumers: • Low-Income Households, • Elderly Individuals, • Persons with Disabilities or Chronic Illnesses, • Single-Parent Families, • Unemployed Individuals, • Recipients of Social Assistance The Act emphasizes the importance of inter-agency cooperation between energy providers, social services, and local governments to effectively identify and support these vulnerable groups.
Timeframe	The Slovenian Energy Act (Energetski zakon – EZ-1) was adopted on 22 March 2014 and has since undergone several amendments to align with evolving energy policies and European Union directives.
Implementation	Key Implementation Measures are: • Energy Efficiency and Renewable Energy Investments (€27 million - at least 8,000 energy-poor households), • Integration into Energy Communities (€5 million is earmarked to facilitate the inclusion of energy-poor households into energy communities), • Information Dissemination and Advisory Services (€1.8 million is dedicated to establishing a project office with regional advisory points
Funding Sources	• Slovenia's Climate Change Fund • European Regional Development Fund (ERDF)

	• EU Social Climate Fund: Post-2026, Slovenia is expected to receive over €300 million from this fund, a substantial portion of which will support ongoing energy poverty alleviation measures.
Monitoring & Evaluation	The Statistical Office of the Republic of Slovenia plays a crucial role in: • Annually assessing the number of energy-poor households • Evaluating the effectiveness of implemented measures • Providing data to inform policy adjustments
Effectiveness	The effectiveness of the Slovenian Energy Act (EZ-1) in addressing energy poverty can be assessed by examining statistical trends and the implementation of targeted measures over the past decade. The Slovenian Energy Act has played a crucial role in reducing energy poverty over the past decade. However, recent stagnation in progress highlights the need for continued and enhanced efforts. The implementation of targeted measures, such as those outlined in the 2024–2026 Action Plan, is essential to address ongoing challenges and ensure equitable access to energy for all households.
Challenges	Despite long-term gains, recent data suggests a plateau in progress: • Stable Energy Poverty Rate: In 2024, the energy poverty rate remained at 7.3%, similar to the previous year. • Persistent Vulnerabilities: Single-person households and single-parent families continue to experience higher rates of energy poverty, indicating the need for targeted interventions. These observations suggest that while the Act has been effective over the long term, additional measures may be necessary to address persistent and emerging challenges.
Best Practices	The Slovenian Energy Act (EZ-1), along with its supporting policies, incorporates several best practices in addressing energy poverty, many of which align with EU directives and are recognized as effective models in social and energy policy: • Clear Legal Definition of Energy Poverty, • Financial Incentives through the Eco Fund, • Cross-Sectoral Collaboration, • Energy Advisory Services, • Integration into Energy Communities, • Monitoring & Transparency
Recommendations	• Strengthen Data Collection and Targeting, • Simplify Access to Financial Support, • Increase Investments in Energy-Efficient Social Housing • Promote Participation in Renewable Energy

Policy	**National Energy and Climate Plan (NECP 2021-2030)[2]**
Policy Objectives	The National Energy and Climate Plan (NECP) is a strategic document that sets out objectives, policies and actions for the five dimensions of the Energy Union for the period up to 2030 (with a view to 2040): decarbonisation (greenhouse gas emissions and renewables), energy efficiency, energy security, the internal energy market, and research, innovation and competitiveness. In the NECP, Slovenia has set the objective of alleviating and reducing energy poverty by accelerating the implementation of social policy measures, general housing policy measures and existing targeted measures, complemented by a measure to create a supportive environment for alleviating energy poverty.
Key Instruments	One of the key measures to prevent energy poverty is to promote energy efficiency, especially in households used by vulnerable groups. This includes energy renovation of housing, which reduces energy consumption and consequently the cost of heating and other basic energy needs. This allows households to focus on other necessities of life as energy costs are lower. The NECP also focuses on ensuring that sustainable energy supply is accessible to all residents, regardless of their economic situation, including by promoting the use of renewable energy sources such as solar, biomass and other low-carbon technologies that can contribute to lower energy costs in the long term.
Target Groups	The target groups of Slovenia's National Energy and Climate Plan (NECP) related to energy poverty are closely aligned with the goals of the Energy Act but are framed within broader climate, energy, and social policy objectives. These groups represent the most vulnerable or at-risk populations in terms of energy affordability and access. Below are the key target groups: • Low-Income Households, • Elderly People (Especially Living Alone), • Single-Parent Families, • People with Disabilities or Chronic Illness, • Households with High Energy Burden, • etc.
Timeframe	Slovenia's NECP covers the period from 2021 to 2030 (with a view to 2040), aligning with the European Union's framework for member states to outline their strategies for achieving climate and energy objectives.

[2] https://www.energetika-portal.si/dokumenti/strateski-razvojni-dokumenti/nacionalni-energetski-in-podnebni-nacrt/dokumenti/

Implementation	The NECP outlines specific measures and funding mechanisms to support these target groups through: • Energy efficiency renovations, • Financial support from the Eco Fund, • Inclusion in energy communities, • Consumer protection mechanisms (e.g. disconnection bans, advisory services)
Funding Sources	• Slovenia's Climate Change Fund • Eco Fund • European Regional Development Fund (ERDF) • EU Social Climate Fund: Set to provide over €300 million to Slovenia between 2026 and 2032, this fund aims to assist vulnerable households in coping with the costs of the green transition • Loans from Financial Institutions Within the NECP's financial framework, €5.4 billion is earmarked for households.

Monitoring & Evaluation	Regular Progress Reports:
	• Slovenia must submit Biennial Progress Reports (BRPs) to the European Commission
	• These include updates on:
	  • Greenhouse gas emissions
	  • Renewable energy shares
	  • Energy efficiency
	  • Energy poverty indicators
	Annual Energy Statistics:
	• The Statistical Office of the Republic of Slovenia (SURS) compiles annual data on:
	  • Household energy consumption
	  • Energy affordability
	  • Building energy performance
	Sectoral Monitoring:
	• Ministries (e.g., Infrastructure, Environment, Social Affairs) track sector-specific actions and feed data into the national system.
	• Projects funded through the Eco Fund and Climate Change Fund are required to submit performance metrics.

Effectiveness	By taking a holistic approach, the NECP does not only address energy poverty from an energy policy perspective, but also links it to societal objectives such as social cohesion, poverty reduction and the promotion of equality. This approach allows for a just transition towards a sustainable energy future, where vulnerable groups are protected from energy poverty and energy supply is accessible to all citizens.
Challenges	• Financing gaps (high investment needs) • Energy Poverty (difficulty in identifying and reaching vulnerable households)

- Slow Renovation Rate (Building energy renovations are too slow to meet 2030 targets)
- Renewable Energy Barriers (Lengthy permitting processes for solar and wind projects)
- Monitoring & Data Gaps (Incomplete or delayed energy poverty and efficiency data)

Best Practices

The NECP includes actions across five key dimensions: decarbonization, energy efficiency, energy security, internal energy market, and research, innovation, and competitiveness.

- Early Integration of Stakeholders (municipalities, industry, civil society - Transparent public consultation and workshops - higher public acceptance,
- Focus on Energy Renovation of Buildings (deep energy renovation of residential and public buildings, Focus on vulnerable households to reduce energy poverty)
- Promotion of Renewable Energy Communities (Legislative support for local energy production - solar, biomass)
- Cross-border Cooperation (Alpine and Danube Regions)

Recommendations

- Strengthen Implementation Framework,
- Increase Investment Mobilization,
- Prioritize Deep Building Renovations,
- Improve Public Engagement and Transparency,
- Use Data and Digital Tools More Effectively

Policy

Slovenian National Development Strategy 2030[3]

The Slovenian National Development Strategy 2030 (SNDS 2030) outlines Slovenia's long-term development goals, including sustainable growth, social inclusion, and a low-carbon future. While energy poverty is not always explicitly labeled, the strategy addresses it through cross-cutting objectives that aim to reduce social inequalities and promote energy efficiency. Some objectives directly or indirectly related to energy poverty are:

Policy Objectives

- Inclusive, Healthy, Safe and Responsible Society - reduce social inequalities and improve quality of life,
- Low-Carbon Circular Economy - transition to a climate-neutral economy,
- High-Quality Living Environment - ensure sustainable spatial planning and infrastructure,
- Efficient and Responsive Public Institutions - increase capacity to address complex challenges

Key Instruments

Some examples of measures Under the Strategy:

- Subsidies for building insulation and heating system upgrades,

[3] https://www.gov.si/assets/ministrstva/MKRR/Strategija-razvoja-Slovenije-2030/Slovenian-Development-Strategy-2030.pdf

- Expansion of renewable energy cooperatives and citizen involvement,
- Social protection programs linked to energy efficiency investments,
- Encouragement of smart metering and energy use monitoring tools.

Here are the key instruments of the SNDS 2030**:**

- Strategic Planning and Coordination Frameworks (National Reform Programme, Development Documents and Sectoral Strategies,…)
- Funding and Financial Instruments (EU Structural and Cohesion Funds, Just Transition Fund, Slovenian Environmental Public Fund,…)
- Legislative and Regulatory Tools (Energy Act, Environmental Protection Act, egulation of Energy Prices and Social Tariffs,…)
- Monitoring and Evaluation Mechanisms (Indicators-Based Monitoring System - SI2030, Annual Government Reports,…)
- Stakeholder Engagement and Participatory Governance (Public Consultations and Partnerships with NGOs, Involvement of Local Authorities,…)
- Education and Awareness Raising (Public campaigns on sustainable energy use and energy saving,…)

Target Groups

The SNDS 2030 identifies several target groups that are central to achieving its vision of sustainable, inclusive, and balanced development. These groups are prioritized based on their specific needs, vulnerabilities, and roles in the transition to a fairer and greener society — including in areas like energy poverty, education, employment, and environmental sustainability.. Below are the key target groups:

- Vulnerable and Low-Income Households,
- Children and Young People,
- Elderly Population,
- Unemployed and Low-Skilled Workers,
- Women and Marginalized Groups,
- Local Communities and Municipalities,
- etc.

Timeframe

The SNDS 2030 sets out Slovenia's long-term development vision for the period up to the year 2030. It was officially adopted in December 2017 and provides a strategic framework for shaping national policies, development priorities, and the use of domestic and EU funds over a 13-year timeframe (2017–2030).

Implementation

The Slovenian National Development Strategy 2030 (SNDS 2030) is Slovenia's central policy framework aimed at achieving long-term sustainable development, economic prosperity, social well-being, and environmental responsibility by 2030. Its

	implementation involves a comprehensive, multi-level approach coordinated by government institutions, public agencies, and social partners, aligned with the UN Sustainable Development Goals.
Funding Sources	• United Nations 2030 Agenda for Sustainable Development (2015) • EU 2020 and EU 2030 Strategies • National Strategic Documents and Analysis • Previous Strategic Frameworks(Resolution on the National Development Plan of the Republic of Slovenia 2007–2013, etc.) • Legal and Institutional Framework (Government decision in 2017)
Monitoring & Evaluation	The monitoring and evaluation of SNDS 2030 is a structured process aimed at tracking progress, ensuring accountability, and enabling evidence-based policymaking. It involves a system of indicators, reporting mechanisms, and institutional oversight, aligned with national priorities and the UN Sustainable Development Goals.
Effectiveness	The effectiveness of the SNDS 2030 is assessed through its ability to deliver measurable progress toward its five strategic goals: high quality of life, inclusive society, productive economy, knowledge-based society, and sustainable natural resource use. As of recent evaluations (primarily by IMAD and government reports), the results have been mixed, with notable progress in some areas and ongoing challenges in others.
Challenges	• Demographic Decline and Aging Population • Regional and Social Inequalities • Low Productivity and Innovation Lag • Climate Resilience and Green Transition • Limited Stakeholder Engagement and Continuity
Best Practices	The Slovenian National Development Strategy 2030 (SNDS 2030) showcases several best practices that can serve as a model for strategic planning, sustainable development, and policy coordination. These practices are rooted in Slovenia's effort to align national goals with the UN Sustainable Development Goals (SDGs) and EU frameworks, while emphasizing inclusivity, innovation, and long-term resilience. Some examples: • Strong Alignment with the SDGs and EU Strategies • Evidence-Based Policymaking • Focus on Sustainability and Green Transition • Stakeholder Engagement During Strategy Formulation • Monitoring with Key Performance Indicators
Recommendations	• Strengthen Regional Development and Reduce Disparities • Address Demographic Challenges Proactively

	• Accelerate Innovation and SME Productivity • Enhance Implementation Capacity • Boost Climate Resilience and Green Innovation • Deepen Stakeholder Engagement and Public Awareness • Ensure Policy Continuity and Long-Term Vision
Policy	**Slovenian long-term Strategy for energy renovation of buildings (LTRS) – to 2050**[4]
Policy Objectives	The goal of the Long-Term Renovation Strategy (2021) is to have the energy systems of 74% of single-family houses and 91% of multi-family houses renovated by 2050. This will reduce final energy consumption by 45%, and CO2 emissions by almost 75% compared to 2005. The Strategy aims to decarbonize the national building stock by mid-century, focuses on: • Targeted renovations for energy-poor households. • Prioritizing social housing and vulnerable groups. • Financial mechanisms to support deep energy renovations.
Key Instruments	Regulatory Instruments: • Energy Performance of Buildings Act (ZURE), • Minimum Energy Performance Standards (MEPS), • Energy Certification System Financial Instruments: Here are the key instruments of the SNDS 2030**:** • Eco Fund (Eko sklad), • EU Cohesion Funds and Recovery and Resilience Facility • Tax incentives and reduced VAT for energy-efficient construction materials and services Technical Instruments: • Energy Renovation Programs, • Building Information Modelling, • Digital Building Logbooks Informational and Advisory Instruments: • One-Stop Shops, • Awareness Campaigns, • Training and certification for energy auditors, planners, and construction professionals.
Target Groups	The target groups of LTRS represent the various stakeholders whose buildings, actions, or investments are essential for achieving the national energy renovation and decarbonization goals. These groups include building owners, public authorities, businesses, and the construction sector, each playing a specific role in implementing deep energy

[4] https://www.energetika-portal.si/dokumenti/strateski-razvojni-dokumenti/dolgorocna-strategija-za-spodbujanje-nalozb-energetske-prenove-stavb/

	renovations and promoting energy efficiency. Below are the key target groups: • Homeowners and Private Households, • Public Sector Entities, • Building Managers and Housing Associations, • Construction and Renovation Industry, • Financial Institutions and Investors, • Educational and Research Institutions, • NGOs and Civil Society Organizations, • etc.
Timeframe	The Slovenian LTRS outlines a structured timeframe from 2020 to 2050, aligned with the EU's long-term climate goals. It is designed to gradually transform Slovenia's building stock into a highly energy-efficient and decarbonized sector by mid-century, with clear interim milestones to ensure steady progress.
Implementation	The implementation of the Slovenian Long-Term Strategy for Energy Renovation of Buildings to 2050 (LTRS) is a structured, multi-level process involving policy instruments, institutional coordination, financing mechanisms, and monitoring systems. The aim is to gradually transform Slovenia's building stock into a highly energy-efficient, low-carbon, and climate-resilient sector, in line with EU directives and national energy and climate goals.
Funding Sources	• Eco Fund (Eko sklad) – National Environmental Public Fund, • EU Cohesion Policy Funds, • Recovery and Resilience Facility, • Just Transition Fund (JTF), • Energy Performance Contracting (EPC), • National Budget and Local Government Contributions, • Private Sector and Green Finance
Monitoring & Evaluation	The monitoring and evaluation of Slovenia's Long-Term Strategy for Energy Renovation of Buildings to 2050 (LTRS) is designed to ensure that implementation stays on track, aligns with national and EU targets, and enables continuous improvement. This M&E framework combines quantitative indicators, data collection systems, and reporting obligations under both national law and EU directives.
Effectiveness	The effectiveness of Slovenia's Long-Term Strategy for Energy Renovation of Buildings to 2050 (LTRS) is moderate but improving, according to national evaluations and European Commission reports. While Slovenia has made progress in aligning its building renovation policies with EU climate and energy goals, challenges remain in scaling up renovation rates, targeting deep renovations, and reaching vulnerable groups.
Challenges	• Low Renovation Rate in the Private Residential Sector, • High Upfront Costs and Limited Affordability,

	• Administrative and Legal Barrier, • Limited Energy Performance Contracting (EPC) Uptake, • Slow Digitalization and Data Integration, • Lack of Focus on Vulnerable and Energy-Poor Households, • Coordination Among Stakeholders
Best Practices	Some examples: • Strong Policy and EU Alignment, • Eco Fund (Eko sklad) – A Robust National Financing Mechanism, • Use of Energy Performance Contracting (EPC) in Public Sector, • Comprehensive Building Stock Database and Monitoring Tools, • Focus on Deep Renovation Models, • Public Awareness and Advisory Support, • Inclusion in Recovery and Resilience Plan (RRP)
Recommendations	• Scale Up Deep Renovation in the Residential Sector, • Expand Access to Financing for Low-Income and Vulnerable Groups, • Strengthen Skills Development and Workforce Capacity, • Streamline Administrative and Legal Procedures, • Boost Private Sector Involvement, • Increase Public Awareness and Participation, • Ensure Policy Continuity and Long-Term Vision
Policy	**Resolution on Slovenia's Long-Term Climate Strategy – to 2050**[5]
Policy Objectives	The Resolution on the Long-term Climate Strategy of Slovenia until 2050 states, among the main guidelines in the field of energy efficiency, that Slovenia will specifically promote the implementation of measures for households exposed to the risk of energy poverty. As part of ensuring a just transition, it is also stated that Slovenia will ensure that even the most vulnerable population groups are enabled to implement measures for the transition to a low-carbon society and, in particular, that the measures will not worsen the financial situation of population groups from the first and second income quintiles.
Key Instruments	Measures (e.g. increasing the CO2 tax on fossil fuels) that would affect the most vulnerable groups will be compensated for by appropriate mechanisms for these groups (e.g. options for using tax revenue to reduce the rate of social security contributions, increasing social benefits for households, targeted measures for efficient energy use (EEE) and

[5] https://pisrs.si/pregledPredpisa?id=RESO131

	renewable energy sources (RES) to prevent energy poverty). In accordance with the adopted guidelines and acts (Energy Act (EZ-1) and NEPN), Slovenia will implement measures to mitigate and reduce energy poverty within the framework of social and housing policy and targeted EE and RES measures.
Target Groups	The Resolution identifies several key target groups that are critical to achieving the country's goal of climate neutrality by mid-century. These groups are defined based on their roles in emissions generation, climate policy implementation, and their capacity to influence systemic change across sectors such as energy, transport, agriculture, industry, and the built environment. • Public Authorities and Policymakers, • Businesses and Industry, • Energy Sector Stakeholders, • Transport Sector Stakeholders, • Agricultural and Forestry Sector, • Research and Academic Institutions, • Financial Institutions, • NGOs and Civil Society, • Citizens and Households, • etc.
Timeframe	Slovenia's Long-Term Climate Strategy outlines a comprehensive roadmap to achieve climate neutrality by 2050. Adopted by the National Assembly on 13 July 2021, the strategy aligns with the European Union's climate objectives and the Paris Agreement commitments.
Implementation	Slovenia's implementation of its Long-Term Climate Strategy to 2050 (ReDPS50) is progressing through a combination of national policies, sectoral reforms, and local initiatives. Slovenia is actively implementing its Long-Term Climate Strategy through legislative initiatives, sectoral reforms, and local actions. While progress is evident, particularly in energy transition and local engagement, challenges remain in aligning financial policies with climate objectives and establishing detailed sector-specific targets.
Funding Sources	Slovenia's approach to financing its Long-Term Climate Strategy is multifaceted, leveraging both EU and national resources, as well as innovative financial instruments, to support its transition to a climate-neutral economy by 2050: • EU Cohesion Policy (2021–2027)EU Cohesion Policy Funds, • LIFE Programme, • Just Transition Mechanism (JTM), • European Investment Bank (EIB) Financing, • National Budget and Local Government Contributions, • Private Sector and Green Finance, • etc.

Monitoring & Evaluation	Slovenia employs a comprehensive Monitoring, Reporting, and Evaluation (MRE) framework to track the progress of its Long-Term Climate Strategy until 2050 (ReDPS50). This framework integrates national tools, sectoral assessments, and international reporting obligations to ensure transparency and accountability. Most important: • Climate Action Mirror, • Slovenian Environment Agency (ARSO), • International Reporting and Compliance (UNFCCC, EU's "Fit for 55", etc.)
Effectiveness	Slovenia's Long-Term Climate Strategy demonstrates a structured approach toward achieving climate neutrality by 2050. While there have been notable advancements, several challenges persist that may impede the strategy's overall effectiveness.
Challenges	• Delayed Emission Reductions, • Land Use, Land-Use Change, and Forestry (LULUCF) Sector, • Transport Sector Emissions, • Renewable Energy Integration, • Financial and Investment Challenges, • Policy Coherence and Implementation
Best Practices	Some examples: • Climate Action Mirror (CAM), • Integrated National Energy and Climate Plan (NECP), • Beekeeping Practices, • Circular Economy and Systems Innovation
Recommendations	• Accelerate Emission Reductions Before 2030, • Strengthen the Land Use, Land-Use Change, and Forestry (LULUCF) Sector, • Reform Fossil Fuel Subsidies, • Enhance Climate Justice and Public Engagement, • Strengthen Monitoring and Evaluation Mechanisms
Policy	**Slovenia's Electricity Supply Act**[6]
Policy Objectives	In Slovenia, energy poverty is addressed in legislation by the Electricity Supply Act (ZOEE), according to which the Government of the Republic of Slovenia must prescribe criteria for defining and assessing the number of energy poor households and adopt appropriate measures to provide support for improving energy efficiency with the aim of reducing energy poverty. ZOEE also deals with ensuring access to electricity for all consumers, especially for vulnerable groups facing challenges related to high energy costs. The main task of the Act is to

[6] https://pisrs.si/pregledPredpisa?id=ZAKO8141

Key Instruments	enable access to affordable and equitable energy services that do not burden households, especially those in energy poverty. The law (among other) provides special rights for vulnerable consumers, which include those who, due to low income, social or other factors, cannot cover the costs of electricity. Vulnerable consumers include socially disadvantaged groups, such as recipients of social transfers, pensioners with low pensions, people with long-term health problems, etc. Benefits such as subsidies or lower electricity prices are often provided for these groups in order to prevent or reduce energy poverty. The ZOEE also focuses on ensuring access to electricity for all consumers, which includes preventing interruptions in electricity supply. It stipulates that electricity supply must be guaranteed even in the event of non-payment if the consumer belongs to vulnerable groups. General target groups are:
Target Groups	• End Consumers, • Producers, • Suppliers and Distributors, • Energy Communities, • Regulatory Bodies
Timeframe	Slovenia's Electricity Supply Act (ZOEE) was adopted by the National Assembly on 20 October 2021 and entered into force on 13 November 2021. The Electricity Supply Act (ZOEE) serves as a foundational element in Slovenia's efforts to develop an efficient and competitive electricity market, facilitating the transition to a climate-neutral society.
Implementation	The implementation of Slovenia's Electricity Supply Act (ZOEE), is a multi-phase process involving legislative actions, infrastructure upgrades, and the establishment of supportive frameworks to ensure a sustainable and efficient electricity supply system.
Funding Sources	The implementation of Slovenia's Electricity Supply Act (ZOEE) is supported through a combination of national and EU funding mechanisms, aimed at enhancing the country's electricity infrastructure and promoting renewable energy adoption: • State Aid Schemes, • Eco Fund, • European Investment Bank (EIB) Loans, • EU State Aid Temporary Crisis and Transition Framework, • etc.
Monitoring & Evaluation	The implementation of the ZOEE is monitored through various mechanisms: • Energy Agency Oversight: The Energy Agency of the Republic of Slovenia oversees the compliance and effectiveness of the Act's provisions.

	• Annual Reporting: Regular reports are submitted to the European Commission, detailing the progress and challenges in implementing the Act's objectives. • Stakeholder Consultations: Engagement with stakeholders, including local authorities, industry representatives, and the public, ensures transparency and accountability in the implementation process.
Effectiveness	The effectiveness of Slovenia's Electricity Supply Act (ZOEE), enacted in November 2021, is assessed through various indicators and monitoring mechanisms.
Challenges	• Energy Consumption in Transport (the transport sector experienced a 51.4% increase in energy consumption from 2000 to 2023, indicating a need for targeted policies to address this area) • Regulatory Delays (the initial two-year delay in adopting the ZOEE highlights the need for more efficient legislative processes to ensure timely implementation of energy policies)
Best Practices	Some examples: • Support for Energy Communities, • Integration of Renewable Energy Sources, • Promotion of Energy Efficiency, • Crisis Management Provisions, • Empowerment of Active Consumers and Aggregators
Recommendations	• Accelerate Permitting Processes for Renewable Energy Projects, • Enhance Support for Energy Communities, • Promote Energy Efficiency Across All Sectors, • Invest in Energy Storage and Grid Modernization, • Foster Public Awareness and Education
Policy	**Decree on the criteria to define and assess the number of households in energy poverty[7]**
Policy Objectives	The European Union has no joint definition of the concept of energy poverty, nor a joint indicator for it, as well as no special joint European policy to deal with this issue. The Decree provides more detailed criteria for defining and assessing the number of energy-poor households. These include material vulnerability, a large share of energy expenditure in relation to available income or exceeding the average proportion of energy expenditure, low energy efficiency of household premises and unsuitable living conditions.
Key Instruments	The assessed proportion and number of energy poor households in the Republic of Slovenia will be drafted annually

[7] https://www.gov.si/en/news/2022-10-14-the-government-issues-the-decree-on-the-criteria-to-define-and-assess-the-number-of-households-in-energy-poverty/

	by the Statistical Office of the Republic of Slovenia on the basis of the poverty risk threshold definition. The measures for implementing support to improve energy efficiency in order to reduce energy poverty will be carried out by the ministry responsible for energy on the basis of the foregoing information.
Target Groups	The decree focuses on identifying households that are particularly vulnerable to energy poverty. The primary target groups include: • Single-person households, especially those comprising elderly individuals (65 years or older), who often face higher energy costs relative to their income, • Single-parent households with dependent children, which are more susceptible to energy poverty due to the financial strain of single incomes supporting multiple dependents, • Households with low income levels, where the cost of energy constitutes a significant portion of their monthly expenses, • Households residing in inadequate housing conditions, such as dwellings with poor insulation, outdated heating systems, or structural issues like dampness and mold, which lead to higher energy consumption and costs, • Households unable to maintain adequate indoor temperatures, indicating insufficient heating or cooling due to financial constraints.
Timeframe	The decree's timeframe commenced in October 2022, with strategic measures planned through 2030 to alleviate energy poverty in Slovenia.
Implementation	Following the adoption of the decree, the government implemented an action plan targeting a reduction in the share of energy-poor households to between 3.8% and 4.6% by 2030. This plan includes investments in energy efficiency and renewable energy solutions for at least 8,000 energy-poor households, aiming for cumulative energy savings of 573 gigawatt-hours between 2023 and 2030. For the period 2024–2026, €33.8 million is allocated to support these initiatives.
Funding Sources	National Funding Sources: • Climate Change Fund, • Eco Fund, European Funding Sources: • European Regional Development Fund (ERDF), • Social Climate Fund (2026–2032) For the period 2024–2026, Slovenia has earmarked €33.8 million to combat energy poverty.
Monitoring & Evaluation	Annual Assessment by the Statistical Office (SURS): • Material vulnerability: Households with income below the poverty risk threshold.

	• High energy expenditure: A significant share of energy costs relative to available income. • Low energy efficiency: Poor insulation, outdated heating systems, or other inefficiencies in household premises. • Unsuitable living conditions: Issues like dampness, mold, or structural deficiencies. Three-Year Action Plans by the Ministry of Infrastructure. • Based on SURS's assessments, the Ministry responsible for energy develops three-year action plans detailing measures to improve energy efficiency and reduce energy poverty. Implementation Oversight by Eco Fund: • The Eco Fund, Slovenia's environmental public fund, is responsible for implementing the measures outlined in the action plans. Alignment with National Energy and Climate Plan (NECP).
Effectiveness	As of early 2025, the effectiveness of the Decree, is beginning to manifest through structured implementation and initial outcomes. While the immediate impact of the decree on reducing energy poverty rates is modest, the establishment of clear criteria, dedicated funding, and structured action plans lays a solid foundation for future progress. Continued implementation of targeted measures and regular monitoring are essential to achieve the long-term goal of reducing the share of energy-poor households to between 3.8% and 4.6% by 2030.
Challenges	• Persistent Inadequate Housing Conditions, • Stagnant Reduction in Energy Poverty Rates, • Complexity in Eligibility Verification, • Regional Disparities, • Financial Constraints and Funding Allocation
Best Practices	Some examples: • Targeted Financial Support for Vulnerable Households, • Clear and Inclusive Eligibility Criteria, • Community Engagement and Support Services, • Monitoring and Evaluation Mechanisms (SURS)
Recommendations	• Simplify Application and Verification Processes, • Enhance Regional Targeting, • Expand and Diversify Funding Sources, • Strengthen Monitoring and Evaluation Mechanisms, • Promote Community Engagement and Awareness
Policy	**Slovenia´s Action plan to reduce energy poverty**[8]
Policy Objectives	Based on the Decree on the criteria for defining and assessing the number of energy poor households, the ministry

[8] https://www.gov.si/en/news/2023-11-22-measures-to-alleviate-energy-poverty/

	responsible for energy has prepared and proposed to the Government of the Republic of Slovenia measures to improve energy efficiency with the aim of reducing energy poverty in a three-year action plan. In 2023, the Government of the Republic of Slovenia adopted the Action Plan for Reducing Energy Poverty for a period of three years (2024 – 2026). The document addresses measures to reduce and alleviate energy poverty, indicators for monitoring the implementation of measures, responsible bodies for implementing measures and determines the sources of financial resources for the implementation of measures. The main objective in the period 2024–2026 is to establish the operation of the energy poverty reduction scheme, which represents a key set of measures that are implemented simultaneously and are mutually supportive, as this is the only way to ensure a comprehensive approach to reducing energy poverty in the long term at the systemic level.
Key Instruments	The scheme is based on existing measures (e.g. the ZERO500 programme, the ZERO project, etc.) and previous experiences, which will be implemented on an increased scale with the upgrade. The scheme includes measures such as investment incentives for energy efficiency and renewable energy measures for the energy poor, which is the central financial measure for reducing energy poverty; energy consultancy for the energy poor, which involves comprehensive support for this target group in implementing energy efficiency and renewable energy measures; informing the energy poor through actors in an informal information and awareness-raising network at the regional level; a project office with regional advice points for energy poverty, which provides comprehensive multidisciplinary assistance (technical, social and personal assistance) for the energy poor in one place.
Target Groups	Slovenia's Action Plan to reduce energy poverty primarily targets the following groups: • Low-income households – especially those struggling to afford adequate energy services. • Elderly people – who are more vulnerable to the effects of energy poverty due to fixed incomes and health issues. • People with disabilities or chronic illnesses – needing consistent energy for medical devices or temperature control. • Single-parent families – often at higher risk of financial hardship. • Residents in energy-inefficient buildings – particularly in rural or older urban areas.
Timeframe	The timeframe for Slovenia’s Action Plan to reduce energy poverty is 2021 to 2030, aligning with the country’s National Energy and Climate Plan (NECP). Key milestones within this period include:

- Short-term (by 2023): Establishing definitions, data collection systems, and pilot programs.
- Mid-term (by 2026): Implementing targeted measures like energy efficiency renovations, financial support schemes, and awareness campaigns.
- Long-term (by 2030): Achieving a measurable reduction in energy poverty and integrating long-term structural solutions.

Implementation

The implementation of Slovenia's Action Plan to reduce energy poverty involves a multi-sectoral and phased approach coordinated by the government, with support from local authorities, NGOs, and energy providers.
Key implementation elements include:

- Institutional Coordination
- Identification of Energy-Poor Households
- Support Measures
- Awareness and Education
- Monitoring & Evaluation

Funding Sources

he funding sources for Slovenia's Action Plan to reduce energy poverty come from a mix of national, EU, and private sector contributions. Here's a breakdown:

1. EU Funding

- Recovery and Resilience Facility (RRF): Supports building renovation and social housing upgrades.
- European Social Fund Plus (ESF+): Funds social inclusion, including measures targeting energy poverty.
- Cohesion Fund & European Regional Development Fund (ERDF): Used for energy efficiency improvements and infrastructure.
- Just Transition Fund (JTF): Helps regions affected by the green transition address social impacts like energy poverty.

2. National Budget

- Allocations from the Slovenian national budget support subsidies, energy renovations, and awareness campaigns.
- Programs administered by the Eco Fund (Slovenia's environmental public fund) provide low-interest loans and grants for energy efficiency.

3. Energy Companies & Private Sector

- Obligated parties (like electricity or gas suppliers) contribute through energy efficiency obligation schemes.
- Public-private partnerships (PPPs) and corporate social responsibility (CSR) initiatives also support implementation.

Monitoring & Evaluation

The Monitoring and Evaluation (M&E) framework of Slovenia's Action Plan to reduce energy poverty is designed to ensure accountability, track progress, and adjust policies as needed throughout the 2021–2030 period.

Effectiveness	The effectiveness of Slovenia's Action Plan to reduce energy poverty is still evolving, as it spans from 2021 to 2030, but several early assessments and structural strengths indicate moderate but improving effectiveness so far.
Challenges	Main Challenges: • Lack of a Unified Definition and Data System • Administrative Barriers • Low Awareness • Regional Inequalities • Funding Limitations and Uncertainty • Skilled Workforce Shortages
Best Practices	Some examples: • Integration with Energy Renovation Programs, • Multisectoral Collaboration, • Use of EU Funding Mechanisms, • Local Energy Advisory Services, • Public Awareness Campaigns, • Energy Efficiency Obligation Scheme (EEOS), • Monitoring Indicators & Mid-term Review
Recommendations	• Establish a Clear and Uniform Definition of Energy Poverty, • Create a Centralized Energy Poverty Database, • Strengthen Cross-Sector Collaboration, • Simplify Access to Subsidies and Renovation Programs, • Secure Long-Term Funding Commitments, • Expand Energy Efficiency Obligation Scheme (EEOS), • Invest in Local Energy Advisors and Social Workers, • Launch Targeted Awareness Campaigns, • Encourage Citizen Participation and Feedback.

5.1.3 Success Stories and Limitations

Slovenia has made measurable progress in tackling energy poverty through targeted programs, EU co-funded initiatives, and grassroots support, but significant structural and social limitations remain — especially in rural and underdeveloped regions like Pomurje.

The following organisations address energy poverty:

1. **Eco Fund's Energy Efficiency Subsidies**

- The Eco Fund (Eko sklad) is Slovenia's key public institution for financing energy efficiency.
- It offers grants and low-interest loans to low-income households for:
  - Wall and roof insulation
  - Efficient windows and doors
  - Replacement of coal/wood stoves with heat pumps or biomass boilers

Success:

- Hundreds of vulnerable households have been able to renovate homes or replace old heating systems at little or no cost.
- The targeted subsidy program for energy-poor households (e.g. Javni poziv 99SUB-OB19) increased uptake among low-income groups.

2. **Red Cross Slovenia: Social Energy Support**
   - Rdeči križ Slovenije (Red Cross Slovenia) has led practical interventions such as:
   - Donations of energy-efficient appliances (e.g. fridges, heaters)
   - Distribution of firewood, blankets, and heating vouchers
   - Collaboration with municipalities and utility providers to prevent disconnections

Success:

- Direct support to elderly, disabled, and socially excluded groups who often fall outside formal government aid systems.
- Highly trusted at the community level, especially in rural or Roma settlements.

3. **Pilot Projects through EU-Funded Initiatives**
   - Projects like ENERGYCARE and Reduce Energy Poverty (REACH) have piloted:
     - Free home energy audits for low-income families
     - Distribution of energy-saving kits (LED bulbs, water-saving nozzles)
     - Engagement of social workers and energy advisors

Success:

- Built awareness and created toolkits for local governments.
- Trained energy advisors who now work across municipalities.

Despite progress and increased awareness, Slovenia faces several systemic and structural limitations in effectively tackling energy poverty. These limitations are tied to policy design, data, funding mechanisms, administrative capacity, and social equity gaps. Here's a more detailed analysis:

1. **Lack of a Clear, Legally Binding Definition of Energy Poverty**

- While Slovenia recognizes energy poverty in policy documents (e.g. NECP, Action Plans), it does not yet have a formal, legal definition or threshold based on standardized indicators.
- Multiple indicators are in use (e.g. high energy burden, inability to heat home), but there's no unified methodology.

Impact:
Hard to identify, target, and track energy-poor households effectively — many vulnerable groups fall through the cracks.

2. **Insufficient Data and Mapping Tools**

- There is no central registry or geospatial mapping system for energy-poor households.
- Many municipalities lack access to granular data on income, energy use, and building quality — or have no staff trained to use it.

Impact:
Policymakers and local actors cannot plan interventions or assess impact effectively.

3. **Outdated and Inefficient Housing Stock**

- A large proportion of Slovenia's buildings — especially in rural regions like Pomurje are poorly insulated and rely on inefficient heating systems (e.g. wood stoves, coal, old gas boilers).
- Deep energy renovations are expensive and out of reach for low-income homeowners, even with subsidies.

Impact:
Many households remain locked into high-cost, low-efficiency living despite available support.

4. **Bureaucratic and Financial Barriers to Accessing Support**

- Subsidy and loan programs (e.g. via Eco Fund) often require:
  - Upfront paperwork
  - Building ownership documentation
  - Energy performance certificates
  - Some level of co-financing
- Vulnerable households (e.g. elderly, Roma communities, renters) often lack documents or resources to navigate the system.

Impact:
Those most in need are often excluded from state support.

5. **Fragmented Institutional Coordination**

- Responsibility is split across multiple ministries (Energy, Social Affairs, Environment), municipalities, and NGOs.
- There's no single coordination body or national energy poverty task force.

Impact:
Duplication of efforts, lack of synergy, and regional inequalities in implementation.

6. **Overreliance on Short-Term or Project-Based Solutions**

- Many successful energy poverty interventions in Slovenia (e.g. audits, energy kits, outreach) are funded by short-term EU projects.
- Once projects end, there's limited institutionalization or scaling of effective models.

Impact:
Lack of continuity in assistance and missed opportunity to build sustainable frameworks.

7. **Low Stakeholder Involvement and Community Engagement**

- Many affected households are not involved in policy design or consulted in developing local energy plans.
- Public campaigns about energy poverty are infrequent, and there's little visibility for support services.

Impact:
People in need don't engage with or trust the system, leading to low uptake of available help.

5.2 Hungary

Access to energy is not generally a problem for Hungarian society, but the affordability of energy services is a major concern. This is because domestic incomes are significantly below the EU average, while energy prices have risen dramatically in recent years and the energy efficiency of the housing stock is demonstrably low. Although energy poverty is receiving increasing attention in policy making and research, it has not yet become a widely known and high priority social issue in Hungary.

Thus, targeted policies to address energy poverty have not yet been developed. There are also obstacles in approaching the issue, as there is still a lack of a national definition of energy poverty and no appropriate indicator to identify those affected. Developing these is a major challenge, as the necessary data and databases are not available. These would be essential not only for a clear understanding of the problem, but also for the effective design, monitoring and measurement of the impact of policies and support.

The latest developments in the energy crisis have brought the issue of energy efficiency and energy poverty increasingly to the attention of government.

However, in this document we try to bring together the concepts, sectoral strategies, county and municipal development documents, related policies that address energy poverty in a tangential way.

5.2.1National Strategies and Frameworks

However, some sectoral strategies address energy poverty from several angles. Of particular importance in this respect are **Hungary's National Energy and Climate Plan**, the related **National Energy Strategy 2030**, the **Long-Term Renewal Strategy** and the **Hungarian National Social Inclusion Strategy 2030**.

These strategies set out the objectives defined below. In the list, particular attention is paid to the elements that contribute to reducing energy poverty.

5.2.2 Case Studies: Selected National Programs

Policy	**Hungary's National Energy and Climate Plan**
Policy Objectives	• Decarbonisation dimension: reducing greenhouse gas emissions and increasing the share of renewable energy in gross final energy consumption. • The energy efficiency dimension: improving the efficiency of energy use, with a particular focus on optimising final energy use. • The energy security dimension: ensuring the reliability and continued availability of energy supplies. • Internal energy market dimension: increasing the integration and efficiency of the energy market, including regional cooperation and infrastructure development. Under this dimension, the strategy states that Hungary will measure the effectiveness of its policy to reduce heating difficulties by monitoring the share of households spending at least 25% of their income on energy (9.8% in 2016). It should give priority to vulnerable user groups. Hungary is focusing on two distinct social groups: large families living in a family house in a small settlement and pensioners living alone in a condominium (and sometimes in a family house). • The research, innovation and competitiveness dimension: supporting energy research and innovation and strengthening competitiveness in the energy sector.
Key Instruments	Residential energy efficiency grants (e.g. home renovation programmes, insulation and window replacement grants). Subsidies for solar and heating systems (e.g. solar PV systems, heat pumps, boiler replacement). Social tariffs and utility allowances for low-income households. Tightening of energy regulations for buildings (e.g. mandatory energy efficiency standards for new buildings). Energy efficiency obligation scheme for energy suppliers. Environmental and sustainable transport programmes (e.g. Green Bus Programme, electric vehicle subsidies).
Target Groups	Households Public institutions and municipalities Businesses and industry
Timeframe	2021-2030: Implementation of the main objectives and actions. Looking ahead to 2040: Strategic orientations for the long-term development of the energy sector.
Implementation	Government agencies and ministries (e.g. Ministry of Energy, Ministry of Construction and Transport). Role of local governments in implementing energy efficiency programmes. Obligations and incentives for energy industry actors in the field of energy efficiency.

Funding Sources	EU funding (e.g. Environment and Energy Efficiency Operational Programme Plus, Recovery and Resilience Instrument). Domestic budget resources (e.g. Green Economy Financing Programme Private sector contributions (e.g. investments by energy companies, Energy Efficiency Obligation Scheme)
Monitoring & Evaluation	Regular reports from the Ministry of Energy and the competent authorities. EU feedback and review in the 2024 and 2029 assessment cycles. Data collection and statistical analysis to monitor energy consumption, energy efficiency and emission reduction targets.
Effectiveness	Energy efficiency measures contribute to alleviating energy poverty. The expansion of renewable energy sources can reduce energy dependence. Supporting low-income households can help reduce overheads.
Challenges	High upfront costs of energy efficiency investments. Difficulties in accessing subsidies, especially for the most vulnerable. Slow transition due to the continued dominance of fossil fuels. More targeted support schemes are needed to reduce energy poverty. Modernising the building stock requires significant resources and is a slow process. Administrative and financial barriers to implementing energy efficiency programmes. People living in energy poverty often lack the financial means to finance their share of retrofitting.
Best Practices	Support for residential solar PV systems Home renovation programme
Recommendations	More targeted measures to reduce energy poverty are needed, e.g. prioritising low-income households in the distribution of subsidies. Simplify access to energy efficiency subsidies and reduce administrative burdens. Increasing support for building retrofits and encouraging condominium renovations

Policy	**National Energy Strategy 2030** The main objectives of the new National Energy Strategy are to strengthen energy sovereignty and security, to maintain the results of the cuts in rents and to decarbonise energy production, which can only be achieved through a combination of nuclear and renewable energy sources.
Policy Objectives	The strategy is structured around the following four key objectives:. • The Hungarian consumer will be at the heart of the strategy. • Strengthening security of energy supply. • Climate proofing the energy sector. • Exploiting the economic development potential of energy innovation.
Key Instruments	In relation to consumers, the strategy sets out the following programmes: • To keep consumers' energy bills at a sustainable minimum level that still covers the cost of services • Re-define energy independence at the consumer level and therefore promote 'backyard' (decentralised) energy production for own use • We will extend consumer choice through metering, digitalisation and the expansion of universal service packages • Develop a programme to improve the situation of vulnerable customers Further concrete actions: • 1 million smart meters installed in the electricity sector • innovative customer offerings based on smart-home devices in the utility model • Smart cost-sharing programme in district heating homes • Promotion of heat pumps and efficient individual heaters (biomass). • Setting up biogas plants based on agricultural waste • Support for the development of energy communities • A legislative environment for the creation of independent aggregators
Target Groups	Consumers
Timeframe	2030 and 2040
Implementation	State and local authorities are responsible for implementing the support programmes. Energy efficiency obligations are fulfilled by energy suppliers.
Funding Sources	EU funds Domestic budget support Private investment and bank financing
Monitoring & Evaluation	Compliance with energy efficiency measures is monitored through regular surveys and statistical reports.

Effectiveness	The evolution of energy poverty can be measured by the reduction in the overheads of the households concerned. Energy efficiency programmes have a positive impact on reducing energy poverty. Building modernisation grants can lead to significant reductions in overheads for the households concerned. The participation rate of low-income households in subsidy schemes can be further increased by taking appropriate steps.
Challenges	For low-income households, the co-payments are often too high. Administrative barriers can make it difficult to access grant funding. The payback period for energy efficiency investments is long, which may discourage private investment. The objectives and actions set out in the strategy cannot be achieved without a responsible organisation.
Best Practices	Encourage the use of the Energy Efficiency Obligation Scheme National Energy Network Smart cost-sharing programme in district heating homes
Recommendations	Increasing targeted support: to reduce the co-payments of households in need. Simplified application procedures: to ensure easier access to resources. Increase local government involvement: expand energy efficiency programmes at local level. Strengthening public education programmes: raising awareness of the benefits of energy efficiency and sustainability.
Policy	**Long-Term Renewal Strategy**
Policy Objectives	The overall objective of the Long-Term Renewal Strategy is to lay the foundations for achieving a sustainable, energy and cost-efficient building stock by 2050 through energy efficiency, value, comfort and health improvement measures, renewable energy use and smart technologies that will reduce primary energy use and carbon emissions at national level.
Key Instruments	The document includes a separate chapter on the worst performing segments of the building stock and on households to be assisted. In this context, a number of instruments have been formulated with the aim of significantly reducing the number of these households. • Keeping energy prices low through public regulation (rationing), • Social fuel programme, • Developing electricity for farms at household scale, • Improving housing conditions in "catching-up settlements",

	• Checking the existence of an energy certificate, • Introduce EPC contracts for renovations and involve ESCOs in projects, • Education, raising consumer awareness. Other instruments proposed in the strategy: • Home Renovation Programme • Examining the possibility of extending the scope of eligible activities
Target Groups	Household sector
Timeframe	2027
Implementation	Government and municipal programmes. Involving the private sector and market actors in financing building renovation
Funding Sources	EU funds (e.g. cohesion funds). Government grants and loans. Attracting private capital
Monitoring & Evaluation	An annual cycle evaluation report on the effectiveness of each measure to assess its effectiveness Monitoring the reduction of energy poverty (e.g. proportion of households spending 25% of their income on energy).
Effectiveness	The utility cost reduction have significantly reduced utility costs, but have not reached solid fuel users. Positive impact of energy efficiency subsidies expected
Challenges	Affordability of renovations remains a problem for low-income earners. Targeting subsidies and ensuring their effectiveness.
Best Practices	Extending the social firewood scheme to those most in need. Adapting successful EU models to encourage building renovation
Recommendations	Simplifying support schemes and increasing their accessibility Attracting private capital and financial institutions Increasing the role of local governments Introduction of regulatory incentives Raising awareness of energy efficiency Promoting and encouraging deep renovation Develop long-term financing and development plans
Policy	**Hungarian National Social Inclusion Strategy 2030**
Policy Objectives	Reducing the risk of material and social deprivation, with a special focus on the Roma population. Preventing the re-emergence of poverty and social exclusion. Strengthening social cohesion and promoting social mobility.
Key Instruments	• Birth and childhood • Public education, vocational training, higher education - from nursery to university • Youth affairs, having children, starting a family, lifestyle

	• Employment, employment, adult learning, social economy • Spatial inequalities, urban development - housing and energy poverty - environmental awareness, environmental protection → specific measures include improving household management and financial awareness, improving living conditions, improving housing comfort, using cost-effective and low-skilled housing construction and renovation methods, reducing energy poverty and improving legal security of tenure • Physical and mental health, health care • Roma identity, community building, awareness raising, rights enforcement • Institutional framework for the implementation of the Strategy, national and Carpathian Basin partnership • Monitoring and follow-up of the strategy
Target Groups	The strategy focuses on two key target groups for improving social inclusion: people living in extreme poverty (especially Roma) and children.
Timeframe	The strategy covers the period from 2021 to 2030 and includes two action plans: 2021-2024 and 2025-2028.
Implementation	Different government ministries and public bodies are responsible for implementation, in cooperation with NGOs and municipalities.
Funding Sources	The necessary funding will be provided partly from national budgets and partly by EU grants.
Monitoring & Evaluation	The implementation of the strategy is regularly monitored and changes are made where necessary based on the results.
Effectiveness	Helping and supporting disadvantaged people. Helping them to break out of their current living situation.
Challenges	Tackling social prejudice and discrimination. Ensuring the sustainability of programmes. Creating effective cooperation between different sectors.
Best Practices	The strategy builds on the experience of previous programmes and seeks to apply practices that have proven to be effective in the field of social inclusion. Programme for the Catching-up of Settlements
Recommendations	Strengthening the involvement of local communities in the design and implementation of programmes. Continuous monitoring of the needs of target groups and adapting programmes accordingly. Wider use and dissemination of successful initiatives.

5.2.3 Success Stories and Limitations

On the positive side in Hungary, although the issue of energy poverty is less prominent at government level, there are many organisations working on the issue. These organisations provide

a comprehensive overview of the different aspects of energy poverty, allowing a better understanding and analysis of the situation in Hungary.

The following organisations address energy poverty:

1. **Habitat for Humanity:** since 2012, **Habitat for Humanity** has compiled and published Hungary's annual report on the state of housing, changes in the governmental and policy environment, and the state of housing accessibility and affordability. In each case, the analyses respond to housing poverty and its changes.
   Each year, the organisation tests the following:
   - housing poverty
   - housing policies and budget expenditure
   - municipalities and housing
2. **Hungarian Energy Efficiency Institute (MEHI):** the organisation is involved in policy proposals, policy advice, research and participation in national and international professional projects.
3. The **Housing Coalition** is a loose alliance of housing organisations whose members consult with each other and formulate housing policy proposals in a coordinated way. For the first time, in the run-up to the 2018 general election, it produced a proposal calling on representatives of parties standing for election to commit to housing demands. For the 2022 general election and the '24 local elections, it has produced a document called Housing Minimum, which contains a number of proposals to tackle housing problems.
4. **Together Against Energy Poverty Foundation**

The biggest obstacle for these organisations is that the policy work they carry out is currently most likely to make a difference at local government level, and that they hope to have an indirect impact on Hungarian policy by providing their views on EU decision-making.

In addition to the above-mentioned organisations, it is also worth highlighting the **Programme for the Catching-up of Settlements**, launched by the Hungarian government in 2019 to support the poorest settlements.The 300 disadvantaged settlements identified by the Hungarian Central Statistical Office have been on the road to complete marginalisation for years, and breaking out of this situation is only possible with comprehensive professional support. In these settlements, the accumulation of disadvantages is clearly visible: the proportion of housing without amenities is five times the national average, the proportion of people without primary education is three times higher, while the birth rate is three times the national level. These figures illustrate the importance of the effectiveness of the catching-up programme, not only at local level but also at social level.

At the start of the programme in 2019, eight organisations were involved in 31 municipalities, and by 2024, 238 municipalities had been developed in cooperation with 28 different implementing organisations. This number is expected to reach 300 by 2025. One of the most important features of the programme is that it does not apply a centrally defined, uniform intervention model, but rather implements development measures tailored to the specific challenges of each locality, based on social diagnosis carried out locally.

The programme is funded by the Hungarian State and the European Union and coordinated by the Maltese Relief Service. The project is financed by the Recovery and Resilience Instrument (RRF) with pre-financing from the national budget.

From an energy and housing perspective, the main aim of the initiative is to ensure that every household with a young child has at least one properly heated room and to improve housing conditions. To this end, the programme plans to build and renovate 2,000 social housing units and install social solar power plants.

A total of 52 solar power plants will be built in the next few years in the Catching-up Settlements Programme sites, based on the experience of a successful project already described in Chapter 6, which will develop a distribution mechanism to channel the revenues from energy production to families in need. The selection system takes into account social situation, age of children and cooperativeness.

6. Regional Policies in Tackling Energy Poverty

To effectively present a comparative analysis of policies in a **table form**, we suggested to organize the table based on key dimensions of analysis that highlight similarities, differences, and effectiveness of the policies.

Table structure for overview of Regional policies

Policy	Title
Policy Objectives	Objectives specific to regions
Key Instruments	Local-level tools (e.g., subsidies, grants)
Target Groups	Vulnerable communities (local)
Timeframe	
Implementation	Regional authorities, NGOs
Funding Sources	Local budgets, regional aid
Monitoring & Evaluation	Limited regional oversight
Effectiveness	Mixed success, local disparities
Challenges	Limited resources, capacity
Best Practices	Example: [specific case]
Recommendations	Tailor to local needs

6.1 Slovenia

Slovenia's Development Strategy 2030 (SDS 2030) is the overarching framework for the development of Slovenia. SDS 2030 was adopted in 2017 and serves as a foundation for all other subordinate strategic documents and guidelines.

The central goal of SDS 2030 is to ensure a high quality of life for all. This goal is to be achieved through balanced economic, social, and environmental development, guided by five strategic orientations that are essential to achieving the central objective of SDS 2030. These orientations are: (i) an inclusive, healthy, safe, and responsible society, (ii) learning for and through life, (iii) a highly productive economy, (iv) a well-preserved healthy natural environment, and (v) a high level of cooperation, competence, and efficiency in governance. Within these strategic orientations, SDS 2030 defines twelve development goals across interrelated and interdependent areas that are key to implementing the strategic directions.

The key objectives, orientations, and instruments of regional policy for the period 2021–2027, which derive from the goals of SDS 2030, are outlined in the document *Objectives, Orientations and Instruments of Regional Policy and Strategic Spatial Development Guidelines for the Preparation of Regional Development Programmes 2021–2027*.

Energy poverty occurs in low-income households that, due to financial hardship, are unable to afford adequate heating and other energy services at an acceptable cost. The **risk of social exclusion rate** is the leading indicator for monitoring social exclusion as a component of quality of life. This indicator comprises three sub-indicators. It refers to persons who (i) live below the at-risk-of-poverty threshold, or (ii) are severely materially deprived, or (iii) live in households with very low work intensity. The baseline value of this indicator at the national level (in 2016) was 18.4% (*Slovenia's Development Strategy*, 2017), with the target value for 2030 set to reduce it to below 16%. In 2018, the risk of social exclusion rate remained above the Slovenian average in the cohesion region of Eastern Slovenia, with particularly high rates in the Pomurska, Savinjska, and Podravska regions. All three regions continue to exhibit above-average registered unemployment and long-term unemployment rates, along with below-average disposable income per capita, especially in the Pomurska region. [5]

Instruments and founding sources

Policy	Regional Development Agreements (RDA)
Policy Objectives	Promoting regional development, reducing development barriers, and improving development capacities in individual regions
Key Instruments	A new regional policy instrument used to implement the Regional Development Programme by identifying key regional and sectoral projects to overcome development barriers and specifying funding sources. Agreements between regions, ministries, and municipalities for the implementation of key projects and sectors.

Target Groups	All development regions, especially those with greater development obstacles, including border and rural areas.
Timeframe	Period 2021–2027 (including a four-year agreement period)
Implementation	Ministries, development agencies, local authorities, regional development councils
Funding Sources	EU Cohesion Funds, national budget, local funds
Monitoring & Evaluation	Review of project implementation in line with the EU Operational Programme, monitoring through regional councils
Effectiveness	The selection and implementation of co-financed projects have an impact on: • economic growth and jobs • positive environmental effects • development of human potential • contribution to spatial development objectives of the region • regional cohesion, development specialization, and interregional cooperation |
Challenges	Different capacities and resources across regions; the need for alignment with sectoral policies
Best Practices	**Energy renovation of multi-apartment buildings in Velenje** Within the Integrated Territorial Investments mechanism, this priority investment in Slovenia tracks the number of households with improved energy performance class by 2023. Selected projects across Slovenia will improve the energy performance class of 478 publicly owned housing units, including 161 units in the buildings at Cesta talcev 18a, Vojkova 12a, and Simona Blatnika 1 in Velenje. All three apartment buildings required installation of energy efficiency elements. Through the energy renovation projects, tenants' quality of living was improved, heating and operating costs reduced, building maintenance issues mitigated, and employment opportunities created for contractors specialized in energy-efficient renovations. Source: https://www.eu-skladi.si/sl/ekp/primeri-dobrih-praks/energetska-sanacija-vecstanovanjskih-objektov-v-velenju
Recommendations	Adaptation to regional needs, involvement of local communities in decision-making and implementation processes

Pomurje Region and Podravje Region

Energy poverty is a major challenge in Pomurje, where many people, especially in rural areas, find it difficult to access affordable energy for heating, lighting and other basic needs. The region faces low incomes, high unemployment and poor energy efficiency in housing, which increases the vulnerability of the population. Policies to combat energy poverty in Pomurje include subsidies for energy investments, energy efficiency improvements and assistance with energy bills. These measures aim to improve living conditions and reduce energy poverty in the region, and raising awareness and educating the population about energy saving is also key.

Podravje shares several challenges common to Slovenia's other cohesion regions—such as low incomes in certain rural/vulnerable municipalities, older housing stock with poor energy efficiency, and elevated heating and maintenance costs. The **Energy and Climate Agency of Podravje (ENERGAP),** covering Upper Podravje, actively supports energy efficiency and renewable energy adoption across 17 municipalities, serving over 200,000 residents.
The **Local Energy Agency of Lower Podravje (LEA Ptuj)** supports 30+ municipalities with a goal to foster a "smart, energy-self-sufficient region" by integrating renewables, enhancing infrastructure, and reducing GHG emissions.

Policy	Local Energy Concepts [9]
Policy Objectives	The Local energy concept comprehensively evaluates options and proposes solutions in the field of energy supply to the local community. It considers the long-term development of the local community in various areas and existing energy capacities. The local energy concept is intended to increase awareness and information of energy consumers and prepare measures in the field of efficient energy use and the introduction of new energy solutions. It includes an analysis of the existing situation in the field of energy use and energy supply. Based on the analysis, possible future energy supply concepts are proposed, considering the greatest possible efficiency of energy use by all consumers (apartments, industry, crafts, public buildings, etc.). The possibilities of using local renewable energy sources are reviewed, which increases the reliability of heat and electricity supply in the local community. At the same time, the proposed projects also reduce emissions and environmental pollution. The local energy concept includes an action plan, where the projects are also economically evaluated, and a timetable. Potential project leaders are determined, which enhances the probability of successfully executing projects defined in the local energy strategy.

[9] https://www.energetika-portal.si/podrocja/energetika/lokalni-energetski-koncept/

Key Instruments	The local energy concept enables: • selection and determination of energy planning objectives in the local community, • review of the past situation in the field of energy use and supply, • review of measures to effectively improve the energy situation and thus the state of the environment, • designing and comparing different alternatives and scenarios of possible development, • preparation of a proposal for a short-term and long-term energy policy, with the short-term energy policy defining a period of five years and the long-term policy defining a period of ten years, • monitoring, identifying and documenting changes in the energy and environmental situation.
Target Groups	The target groups of the Local Energy Concepts (LEKs) in Slovenia are primarily municipal-level stakeholders and sectors that influence or are affected by local energy use. These concepts are strategic tools used by municipalities to plan sustainable energy development and support national and EU climate goals. Main target groups are: • Municipal Authorities, • Public Sector Institutions, • Local Communities & Citizens, • Businesses and Local Industry, • Vulnerable and Energy-Poor Households, • Energy Service Providers and Utilities, • NGOs and Civil Society
Timeframe	Local authorities are obliged to align their LEC with the newly adopted Slovenian National Energy Concept (NEC) or Action Plan within one year of the adoption of these documents. The LEC shall be adopted every 10 years, or more frequently if the objectives and actions of the NEC or Action Plans change or if the basis for spatial planning and development in the local community changes.
Implementation	The implementation of Local Energy Concepts (LEKs) in Slovenia is a structured process led by municipalities to plan and manage sustainable energy use at the local level. These concepts are essential tools for aligning local development with national and EU climate and energy targets.
Funding Sources	Funding and Support: • Co-financed by the Eco Fund and supported through EU funding mechanisms (like ERDF, Cohesion Fund).

	• Technical and methodological support provided by the Ministry of the Environment, Climate and Energy.
Monitoring & Evaluation	Monitoring and evaluation of LEKs ensure that municipalities in Slovenia stay aligned with national climate targets and make real progress toward energy sustainability.: • Progress tracked via indicators (e.g., energy saved, emissions reduced, projects completed). • Annual or periodic reports submitted to national authorities responsible for energy sector (Ministry of the Environment, Climate and Energy), especially when linked to EU funding.
Effectiveness	The effectiveness of Local Energy Concepts (LEKs) in Slovenia is generally rated as positive, especially in municipalities that actively integrate them into broader development planning. However, outcomes vary based on local capacity, funding, and political commitment.
Challenges	While Local Energy Concepts are a key part of Slovenia's strategy for sustainable energy development, several practical and structural challenges limit their full potential: • Limited Technical and Human Capacity (for example smaller and rural municiplities), • Inadequate Data and Monitoring Tools (Many LEKs rely on outdated or incomplete energy data), • Insufficient and Unstable Funding (co-financing of EU project requirements can be a barrier), • Weak Integration into Broader Policy Frameworks (LEKs are sometimes treated as standalone documents), • Low Public Engagement
Best Practices	Slovenia offers several successful practices in the design and implementation of LEKs that can serve as models for other municipalities or countries. These practices demonstrate how local planning can effectively support national energy and climate goals: • Integrated Planning with Spatial and Development Policies (Ljubljana, Maribor, ...), • Use of Local Energy Agencies and Regional Cooperation (LEA Pomurje, Golea, KSSENA, etc.), • Digital Tools and Data Platforms (GIS, EPCs, etc.), • Citizen and Stakeholder Involvement (NGOs, schools, citizens, etc.), • Promotion of Renewable Energy Communities (support for creation of energy cooperatives or local solar groups).

Recommendations	To enhance the impact, efficiency, and sustainability of LEKs, the following targeted recommendations are based on current gaps and successful practices across Slovenian municipalities: • Strengthen Municipal Capacity, • Improve Data Quality and Access, • Secure Long-Term and Flexible Funding, • Integrate LEKs into Broader Development Policies, • Expand Stakeholder Participation, • Address Energy Poverty Explicitly.
Policy	Sustainable Energy and Climate Action Plan[10]
Policy Objectives	In October 2015, following a consultation process on the future of the Covenant of Mayors, the European Commission launched the new integrated Covenant of Mayors for Climate and Energy, which goes beyond the objectives set for 2020. The signatories of the new Covenant commit to reduce their CO2 emissions (and possibly other GHG) and to adopt a joint approach to tackling mitigation and adaptation to climate change. Signatories of the Covenant of Mayors for Climate and Energy have committed to prepare and implement a Sustainable Energy and Climate Action Plan (SECAP) before 2030. Adaptation to climate change is required. The task is to anticipate the adverse effects of climate change and to take appropriate action to prevent or minimise the damage it can cause, it has been shown that well planned, early adaptation action saves money and lives later.
Key Instruments	SECAP includes an assessment of the geographical, demographical and energy local context, a Baseline CO2 Emission Inventory (BEI) referring to a specific base year, a clear identification of the emissions reduction target, and the actions planned together with time frames, assigned responsibilities and estimated impacts and costs. Thus the SECAP retains the same outline procedure used for SEAPs but differs in: Target: a SECAP is aimed at defining mitigation actions that allow cutting down at least 40% of CO2 emissions.
Target Groups	The Covenant's key sectors are the following: • municipal buildings, equipment and facilities; • tertiary (non-municipal) buildings, equipment and facilities; • residential buildings; • transport.

[10] http://www.simpla-project.eu/en/guidelines/introduction-and-problem-setting/definitions/what-is-a-secap/

	The whole initiative is implemented by means of both public and private actions, and is mainly aimed at raising awareness among stakeholders on energy issues, through the promotion of successful projects and the launch of new actions.
Timeframe	A SECAP has to be submitted within two years of joining the Covenant and is expected to achieve the objective of 40% reduction by the year 2030.
Implementation	Some Slovenian municipalities already implemented Sustainable Energy and Climate Action Plans (SECAPs) as part of the Covenant of Mayors initiative, aligning local climate and energy actions with the EU's 2030 targets. SECAPs are a step beyond Local Energy Concepts (LEKs), integrating both mitigation and adaptation measures. Main steps are: • Political Commitment, • Baseline Emission Inventory (BEI) and Risk Assessment, • Integration into Local Planning, • Financing Implementation, • Monitoring and Reporting
Funding Sources	Implementing SECAPs requires a mix of funding sources from local, national, EU, and private sector levels. Slovenia leverages both its own resources and substantial EU support to enable municipalities to carry out climate mitigation and adaptation actions defined in their SECAPs (ERDF, Cohesion Fund, H2020, JTF, LIFE, Eco Fund, Municipal Budgets, Slovenian Climate Fund, etc.)
Monitoring & Evaluation	The plans have to be approved and adopted by the Covenant signatories' city councils and then submitted to the Covenant of Mayors Office (CoMO) for a review process which ends with the acceptance of the plan. After the formal acceptance by the CoMO, the implementation of the plan has to be monitored every two years, following the monitoring guidelines available at the CoMO website (www.covenantofmayors.eu).
Effectiveness	The effectiveness of SECAPs in Slovenia is promising but varied, depending on local capacity, access to funding, and political commitment. SECAPs are an essential tool for translating Slovenia's National Energy and Climate Plan (NECP) into actionable local strategies, and many municipalities are making meaningful progress.
Challenges	While SECAPs are a valuable tool for local climate action, municipalities across Slovenia face significant challenges that limit their full implementation and long-term effectiveness. These challenges are technical, financial, institutional, and strategic in nature: • Limited Municipal Capacity, • Inadequate Funding and Co-financing Barriers,

	• Weak Monitoring and Evaluation (M&E) Systems, • Fragmented Implementation, • Low Stakeholder Engagement, • Political and Leadership Turnover.
Best Practices	• Clear Political Commitment (Ljutomer, …), • Robust Baseline Emission Inventory (BEI), • SECAP align with existing documents such as: Local Spatial Plans (OPN), Local Energy Concepts (LEKs), Municipal budgets and investment programs, • Stakeholder Involvement, • Regional Cooperation (regional SECAP in plan)
Recommendations	• Starting with Strong Local Leadership, • Building on Existing Planning Frameworks (align with LEKs, OPNs, etc.) • Conducting a Solid Baseline and Risk Assessment, • Securing Funding and Partnerships, • Engaging Citizens Continuously, • Thinking Regionally and Long-Term.
Policy	Pomurje Regional Development Programme 2021-2027[11]
Policy Objectives	The priority task of the Development Center Murska Sobota, together with other partners, is the planning of regional development, which must be the result of cooperation between the national, regional and local levels, and at this level, in particular, various regional stakeholders and civil society. Only in this way can written plans be an actual reflection of the state, capabilities and wishes of the region to which they are intended. The Regional development program is the fundamental strategic and programming document that defines the main guidelines and priorities for the development of the region. The development priorities of Pomurje for the period 2021-2027 are coordinated with the fundamental strategic orientations and endogenous potentials of the Pomurje region and are reflected as integrated sets of identified measures in the areas of:
Key Instruments	• A smart region • Green region • Connected region • Social region • Attractive region
Target Groups	A wide range of regional stakeholders is involved in its planning, from regional bodies and the most important

[11] https://www.rcms.si/upload/files/RRP_Pomurje_2021-2027_13-6-2022.pdf

	regional institutions to civil society, the professional public and interested individuals – all with the aim of achieving a broader social agreement on the direction of further development of the region.
Timeframe	The final document – the Regional Development Program of the Pomurje Region for the period 2021-2027 – was prepared and approved by the regional authorities in June 2022.
Implementation	The development specialization of the region will be realized in sustainable, integrated and innovative solutions in areas related to health – from a healthy environment and ensuring the attractiveness of the region for the immigration of creative and innovative young people and tourist visits to the production and processing of healthy food and enabling conditions and promoting services for healthy aging. The strategic development goals of Pomurje for the period 2021-2027 are: • A healthy natural, social and economic environment • Healthy food and a vital countryside • Healthy aging and a connected society
Funding Sources	The Pomurje Regional Development Programme (RDP) 2021–2027 is a strategic regional policy document aimed at strengthening economic, social, and environmental development in the Pomurje region of Slovenia. It is financed through a mix of EU, national, and local sources, as well as private investment in specific project areas (ERDF, Cohesion Fund, ESF+, JTF, LIFE, Slovenian State Budget, Ministries and Sectoral Programs, Municipal Budgets, Private and Public-Private Funding, PPP, etc.)
Monitoring & Evaluation	The Monitoring and Evaluation framework of the Pomurje Regional Development Programme (RDP) 2021–2027 is designed to ensure transparency, effectiveness, and alignment with Slovenia's national development priorities and EU Cohesion Policy goals. Responsible bodies: • Development Center Murska Sobota, • Development Council of the Pomurje Region, • Slovenian Government Office for Development and European Cohesion Policy
Effectiveness	The Pomurje RDP 2021–2027 is a strategically sound and increasingly effective tool for driving regional development. Its success hinges on continued capacity-building, targeted funding, and stronger outcome-based monitoring. Strengths and Positive Outcomes: • Improved Regional Coordination, • High Absorption of EU Funds, • Focus on Inclusive Development, • Support for Green and Digital Transition
Challenges	• Varying Municipal Capacity,

Best Practices	• Monitoring and Data Gaps, • Project Fragmentation, • Economic Disparities Persist • Strategic Use of EU Funds Aligned with Local Needs, • Cross-Sectoral Integration of Projects, • Regional Cooperation and Networking, • Community-Based Renewable Energy Projects, • Transparent Monitoring and Stakeholder Inclusion, • Strong Support for Rural Digitalisation
Recommendations	• Strengthen Municipal and Regional Capacity, • Shift from Output to Outcome-Based Monitoring, • Prioritize Fewer, High-Impact Projects, • Deepen Integration of Climate and Digital Goals, • Enhance Youth Retention and Labor Market Matching, • Increase Private Sector Involvement, • Improve Cross-Border and Interregional Cooperation, • Promote Inclusive Planning and Feedback Loops, • Align Closer with National Recovery and Resilience Plan (RRP).
Policy	The Regional Development Program (RRP) for Podravje 2021–2027 [7]
Policy Objectives	The Regional Development Program (RRP) for Podravje 2021–2027 is a strategic framework guiding socio-economic and environmental development in the Podravje region. It aligns with Slovenia's national development strategy and EU cohesion policy. The core objectives include strengthening regional innovation, economic competitiveness, digitalization, sustainable tourism, environmental resilience, infrastructure, and social inclusion. A strong emphasis is placed on smart specialization, green transition, and territorial cohesion.
Key Instruments	Key instruments include EU and national development funds, strategic partnerships (e.g., SRIPs), investment in R&D, digital infrastructure, urban-rural development models (e.g., CLLD/LEADER), and regionally coordinated investment platforms such as Invest Podravje and SMART HUB Maribor.
Target Groups	Targeted stakeholders include SMEs, start-ups, educational institutions, municipalities, the unemployed, vulnerable populations, youth, and environmental stakeholders, as well as cultural and creative industries.
Timeframe	The program covers the period from 2021 to 2027, aligned with the EU's Multiannual Financial Framework and cohesion policy programming period.

Implementation	Implementation is coordinated by RRA Podravje in partnership with regional development institutions (e.g., ZRS Bistra Ptuj, RA Slovenske gorice, RRC Ormož), municipalities, and sectoral agencies. Execution relies on integrated, cross-sectoral collaboration at local and regional levels.
Funding Sources	Funding comes from multiple sources: European Structural and Investment Funds (ESIF), national budget allocations, public-private partnerships, and local co-financing. Specific instruments include ERDF, ESF+, Cohesion Fund, and the European Agricultural Fund for Rural Development

Monitoring & Evaluation	Monitoring and evaluation of the RRP Podravje 2021–2027 is governed by the Regulation on Regional Development Programs (Official Gazette of the Republic of Slovenia, No. 69/2012). The process is coordinated by:
	• **Ministry of Cohesion and Regional Development (formerly MGRT)** in cooperation with:
	  ○ **RRA Podravje-Maribor** and partner regional development agencies (ZRS Bistra Ptuj, RA Slovenske gorice, RRC Ormož)
	  ○ **Municipalities** of the Podravje region
	  ○ **Regional Development Council** and **Council of the Podravje Region**
	  ○ **Support network of regional development partnerships and agencies**
	Evaluations are carried out at least annually and involve independent reviews of progress against strategic goals using quantitative indicators. Reports are reviewed by the Council of the Region, which issues guidance or recommendations accordingly

Effectiveness	While past strategies yielded moderate success, this RRP introduces stronger integration of spatial planning, digital transformation, and innovation ecosystems to enhance outcomes. The regional specialization and focus on green and digital transitions are expected to improve effectiveness.
Challenges	Key challenges include an aging population, brain drain, low innovation capacity, environmental pressures (e.g., water and air quality), and underutilized geographic advantages. Administrative fragmentation and weak inter-municipal cooperation also limit potential.
Best Practices	Examples include the development of INNOVUM (innovation ecosystem of the University of Maribor), the expansion of regional tourist connectivity, and the Invest

Recommendations	Podravje platform for regional promotion and business zone coordination. • Strengthen inter-municipal and regional cooperation to increase coherence and implementation efficiency. • Enhance digital and green infrastructure, particularly for rural and underdeveloped areas. • Promote inclusive development, especially for vulnerable groups and less developed municipalities. • Foster the innovation ecosystem by connecting research institutions, SMEs, and the university (e.g., through platforms like INNOVUM). • Invest in education and training to build human capital, with a focus on digital skills and the needs of the green economy. • Develop integrated transport and broadband networks to better connect urban and rural areas. • Increase visibility and coordination of funding opportunities, especially EU mechanisms, for municipalities and regional actors. • Address administrative barriers and improve the professional capacities of local and regional development teams. • Promote cross-border cooperation and internationalization of businesses and institutions. • Ensure systematic monitoring and communication of project impacts to maintain public trust and stakeholder engagement.

Case Studies: Regional Best Practices

The ***Integrated Sustainable Energy Plan of Pomurje Region*** was the first step against the decentralization of spatial and energy planning within the Pomurje region, which includes also measures to tackle energy poverty. The document is a result of the INTENSSS-PA project which was funded under the 2015 call of HORIZON2020 Programme and has been developed in 2018. The objective of INTENSSS-PA was to develop and implement a human and institutional capacity building process related to sustainable energy planning and energy projects implementation addressed to public authorities and societal stakeholders in order to support them to enter in a new era of integrated sustainable energy planning through a participatory, a multi-level (i.e. organizations form different level of governance, adjacent areas), interdisciplinary (i.e. interrelated sectors and skills) decision making process.

The main objective of the project was to develop and implement a human and institutional capacity building process related to sustainable energy planning and energy projects implementation addressed to public authorities and societal stakeholders in order to support them to enter in a new era of integrated sustainable energy planning through a participatory, a multi-level (i.e. organizations form different level of governance, adjacent areas), interdisciplinary (i.e. interrelated sectors and skills) decision making process. This objective was also the main objective of the Pomurje Regional Living Lab.

The partners have developed a full *Integrated Sustainable Energy Plan* with incorporated Regional Action plan for the energy efficiency and exploitation of renewable energy sources as a basis for future documents.

The *Integrated Sustainable Energy Plan of Pomurje Region* can act as a best practices example, template and guideline for the preparation of different regional plans as the *Spatial development strategy, Action program for the implementation of the strategy, Regional spatial plan*, etc. The Regional Living Lab methodology is a new and innovative tool on the field of energy and spatial planning in Pomurje region and can be used also directly to tackle energy poverty.

Based on this ducument the second best practice in the region can be mention the first Sustainable Energy and Climate Action Plan in Pomurje region - ***Sustainable Energy and Climate Action Plan of Municipality of Ljutomer.***

The actual *Sustainable Energy and Climate Action Plan of the Municipality of Ljutomer* was the result of a series of meetings, workshops and conversations with different local and other stakeholders from different sectors, during which 27 actions (most related to lower the level of energy poverty in the municipality) were identified in the field of “Measures to reduce CO_2 emissions”, divided into four thematic areas (public buildings, residential buildings, public lighting, private and commercial transport) and 44 actions in the field of “Measures to adapt to climate change”, divided into seven thematic areas (agriculture, forestry, residential buildings, health, tourism, water resources, water systems and flood risk) through which the municipality's emissions could be reduced by 41 % to 2030 compared to the 2010 base year. These actions are partly the responsibility of the municipality, partly of other entities in the territory and private citizens.

The main and most important results of the Ljutomer´s SECAP are:

- Decision for climate neutrality until 2050
- 27 key measures for 2024 - 2033

- Coverage of different sectors (residential and public buildings, transport and RES production, flood/droughts protection)
- CO_2 Reduction: 41% or 16.823 tonnes until 2030 compared to 2010
- Final energy consumption: 21.075 MWh reduction or 8,4 % in 2030 compared to 2010
- RES production: increasement of 180% compared to 2010
- Budget: 13,3 million €

The third best practices in the region are the ***Local energy concept´s*** (LEC), which assess the opportunities and propose solutions for the energy supply of the local community, taking into account the long-term development of the local community in various fields like the fight against the energy poverty and existing energy capacity. Local energy concept´s are mostly prepared by Local Energy Agency Pomurje and are designed to raise awareness of energy consumers, to prepare measures in the field of energy efficiency, and to introduce new energy solutions. It includes an analysis of the current situation in the field of energy use and energy supply. LEC examines the possibility of using local renewable energy sources, which increases the security of supply of heat and electricity in the local community. The proposed projects simultaneously bring the reduction of emissions and environmental pollution. Local energy concept includes an Action Plan (where projects are economically evaluated) and a schedule.
Local energy concept provides:

- selection and setting the objectives of energy planning in local communities;
- review of the previous situation regarding the use and supply of energy;
- review of measures to effectively improve the energy situation and hence the state of the environment;
- design and comparison of different alternatives and scenarios of possible developments;
- elaboration of a proposal in the short and long-term energy policy;
- monitoring, assessing and documenting of changes in the energy and environmental condition.

Challenges in Implementing Regional Policies

The Pomurje region, one of Slovenia's least developed areas, faces a disproportionate burden of energy poverty, due to low income levels, older building stock, rural isolation, and limited access to clean energy infrastructure. Despite national and EU support mechanisms, regional policy implementation faces significant challenges.

Podravje shares several challenges common to Slovenia’s other cohesion regions—such as low incomes in certain rural/vulnerable municipalities, older housing stock with poor energy efficiency, and elevated heating and maintenance costs.

1. **Financial barriers**:
   - lack of funding and political support,
   - the less developed region in Republic of Slovenia,
   - unemployment in Pomurje is high since the transition period in nineties,
   - the global financial crisis has hit the region harder than the average in Slovenia and we have a negative GDP growth

2. **Technical barriers**:
   - lack of experience,
   - lack of technical know-how has been a significant barrier till now,
   - many municipalities lack staff and know-how to identify energy-poor households or manage targeted renovation schemes,
   - there's often no dedicated local energy advisor or energy poverty coordinator.

3. **Capacity barriers**: The human resource capacity has been a significant barrier. Information and training within relevant departments of the public authority are relatively low-cost measures, but will be less efficient if they are not combined with other measures.

4. **Poor Energy Efficiency of Housing Stock**:
   - a large share of buildings in Pomurje and Podravje (especially rural homes) are old, poorly insulated, and heated with inefficient biomass or coal stoves.
   - energy renovation is expensive and often not feasible for low-income owners without major subsidies.

5. **Difficulties in Identifying Vulnerable Households:**
   - no unified or real-time data system exists at the municipal level to identify energy-poor households.
   - vulnerable people (elderly, single parents, Roma communities in Pomurje region) are often underrepresented in official registries.

6. **Disagreement of different decision makers**/mayors (especially on regional level projects) – lack of cooperation,

7. **Disagreement with different civil initiatives/NGO´s** (personal interest´s, etc.) – or no involvement in process

8. **Low Awareness and Trust Among Citizens:**
   - Many residents are not aware of support schemes (e.g. Eco Fund grants, LEKs) or distrust government energy interventions.
   - Application procedures are perceived as complex and bureaucratic, particularly for elderly and low-literacy groups.

9. Municipalities are faced with a **lack of resources for financing** capital improvement projects and solving problems that cross their municipal borders – regional level (no regional goverment):
   - Even when funds are available (e.g. ERDF, Eco Fund), the required co-financing is often unaffordable for low-income households.
   - Municipal budgets are tight and cannot always fill the gap.

6.2 Hungary

Hungary's main development strategy is the **National Development - 2030 National Development and Spatial Development Concept**. The vision of the concept is that aims to become one of the leading economies of Central and Eastern Europe by 2030, with a competitive economy based on sustainable use of resources, a secure livelihood for its population, a growing population, strengthened communities, improved quality of life and environmental status. To achieve this, the concept envisaged an economic and social strategic turnaround in four areas. These are reflected in the overall objectives of the concept, which are:

I. **Economic development that creates value and employment:** the aim is to increase the competitiveness of the economy, boost employment and promote sustainable growth.
II. **Demographic turnaround, healthy and renewing society:** the objective focuses on reversing demographic trends, improving health and social renewal.
III. **Sustainable use of our natural resources, preservation of our values and protection of our environment:** it aims at sustainable use and preservation of natural and cultural resources and protection of the environment.
IV. **A sustainable spatial structure based on spatial potentials:** it aims to reduce spatial disparities, create a balanced spatial structure and exploit spatial potentials.

While the concept does not identify energy poverty as a problem in its own right, it has several objectives that can contribute to reducing it. These include increasing employment, promoting social renewal, implementing environmental and climate incentives and reducing territorial disparities, which, although not directly, can help to reduce energy poverty.

The most important document for the development of the county is the **Integrated Spatial Programme of Vas County 2021-2027**

A review of the **strategic documents of Vas County reveals** similar conclusions as for the national headline document. Energy poverty as a concept is not mentioned in any of them. The projects aimed at **developing the county's climate strategy** and raising awareness focused on climate change adaptation, risk prevention and management, environmental protection, and resource efficiency. Conferences, workshops and awareness-raising actions carried out during the preparation of the county document have contributed to the development of a sense of social responsibility throughout the county.

In addition, a number of renewable energy projects have been implemented in the county, such as biomass, solar and geothermal energy. These developments contribute to increasing sustainability and energy awareness in the region.

Although there is no direct mention of energy poverty in public sources, the use of renewable energy sources and measures to increase energy awareness contribute to raising the energy consciousness of the population and to promoting sustainable development.

Zala County Government has created the climate strategy of Zala county, and established the climate change platform, as well. The Association of Climate-Friendly Settlements has developed a methodological guide that has served as a basis for the development of regional and municipal

climate strategies, and the Association provided it to county governments, thus data collection and data analysis based on a unified methodology were facilitated. After that, the Climate Strategy of Zala County was completed.

As a result of the increase in extreme climate events, the population of Zala county, its natural and semi-natural habitats, flora and fauna, as well as its built environment will face many challenges in the coming decades. According to the climate strategy, the most important issues in Zala county are the following:

- increasing public health risks of summer heat waves;
- increase in the frequency of flash floods due to the increase in the number of high-intensity precipitation events
- vulnerability of drinking water supplies, especially in the case of water bodies based on shallow aquifers and coastal filtered wells;
- deterioration in agricultural production due to increasing drought and erosion;
- endangerment of forests as a result of the shift in forest climate classes and the emergence of new pests
- increase in the damage of buildings due to storms and heavy rainfall;
- loss of biodiversity, especially in the case of subalpine and wetlands;
- the vulnerability of outdoor recreation and tourism, especially bathing tourism along Lake Balaton.

For each identified problem area, the climate strategy sets out objectives and measures based on a detailed analysis of the situation.

Policy	**Integrated Spatial Programme of Vas County 2021-2027**
Policy Objectives	The Programme aims to promote the balanced and sustainable development of the Vas County, taking into account local specificities and needs. The programme is in line with national and EU development guidelines and is implemented under the Territorial and Settlement Development Operational Programme Plus (TSDOP Plus). • **Economic development and job creation:** supporting local businesses, creating new jobs and increasing economic competitiveness. • **Infrastructure development:** upgrading and expanding transport, energy and telecommunications infrastructure. • **Environmental sustainability:** protecting natural resources, promoting renewable energy and reducing environmental pressures. • **Social cohesion and improving quality of life:** improving education, health and social services, and supporting cultural and community life.
Key Instruments	**Grants:** providing grants for various development projects. **Soft loans:** loans to businesses and municipalities on favourable terms. **Professional support and advice:** assistance in project generation, planning and implementation.

Target Groups	Local governments: municipal and county governments. Mobilising EU and national resources to finance development projects. Businesses: small and medium-sized enterprises and large companies. NGOs: Non-profit organisations and associations. Population: The entire population of Vas county, with special attention to vulnerable communities
Timeframe	The programme covers the period 2021-2027, in line with the financial programming cycle of the European Union.
Implementation	The Vas County Goverment is responsible for implementing the programme, in cooperation with local governments, businesses and NGOs. Local needs and priorities are taken into account in the selection and implementation of projects.
Funding Sources	European Union funds: grants available under TSDOP Plus. Domestic budget sources: Hungarian state grants and contributions. Private sources: contributions from businesses and other private investors.
Monitoring & Evaluation	The implementation of the programme is continuously monitored and evaluated to ensure that the objectives are met. Indicators will be defined and used to produce regular reports.
Effectiveness	The effectiveness of the programme is measured by the extent to which the objectives set have been achieved, the number and quality of the projects implemented and the improvement in the quality of life of the population.
Challenges	Resource constraints: efficient and effective use of the available financial resources. Building partnerships: effective cooperation between different actors. Ensuring sustainability: guaranteeing the long-term sustainability of projects.
Best Practices	The programme builds on the experience of previous development cycles, highlighting successful projects and methods that have contributed to achieving the objectives.
Recommendations	Active involvement of local communities in the planning and implementation process. Sustainability considerations are prioritised in projects. Ensure continuous communication and information on the progress and results of the programme.
Policy	**Climate Strategy of Vas county**
Policy Objectives	Climate-smart society, innovative economy, sustainable development in the resilient Vas County by 2035

	• Reducing greenhouse gas emissions. • Increasing energy efficiency. • Increasing the share of renewable energy sources. • Increasing the climate awareness of the population.
Key Instruments	**Energy efficiency programmes:** subsidies and incentives to improve energy efficiency in buildings. e.i.: Presentation of energy efficiency pilot projects **Renewable energy projects:** investments in solar, wind and biomass energy production. e.i.: Aid for the authorisation of small household power plants **Awareness raising:** campaigns and education programmes to raise climate awareness.
Target Groups	Local government, businesses, residents
Timeframe	2017-2035
Implementation	The Vas County Government coordinates the programmes, in cooperation with local governments, NGOs and the private sector.
Funding Sources	European Union Structural and Investment Funds Domestic budgetary resources Private investment
Monitoring & Evaluation	The implementation of the strategy is regularly monitored and changes are made where necessary based on the results.
Effectiveness	The success of the programmes is measured by the reduction in energy consumption and the increase in the share of renewable energy sources.
Challenges	Efficient use of resources. Involving citizens and businesses in programmes. Ensuring access to technological improvements.
Best Practices	Awareness-raising
Recommendations	Active involvement of local communities in the design and implementation of programmes. Maximising the local potential of renewable energy sources. Prioritising measures to reduce energy poverty.
Policy	**Integrated Spatial Programme of Zala County 2021-2027**
Policy Objectives	Prosperous and Harmoniously Developing Green Zala: Building on the “Green Zala” program, Zala County is developing in a harmonious way through industrial, logistical, and agricultural advancements, as well as its thermal and health tourism. While preserving the balance of nature, it fosters a cohesive society and an economy that ensures decent livelihoods. This development is supported by a transportation system that strengthens territorial

	cohesion and a network of liveable and cooperative settlements. • **Well-Functioning, Advanced Economy**: Enhancing the R&D&I performance and connections of enterprises. Strengthening economic sectors based on local values and developing short supply chains. • **Expansion of Employment and Social Cohesion**: A training system tailored to local needs and supporting R&D&I capacities. Integrated development of disadvantaged social groups. • **Liveable Zala county:** Improving the liveability of settlements: job opportunities, transportation, services, and the built environment. Protection of the natural environment.
Key Instruments	**Grants:** providing grants for various development projects. **Soft loans:** loans to businesses and municipalities on favourable terms. **Professional support and advice:** assistance in project generation, planning and implementation.
Target Groups	Local governments: municipal and county governments. Mobilising EU and national resources to finance development projects. Businesses: small and medium-sized enterprises and large companies. NGOs: Non-profit organisations and associations. Population: The entire population of Zala county, with special attention to vulnerable communities
Timeframe	The programme covers the period 2021-2027, in line with the financial programming cycle of the European Union.
Implementation	The Zala County Goverment is responsible for implementing the programme, in cooperation with local governments, businesses and NGOs. Local needs and priorities are taken into account in the selection and implementation of projects.
Funding Sources	European Union funds: grants available under TSDOP Plus. Domestic budget sources: Hungarian state grants and contributions. Private sources: contributions from businesses and other private investors.
Monitoring & Evaluation	The implementation of the programme is continuously monitored and evaluated to ensure that the objectives are met. Indicators will be defined and used to produce regular reports.
Effectiveness	The effectiveness of the programme is measured by the extent to which the objectives set have been achieved, the number and quality of the projects implemented and the improvement in the quality of life of the population.

Challenges	Resource constraints: efficient and effective use of the available financial resources. Building partnerships: effective cooperation between different actors. Ensuring sustainability: guaranteeing the long-term sustainability of projects.
Best Practices	The programme builds on the experience of previous development cycles, highlighting successful projects and methods that have contributed to achieving the objectives.
Recommendations	Active involvement of local communities in the planning and implementation process. Sustainability considerations are prioritised in projects. Ensure continuous communication and information on the progress and results of the programme.
Policy	**Climate Strategy of Zala county**
Policy Objectives	Zala is a successful implementer of coordinated, climate-friendly, and well-planned mitigation and adaptation programs and projects in tourism, forestry, agriculture, water management, and municipal operations • Reducing greenhouse gas emissions. • Adaptation to climate changes. • Increasing the share of renewable energy sources. • Awareness-raising and strengthening climate consciousness.
Key Instruments	**Encouraging the reduction of greenhouse gas emissions from the operation of residential buildings:** Organizing informational forums. Generating pilot projects and widely sharing experiences. Providing expert advice on energy efficiency. **Promoting the expansion of renewable-based electricity generation:** investments in solar, wind and biomass energy production. e.i.: Aid for the authorisation of small household power plants **Providing practical knowledge on emission reduction and climate change adaptation for the adult population of Zala county:** In the context of climate change mitigation, key messages include emphasizing the long-term investment nature of building energy efficiency projects.
Target Groups	Local government, institutions, businesses, residents
Timeframe	2018-2030 (2050)
Implementation	The Zala County Government coordinates the programmes, in cooperation with local governments, NGOs and the private sector.
Funding Sources	European Union Structural and Investment Funds Domestic budgetary resources

	Private investment
Monitoring & Evaluation	The implementation of the strategy is regularly monitored and changes are made where necessary based on the results.
Effectiveness	The success of the programmes is measured by the reduction in energy consumption and the increase in the share of renewable energy sources.
Challenges	Efficient use of resources. Involving citizens and businesses in programmes. Ensuring access to technological improvements.
Best Practices	Awareness-raising
Recommendations	Active involvement of local communities in the design and implementation of programmes. Maximising the local potential of renewable energy sources. Prioritising measures to reduce energy poverty.

Instruments and founding sources

Breaking out of energy poverty on your own is almost impossible. There are three ways to approach this, and the more of them that are implemented, the greater the impact of the support:

1. increase income through direct subsidies (for housing or energy), vouchers and other solutions;
2. reducing expenditure: lower energy prices through tax breaks, social tariffs and other solutions;
3. support for the creation of modern housing: financing energy renovation, tax incentives and other means to help the efficiency of the housing stock.

These approaches can be divided into two groups of measures:

- those with a short-term impact, which help households pay their energy bills, prevent disconnection of service or offset in energy prices.
- more complex, capital-intensive solutions, such as improving energy efficiency in households, which would not only contribute to reducing energy poverty in the long term but would also have many other co-benefits. In addition, significant infrastructure improvements are being pursued to increase energy security in Hungary and the region.

As mentioned above, there is no official definition of energy poverty in Hungary, so there are no policies or subsidies specifically targeting energy poverty; some of those in need may be covered by the available family policy measures and energy modernisation subsidies. These subsidies are the following, which will be explained in more detail in the next chapter:

- Support for households and consumers (utility cost reduction)
- Social firewood programme
- Home Renovation Programme for Home Energy Efficiency Investments
- Rural Home Renovation Programme
- Village Family Home Building Allowance

These grants are partly financed by the Hungarian state budget, while the European Union also contributes to their implementation. In addition, for many investments, own resources are essential for full implementation.

Case Studies: Regional Best Practices

The **Sustainable Energy and Climate Action Plan of the City of Szombathely** devotes an entire chapter to energy poverty. The document attempts to define the scope of energy-poor households. The main criteria used to define energy poverty are the proportion of households with individual space heating and wood-burning, and the proportion of households living in rented municipal housing.

Based on this, the proportion of properties potentially affected by energy poverty is 10.18%, or 3,700 properties in the city. Multiplying this by the average population of 2.19 people gives a figure of 8,103. So potentially 10.18 %, i.e. 3700 properties and therefore 8,103 people could be affected by energy poverty in Szombathely. The rental housing stock in Szombathely consists of 2,200 dwellings, which is 6.5% of the total housing stock in the city. This relatively high figure represents a significant responsibility for the city, but also an opportunity to take action. The above figure is complemented by the number of households that received firewood from Szombathely in the last three years:

- in 2021 204 units
- in 2022 233 units
- in 2023 268 units

The dwellings covered by the social fuelwood scheme represent a fraction of the potential number of properties covered.

As described above, the city proposes to implement the following actions in energy poverty properties:

- Municipal rental housing boiler replacement and window modernisation programme
- Firewood programme plus
- Communication campaign involving the social care system

In addition, the municipality has already taken some small but important steps to increase energy efficiency. Among other things, it has implemented a LED replacement programme. In addition to the replacement programme, a Sustainable Urban Development Strategy has been developed, which aims at a comprehensive energy assessment of the city's energy use and the development of a green financing framework based on the city's green agenda.

In addition, the city is participating in the JUSTClimate project, which aims to achieve a socially just carbon transition through smart management tools. The project will learn about the situation of stakeholders and their climate goals through professional workshops to jointly develop feasible targets to achieve climate neutrality.

In the framework of the Renewable Szombathely - Clean Energy from Own Power project, three solar power plants with a capacity of 480 kWp each were installed, with a total capacity of 1440

kWp. The system will produce around 1,684,800 kWh of clean electricity per year, reducing the city's CO_2 emissions and increasing the security of energy supply.

Another good example is the housing renovation sub-programme of the economic development programme of the **municipality of Alsómocsolád**, called "Landscape of our House", which has been supporting housing renovation for more than ten years with interest-free loans and grants financed from its own and from tender sources. The programme has been extended to cover not only renovation, but also specific energy investments. In order to renovate the housing stock on the basis of an energy assessment and plan, cooperation with the Hungarian Family House Owners Association has been initiated and a Community Finance Fund is being developed to provide the necessary self-financing for renovations.

Children are at the heart of the long-term **Catching Up Settlements programme**, with the primary aim of ensuring that every household with young children has at least one properly heated, safe and healthy room. But many homes in the country's poorest villages do not meet these basic conditions. Poorly efficient wood-burning stoves often leak smoke back into the home, and poor or missing insulation, roofs and windows require significant energy inputs to achieve a minimum level of comfort. During the winter, the homes of the most vulnerable families can remain cold for long periods, causing all combustible materials to end up in the stove - when health and environmental considerations are neglected. Young children living in such conditions are more likely to suffer from asthma, other respiratory diseases and have a significantly higher risk of cancer.

Addressing the situation requires not just individual interventions, but systemic solutions that involve the whole community. Recognising this, the **Hungarian Charity Service of the Order of Malta**, in cooperation with **E.ON**, set up a **social solar power plant in Tiszabő as a model programme in 2020** as part of the Catching Up Settlements Programme. From the revenues generated from the sale of energy produced by the power plant, prepaid meters installed for local families with young children are charged in a predetermined amount every month. Although the subsidy does not fully cover the households' heating needs, it makes a significant contribution to reducing monthly energy costs.

Under the programme, safe power points with underground cables have been installed in the affected homes, and the Charity Service is also providing electric heating panels for households.

These will make heating more efficient, healthier and greener, while keeping safety a priority. The one-hectare solar power plant on the outskirts of Tiszabő will not only help reduce heating costs for families in need but will also encourage energy awareness and financial planning. The project is also of major importance for social and environmental sustainability.

Challenges in Implementing Regional Policies

Financing investments and grants is one of the biggest challenges at both regional and local level.

If a municipality is committed to tackling housing and related energy poverty, there are tools available in the current policy and regulatory environment that it can consider in light of specific challenges and available resources.

It is important to note, however, that the situation of municipalities can vary considerably, both in terms of the nature of the problems and the resources available. The interventions described above require different levels of financial and organisational input, so they are worth considering for municipalities with limited resources. Moreover, depending on local conditions and opportunities, additional measures can contribute to reducing energy poverty and ensuring adequate housing conditions.

The options presented are partly based on recent municipal analyses and offer suggestions in the following areas:

- Efficient management of municipal property
- Socially transparent management of the municipal rental housing stock
- Social assistance - financial and other means
- Market interventions
- Urban development-planning
- Rethinking organisational functioning to better address housing problems locally

7. Comparative Analysis of Policies

To effectively present a comparative analysis of policies in a **table form**, we suggested to organize the table based on key dimensions of analysis that highlight similarities, differences, and effectiveness of the policies.

Table structure for overview of EU policies

Policy	Title
Policy Objectives	EU-wide objectives
Key Instruments	EU directives and funding mechanisms
Target Groups	Pan-European focus
Timeframe	
Implementation	European Commission, member states
Funding Sources	EU funds (e.g., Cohesion Fund, Social Climate Fund)
Monitoring & Evaluation	EU-wide audits and reviews
Effectiveness	Moderate uniformity across member states
Challenges	Need for harmonization
Best Practices	Example: [specific case]
Recommendations	Improve EU-national integration

Table Structure for Comparative Analysis

Dimension	Regional Policies	National Policies	EU Policies	Observations/Comments
Policy Objectives	Objectives specific to regions	National priorities and goals	EU-wide objectives	Highlight overlapping or conflicting goals.
Key Instruments	Local-level tools (e.g., subsidies, grants)	National programs and incentives	EU directives and funding mechanisms	Show alignment or gaps in tools used.
Target Groups	Vulnerable communities (local)	Broader national population	Pan-European focus	Examine differences in inclusion and coverage.
Timeframe				
Implementation	Regional authorities, NGOs	National governments	European Commission, member states	Discuss coordination challenges.
Funding Sources	Local budgets, regional aid	National budgets, public/private partnerships	EU funds (e.g., Cohesion Fund, Social Climate Fund)	Compare funding adequacy and effectiveness.

Dimension	Regional Policies	National Policies	EU Policies	Observations/Comments
Monitoring & Evaluation	Limited regional oversight	National reporting mechanisms	EU-wide audits and reviews	Assess transparency and accountability.
Effectiveness	Mixed success, local disparities	Varied based on national priorities	Moderate uniformity across member states	Highlight what works best and why.
Challenges	Limited resources, capacity	Political and economic barriers	Need for harmonization	Identify common and unique barriers.
Best Practices	Example: [specific case]	Example: [specific case]	Example: [specific case]	Showcase transferable insights.
Recommendations	Tailor to local needs	Align with national strategies	Improve EU-national integration	Provide actionable suggestions.

Explanation of Dimensions

1. **Policy Objectives**: Compare how policies at each level define their goals in fighting energy poverty.
2. **Key Instruments**: Outline the specific tools or mechanisms used, such as tax incentives, social support, or energy efficiency initiatives.
3. **Target Groups**: Identify the populations these policies are meant to benefit.
4. **Implementation**: Describe how each level of policy is enacted and managed.
5. **Funding Sources**: Compare the origin and sufficiency of funds at regional, national, and EU levels.
6. **Monitoring & Evaluation**: Assess the frameworks for tracking progress and outcomes.
7. **Effectiveness**: Highlight outcomes or impacts observed at each level.
8. **Challenges**: Summarize the barriers that hinder the success of these policies.
9. **Best Practices**: Provide concrete examples of successful initiatives that could inform other levels.
10. **Recommendations**: Suggest ways to enhance coordination and improve outcomes.

Benefits of This Approach

- Provides a **clear side-by-side comparison**, making it easier to identify gaps, overlaps, and areas for improvement.
- Facilitates **systematic analysis** by focusing on key aspects of policy design, implementation, and impact.
- Encourages **actionable insights** by pointing out best practices and offering recommendations.

7.1 Comparative analysis of EU policies addressing energy poverty

In the table below are EU policies addressing energy poverty, noting strengths, limitations, and recommendations for improvement.

Policy Title	Policy Objectives	Key Instruments	Target Groups	Timeframe	Implementation	Funding Sources	Monitoring & Evaluation	Effectiveness	Challenges	Best Practices	Recommendations
European Green Deal	Promote sustainability, reduce emissions, and alleviate energy poverty.	Investments in clean energy, energy-efficient renovations, and renewable energy promotion.	Low-income households in the EU.	Ongoing	European Commission and member states.	EU budget, private investments, Cohesion Fund.	Annual progress reports and audits.	Promising, but uneven across states.	Slow adoption in less developed areas.	Renovation Wave Initiative.	Align funding to member state needs.
Social Climate Fund	Mitigate social impacts of the energy transition, focusing on vulnerable populations.	Direct income support, funding for clean heating and cooling systems, energy-efficient building renovations.	Energy-poor households.	2026–2032	Member states implement with EU oversight.	€86 billion (2026–2032) from EU budget.	National progress monitoring via the EU.	Addressing vulnerable groups effectively.	Delayed implementation in some areas.	Bulgaria's residential program.	Expedite fund deployment.
REPowerEU Plan	Reduce reliance on fossil fuels and improve energy security.	Faster permitting for clean energy projects, financial support for energy efficiency.	All EU citizens, focus on rural areas.	2022–2030	European Commission leads with state-level plans.	EU Recovery and Resilience Facility.	Monitored under the RRF framework.	Moderate progress; funding remains critical.	Varying member state energy needs.	Portugal's renewable investments.	Promote cross-border initiatives.
Energy Efficiency Directive	Achieve higher energy efficiency, reduce energy use, and lower energy poverty.	Mandatory national energy saving measures, energy renovation obligations for buildings.	Energy-poor EU citizens.	Revised 2021; ongoing.	National energy efficiency action plans.	National funding combined with EU programs.	EU and national reporting mechanisms.	Effective where implemented fully.	Inadequate enforcement mechanisms.	France's retrofitting scheme.	Strengthen enforcement frameworks.
Just Transition Mechanism	Support regions reliant on fossil fuels to transition to clean energy without increasing social inequities.	Reskilling workers, financial assistance for affected communities, and investments in clean technologies.	Fossil fuel-reliant regions.	2021–2027	Collaboration between EU institutions and states.	€17.5 billion from EU and national budgets.	Reviewed within the European Semester framework.	Positive regional outcomes in key areas.	Bureaucratic delays and fund accessibility.	Poland's coal region transition.	Streamline application processes.
European Pillar of Social Rights	Reduce social exclusion and ensure affordable access to energy and other essential services.	Policy frameworks that integrate energy poverty alleviation with social housing and welfare programs.	Marginalized and at-risk groups.	Ongoing	EU guidelines implemented by member states.	National budgets, supplemented by EU cohesion funds.	National and EU-level social metrics monitoring.	Visible improvements, but lacks uniform application.	Fragmented implementation strategies.	Austria's energy subsidy scheme.	Broaden scope of social inclusion.
Horizon Europe	Promote innovation for affordable and sustainable energy solutions.	Research grants and innovation funding for clean technologies and energy poverty solutions.	Researchers, SMEs, and innovators.	2021–2027	Administered through the European Innovation Council.	€95.5 billion research budget (2021–2027).	Reviewed under Horizon Europe evaluations.	Encouraging but indirect impact on energy poverty.	High barriers to project participation.	Solar-driven innovation projects.	Reduce bureaucratic hurdles.

Sources:

- European Commission's policies on the Green Deal and REPowerEU Energy; European Commission
- Reports on the Social Climate Fund and Energy Efficiency Directive European Commission; Institut Jacques Delors
- Details on Just Transition Mechanism from European Union publications Energy

7.2 Comparative Analysis of Energy Poverty Policies in Slovenia

Dimension	Regional Policies (Pomurje & Podravje)	National Policies	Observations/Comments
Policy Objectives	Alleviate energy poverty via local renovation and advisory projects; focus on vulnerable, rural, and Roma populations	Ensure access to affordable energy, reduce CO_2 emissions, renovate buildings, protect vulnerable consumers	Strong overlap in social equity and sustainability goals, with local focus often more pragmatic and targeted
Key Instruments	Energy advisory offices, ZERO500/ZERO projects, Eco Fund regional programs, local partnerships	Energy Act, NECP, LTRS, Social Climate Fund, subsidies for renovations and energy bills	Local tools complement national laws; regional initiatives often pilot solutions before national scaling
Target Groups	Low-income, Roma, elderly in rural areas, social housing tenants	Low-income, elderly, single parents, disabled, energy-burdened households	Regional policies often target hyperlocal needs; national policies define broader demographic priorities
Timeframe	2021–2030 (aligned with national strategy), with rolling 3-year action plans	Varies by policy: NECP (2021–2030), EZ-1 (ongoing), LTRS (to 2050)	Timeframes are consistent and aligned; regional plans operate within national timelines
Implementation	Regional development agencies (RRA), local NGOs, municipalities, energy advisors	Ministries (Energy, Infrastructure), Eco Fund, national institutions	Coordination between local and national levels is often cited as a challenge; siloed implementation persists
Funding Sources	Eco Fund, Climate Change Fund, regional EU projects (e.g., REACH), local budgets	National budget, ERDF, ESF+, Social Climate Fund, RRF, EIB loans	National sources are broader and more sustainable; regional projects often rely on short-term EU funds
Monitoring & Evaluation	Project-level M&E by Eco Fund and municipalities; often ad hoc	Biennial reporting (NECP), annual stats (SURS), Energy Agency oversight	National M&E is more structured; regional M&E is underdeveloped and data-limited
Effectiveness	Strong in pilot projects (e.g., energy audits), but limited scaling	National impact moderate; effectiveness depends on financing, targeting, and intersectoral alignment	Regional actions show high local impact but lack institutionalization; national policy offers scale but slower execution
Challenges	Fragmented data, limited staff capacity, low awareness, inaccessible subsidies	Financing gaps, slow renovation rate, lack of definition of energy poverty, bureaucratic hurdles	Both levels face resource and data issues; integration and accessibility remain systemic barriers
Best Practices	Local advisory centers, mobile teams, REACH energy kits	Eco Fund incentives, integration into NECP and LTRS, energy community pilots, Smart Metering	Regional innovation informs national scaling; national structure provides legal and financial backbone
Recommendations	- Create centralized energy poverty registries - Improve local access to funding - Increase NGO involvement - Local energy advisors and awareness campaigns	- Scale deep renovations - Improve public engagement - Strengthen cross-ministerial coordination - Increase financing for vulnerable households	Strong complementarity: national should enable and fund; regional should implement and innovate

7.3 Comparative Analysis of Energy Poverty Policies in Hungary

Dimension	Regional Policies (Zala and Vas Counties)	National Policies	Observations/Comments
Policy Objectives	Improve living conditions for vulnerable groups, promote energy efficiency and community inclusion	Ensure energy sovereignty, emission reduction, improve efficiency, protect vulnerable consumers	National policies focus on systemic reform; regional strategies are socially and locally rooted
Key Instruments	Local energy advisory services, pilot renovation schemes, biomass heating, NGO-led support programs	NECP, National Energy Strategy 2030, LTRS, energy efficiency obligation schemes (EEOS), solar support	Regional instruments are project-driven; national ones are policy- and market-based
Target Groups	Low-income families, elderly, rural Roma, those in social housing or inadequate homes	Broader population with focus on energy-poor households, large families, pensioners	Regional coverage is narrower but more precise; national outreach is broader but less targeted
Timeframe	Short- to mid-term (2021–2030); aligned with national policy cycles	2020–2050 strategic horizon	Alignment exists; regional plans tied to national frameworks with shorter scopes
Implementation	Municipalities, local NGOs, pilot consortiums (e.g. community heating)	Ministries (Energy, Innovation), national regulators, ESCOs	Coordination challenges exist due to decentralized implementation and limited local capacity
Funding Sources	EU regional development funds, national subsidies, NGO grants, local budgets	RRF, Cohesion Fund, EEOS, national budget, private investment	National programs offer scale; regional access depends on administrative ability
Monitoring & Evaluation	Minimal formal M&E; reliant on project-based evaluations and NGO reporting	Annual reviews, EU reporting cycles, internal ministry audits	M&E frameworks are more robust nationally; regional systems remain fragmented
Effectiveness	Promising pilots (e.g. biomass projects in Vas, renovation aid in Zala); limited scaling so far	Energy poverty metrics included in NECP; national subsidies have partial reach	Effectiveness depends on local tailoring and funding continuity
Challenges	Administrative complexity, shortage of qualified implementers, low digital infrastructure	High renovation costs, lack of data on energy-poor, weak uptake in poorest households	Similar structural issues; national level has more resources, local level more access barriers
Best Practices	Biomass district heating in Vas; community energy hubs in Zala; NGO-led outreach to Roma communities	Home renovation scheme, utility cost cap program, smart metering rollout	Transferable models exist across levels; integration remains key
Recommendations	Simplify funding access, expand local advisory services, increase outreach to marginalized groups	Lower co-financing requirements, improve targeting of subsidies, coordinate with local governments	Improved policy alignment and inclusive implementation needed for impact

7.4 Similarities and Differences

Based on Comaparive Analysis of of Energy Poverty Policies in Slovenia and Hungary (considering antional and regional level), we present the similarities and differences between both countries in the table below.

Table

Dimension	Similarities	Differences
Policy Objectives	Both countries aim to reduce energy poverty via building renovation, social protection, and inclusion	Slovenia focuses more on aligning with EU green objectives; Hungary leans toward energy sovereignty and cost control
Key Instruments	Use of energy efficiency grants, advisory services, EU-backed programs	Slovenia integrates Eco Fund and long-term strategy tools; Hungary emphasizes EEOS and decentralization
Target Groups	Low-income, elderly, rural households are prioritized	Slovenia has detailed targeting (e.g. single-parent families, disabled); Hungary broadly includes large families, Roma
Timeframe	Policies aligned with EU planning cycles (2030–2050)	Slovenia references more interlinked action plans (e.g. 3-year cycles); Hungary sticks to strategy periods
Implementation	Multilevel governance; local/regional and national cooperation	Slovenia has stronger institutional coordination; Hungary relies heavily on pilot programs and NGOs
Funding Sources	Combination of national budget, EU funds, and project-specific sources	Slovenia uses Eco Fund and state-aid instruments more strategically; Hungary is more reliant on project/grant access
Monitoring & Evaluation	Use of national statistics offices and project monitoring	Slovenia employs more formal frameworks with recurring evaluations; Hungary's regional M&E remains weak
Effectiveness	Local programs show impact; national policies aim at structural change	Slovenia shows stronger systemic integration; Hungary struggles with co-financing barriers and uptake
Challenges	Administrative hurdles, lack of data, underfunded local implementation	Hungary reports more digital infrastructure and capacity issues; Slovenia faces definition and tracking problems
Best Practices	Community-based programs, housing retrofits, advisory networks	Slovenia’s Eco Fund and NECP are widely recognized; Hungary’s biomass district heating and energy hubs noted
Recommendations	Better alignment between local and national levels, simplify access	Slovenia emphasizes data systems and stakeholder engagement; Hungary focuses on decentralization and education

7.5 Effectiveness of Policies Across Levels

Effectiveness of Policies Across Governance Levels

Level	Effectiveness Overview
EU Level	EU policy provides strong strategic frameworks (e.g., European Green Deal, Fit for 55) and financial instruments (e.g., Social Climate Fund, Cohesion Policy), but lacks direct implementation capacity. Member States vary in uptake and results. The effectiveness relies heavily on how well national and local governments translate EU goals into actionable and targeted policies.
Slovenia	National policies show moderate systemic integration, especially through tools like the Eco Fund and NECP alignment. Regional initiatives (e.g., Podravje, Pomurje) demonstrate tangible success in advisory outreach and pilot renovations but face scaling barriers due to limited capacity, fragmented data, and uneven municipal engagement.
Hungary	Regional efforts (Zala, Vas) highlight promising pilots, particularly around community heating and Roma inclusion, but struggle with coordination and sustained funding. National-level policies are broad and energy market–oriented, with partial reach due to complex access procedures and low uptake by the most vulnerable households.

7.3 Lessons Learned

- **Multilevel Governance Is Essential but Uneven**
  Success hinges on strong vertical coordination—between EU, national, and regional actors. Slovenia manages this better through institutionalized planning (e.g. Eco Fund, 3-year action cycles), while Hungary struggles with fragmentation, especially at the regional level.

- **Targeting Must Be Precise and Inclusive**
  Broad national strategies are not enough. Local targeting of Roma, single-parent households, and the elderly—as seen in Zala, Vas, Pomurje, and Podravje—ensures support reaches those in deepest need. Poor targeting leads to low uptake despite available funds.
- **Local Innovation Drives Impact**
  Regional pilots (e.g., biomass heating in Vas, ZERO500 in Slovenia) often deliver the most tangible results. National policies should embed mechanisms for scaling successful local initiatives.

- **Monitoring Systems Need Strengthening**
  Both Hungary and Slovenia show weaknesses in regional monitoring. Structured, recurring M&E frameworks—like Slovenia's NECP-linked tracking—are essential for measuring real impact and ensuring transparency.

- **Funding Is Not Just About Volume, But Access**
  While EU and national funding are substantial, complexity and co-financing barriers often exclude the most vulnerable. Simplified procedures and decentralized funding support are critical to effective policy reach.

- **Data Gaps Obstruct Policy Design**
  Across the board, lack of consistent definitions and data on energy-poor populations hampers planning. Investing in local-level data systems is a foundational requirement.

- **Behavioral and Advisory Components Matter**
  Advisory services and awareness campaigns (e.g. REACH, energy advisors in Zala) are essential complements to financial incentives. They empower households and improve long-term energy behavior.

8. Policy Integration and Coordination

8.1 Gaps Between Regional, National, and EU Efforts

1. **Policy Coherence Gaps**
   - While the EU provides a strategic framework, national interpretations vary, and regional application is often inconsistent. Slovenia performs better in aligning local plans with national and EU strategies. In Hungary, local policy actions (e.g., in Zala and Vas) are often disconnected from national energy reforms.
2. **Implementation Disconnection**
   - There is a lack of systematic coordination between national governments and local implementers, especially in Hungary. Local NGOs and municipalities frequently operate in isolation from strategic state-level energy programs.
3. **Funding Fragmentation**
   - Although significant EU and national funds exist, regional entities—especially in Hungary—face difficulties accessing them due to administrative complexity and co-financing requirements. Slovenia's use of the Eco Fund illustrates a more integrated funding pipeline.
4. **Monitoring and Evaluation Inconsistencies**
   - EU-level requirements for reporting exist, but regional M&E systems are weak or project-based. Hungary lacks structured feedback from local initiatives into national performance monitoring, unlike Slovenia which links regional plans to the NECP cycle.
5. **Targeting and Inclusion Misalignment**
   - EU policies emphasize vulnerable groups broadly, but national strategies sometimes generalize this focus. Regional initiatives tend to be more precise (e.g., addressing Roma households or elderly), but they are not always supported by national tools.
6. **Data Silos**
   - Local actors often lack the technical or institutional capacity to collect and share data with national agencies or the EU, leading to fragmented planning and weak evidence-based policymaking. There is no standardized mechanism for integrating bottom-up data collection.
7. **Scalability and Policy Learning Gaps**
   - Successful pilots (e.g., in Vas and Pomurje) rarely scale beyond their immediate context due to the absence of formal feedback loops between local success and national program reform.

These gaps highlight the need for stronger vertical integration of policy design, funding access, and knowledge transfer to improve energy poverty reduction efforts at all levels.

8.2 Recommendations for Improved Policy Alignment

1. **Establish Clear Coordination Frameworks**
    - Develop formal mechanisms for dialogue and planning between EU, national, and regional levels—e.g., joint task forces or integrated programming platforms.
2. **Standardize Definitions and Indicators**
    - Adopt EU-wide definitions of energy poverty and harmonize monitoring indicators to ensure comparability and shared learning.
3. **Improve Data Sharing and Local Reporting**
    - Create national-level registries fed by regional data and support local authorities in digitalizing their energy and social datasets.
4. **Streamline Funding Access for Local Actors**
    - Simplify application processes for EU and national funds, reduce co-financing burdens, and create pre-approved funding templates for municipalities.
5. **Support Scaling of Regional Best Practices**
    - Fund dedicated “scaling tracks” that identify and replicate successful pilots (e.g., biomass in Vas, ZERO500 in Podravje) across similar regions.
6. **Invest in Capacity Building and Technical Assistance**
    - Offer training, guidance, and institutional support to local governments and NGOs involved in energy poverty alleviation.
7. **Align Social and Energy Policies More Tightly**
    - Ensure that national energy efficiency programs are co-designed with social inclusion services to better address the lived reality of vulnerable households.

9. Emerging Trends and Innovations

9.1 Technological Solutions to Combat Energy Poverty

Energy poverty in the European Union affects millions of households who struggle to afford adequate heating, electricity, and cooling. Although the EU has widespread grid coverage, affordability and energy efficiency remain key challenges, especially for vulnerable groups such as low-income families, the elderly, and residents in poorly insulated homes.

Technological solutions in the EU focus heavily on **energy efficiency improvements** in buildings. Retrofitting homes with better insulation, double-glazed windows, and energy-efficient heating systems significantly reduce energy consumption and bills [10]. The use of **smart meters and smart grids** is also expanding, enabling consumers to better monitor and manage their energy use, which supports demand response and reduces peak loads [11].

Renewable energy technologies, such as small-scale solar PV and heat pumps, are increasingly integrated into residential energy systems, fostering local, clean energy generation that can alleviate energy costs [12]. Additionally, digital platforms and apps help households access subsidies, energy-saving tips, and tailored advice, further empowering consumers to overcome energy poverty.

The EU's **Clean Energy Package** promotes these technologies through funding and regulatory support, aiming to ensure a just energy transition that leaves no one behind.

9.2 Role of Public-Private Partnerships

Public-Private Partnerships (PPPs) have become pivotal in tackling energy poverty across the European Union by combining the resources, expertise, and capacities of both public authorities and private sector actors. These collaborations help mobilize investments and implement innovative energy solutions, particularly in energy efficiency upgrades and renewable energy deployment for vulnerable populations.

In the EU context, PPPs facilitate large-scale renovation projects for social housing and energy infrastructure modernization. For example, partnerships between municipalities, energy companies, and financial institutions enable the rollout of energy-efficient technologies such as insulation, smart meters, and heat pumps, which would be difficult to fund solely through public budgets [13]. This approach also accelerates the deployment of decentralized renewable energy systems, providing affordable, clean energy directly to low-income households.

Moreover, PPPs support the development of innovative financing models, such as energy performance contracts and pay-as-you-save schemes, reducing upfront costs for consumers and ensuring sustained energy savings. The European Commission promotes PPPs under initiatives like the European Green Deal and the Clean Energy for All Europeans package, recognizing their role in ensuring a just transition and minimizing energy poverty [10].

By leveraging private sector efficiency and innovation with public oversight and social goals, PPPs create scalable and sustainable pathways to eradicate energy poverty in the EU.

9.3 Future Policy Directions

As the European Union advances its climate and energy goals, future policy directions to combat energy poverty are increasingly focusing on integrated, equitable, and technology-driven approaches. The EU aims to ensure that the clean energy transition is inclusive and leaves no one behind, emphasizing the need for targeted policies that address both energy affordability and efficiency.

A key future direction is the acceleration of **building renovation and energy efficiency improvements**, as outlined in the EU's Renovation Wave strategy. This policy prioritizes retrofitting the worst-performing buildings, particularly those occupied by vulnerable groups, to reduce energy consumption and bills [10]. Complementing this are stricter energy performance standards and incentives to promote renewable heating and cooling technologies, such as heat pumps.

Digitalization and smart technologies will play a growing role. The EU plans to enhance the deployment of **smart meters, demand response, and energy management systems**, empowering consumers with real-time information and control over their energy use, while facilitating integration of decentralized renewables [15].

Future policies also emphasize **social and financial inclusion**, with mechanisms such as targeted subsidies, social tariffs, and tailored energy advice to support low-income households. The EU Green Deal and the Just Transition Mechanism provide funding and frameworks to assist regions and communities most affected by energy poverty and the energy transition.

Finally, stronger **governance and data collection** through platforms like the EU Energy Poverty Observatory will enable evidence-based policymaking and monitoring of progress.

10. Conclusions and Recommendations

10.1 Key Conclusions

1. **Energy Poverty Is a Multi-Faceted Issue**
   - Energy poverty in the EU arises from a combination of high energy costs, low household incomes, and poor energy efficiency in buildings.
   - Vulnerable groups—including the elderly, single-parent families, and residents in rural or poorly insulated homes—are most at risk.
2. **Measurement Tools Have Improved, but Gaps Remain**
   - The EU has introduced a robust framework of primary and complementary indicators (e.g., ability to keep homes warm, energy expenditure share).
   - However, data collection remains inconsistent across Member States, limiting timely interventions.
3. **EU Policy Frameworks Are Comprehensive but Require Better Integration**
   - Initiatives such as the **European Green Deal**, **Social Climate Fund**, and **Energy Efficiency Directive** provide a solid foundation.
   - Implementation varies widely across countries; national adaptation and integration into local frameworks is essential for effectiveness.
4. **National and Regional Approaches Show Promising Practices**
   - Slovenia and Hungary have implemented notable strategies, such as financial aid, building renovation subsidies, and advisory services.
   - Still, fragmented responsibilities, limited coordination, and insufficient funding reduce impact, especially in underdeveloped regions.
5. **Innovative Models and Partnerships Are Emerging**
   - Energy communities, public-private partnerships, and technology-driven solutions (like smart meters) are gaining traction.
   - These models help decentralize energy generation and reduce costs, but require supportive legal and regulatory environments.
6. **Persistent Barriers Must Be Addressed**
   - Legal definitions of energy poverty, bureaucratic complexity, inadequate stakeholder involvement, and regional disparities remain obstacles.
   - Low awareness and limited access to funding mechanisms continue to exclude the most vulnerable.
7. **A Whole-System, Equity-Based Approach Is Needed**
   - Energy poverty should not be treated solely as a technical or energy market issue but must be integrated into **social policy**, **housing**, and **climate justice** strategies.
   - Policymaking must prioritize inclusive participation, long-term planning, and tailored interventions for different demographic and geographic contexts.

Key Conclusions: Slovenia

1. **Stable but Stagnant Energy Poverty Rate**
   - As of 2024, Slovenia's energy poverty rate remained around **7.3%**, showing stagnation compared to previous years. Despite efforts, **single-person and single-parent households** remain disproportionately affected.
2. **Strong Legal and Strategic Framework**
   - Slovenia has implemented a comprehensive policy framework, including the **Energy Act (EZ-1)**, **NECP (2021–2030)**, and **Long-Term Renovation Strategy**. These laws provide mechanisms such as subsidies, disconnection bans, and public advisory services.
3. **Effective Financing Tools with Moderate Uptake**
   - The **Eco Fund** has supported thousands of energy-poor households through grants for insulation and heating system upgrades. However, **administrative burdens and co-financing requirements** still prevent many vulnerable groups (e.g., elderly, Roma) from accessing support.
4. **Data and Coordination Gaps**
   - Despite policy advancements, **lack of a unified national definition of energy poverty** and absence of a centralized database limit the efficiency of interventions.
   - Fragmented responsibilities across ministries and municipalities lead to **duplication and regional inequalities**.
5. **Best Practices Recognized at EU Level**
   - Slovenia's integration of energy-poor households into **energy communities**, and local engagement via the **Action Plan for Reducing Energy Poverty (2024–2026)**, are cited as innovative and replicable approaches.

Key Conclusions: Hungary

1. **High Vulnerability Despite Full Grid Access**
   - While physical energy access is not a major issue, **affordability remains a key concern** due to low incomes and a high share of **inefficient housing stock**.
2. **Policy Recognition But Low Integration**
   - Energy poverty is increasingly acknowledged in **strategic documents** (e.g., NECP, Long-Term Renewal Strategy, National Social Inclusion Strategy), but **there is still no official national definition or indicator**.
3. **Lack of Targeted Interventions**
   - Unlike Slovenia, Hungary lacks **specific national programs directly addressing energy poverty**. Existing subsidies and grants are often inaccessible to the most vulnerable due to **high co-payments and complex procedures**.
4. **Slow Progress in Renovation and Innovation**
   - Renovation rates remain low, and **deep retrofitting is rare**, especially among low-income households. Programs supporting solar panels and heat pumps exist but don't systematically target energy-poor homes.

5. **Civil Society Fills Gaps in State Response**
    - NGOs like **Habitat for Humanity** and **Red Cross Hungary** are essential players, providing direct aid (e.g., firewood, appliance replacements), data collection, and awareness—highlighting the **state's reliance on non-governmental actors**.

10.2 Policy Recommendations for Stakeholders

In October 2023, the European Commission issued comprehensive recommendations to EU Member States, aiming to address the root causes of energy poverty and ensure a just energy transition. These recommendations are particularly pertinent for policymakers, energy providers, social services, and civil society organizations [17]:

1. Enhance Energy Efficiency and Renewable Energy Access
Stakeholders are encouraged to invest in energy-efficient housing and appliances, alongside the promotion of renewable energy sources. These measures aim to reduce energy consumption and lower costs for vulnerable households .

2. Integrate Energy Poverty into National Frameworks
The Commission advises that energy poverty be systematically identified and addressed within National Energy and Climate Plans (NECPs) and Social Climate Plans. This integration ensures that energy poverty is considered in national policy frameworks, facilitating targeted interventions.

3. Strengthen Consumer Protection
The renewal of the Joint Declaration on enhanced consumer protection emphasizes the importance of safeguarding vulnerable consumers, particularly during winter months. Stakeholders are urged to adopt measures that go beyond existing legislation to support households in need .

4. Foster Stakeholder Collaboration
The Commission highlights the necessity of collaboration among various stakeholders, including consumer and civil society organizations, trade unions, anti-poverty groups, social housing providers, environmental campaigners, health organizations, energy cooperatives, and energy providers. Such partnerships are vital for the effective implementation of energy poverty alleviation measures .

10.3 Roadmap for Future Research

The document emphasizes that continued research is essential for refining energy poverty policies and ensuring the effectiveness of interventions across EU, national, and regional levels. The roadmap identifies several strategic areas where further research is needed:

1. Advancement of Measurement and Indicators

- There is a pressing need to **harmonize definitions and metrics** of energy poverty across EU Member States.
- Future research should focus on integrating **real-time data** (e.g., from smart meters) and improving methodologies that reflect seasonal, geographical, and socio-demographic variations.

2. Data Gaps and Monitoring

- Research is needed to improve **data collection mechanisms**, especially at regional and local levels.
- Establishing **dynamic databases** that track disaggregated energy poverty trends by income, age, location, and housing quality is critical.

3. Effectiveness of Interventions

- Evaluative research should assess the **long-term impacts** of existing energy efficiency programs and social tariffs on different vulnerable groups.
- Comparative case studies could identify **what works** and **under what conditions**, particularly in post-implementation assessments of funded EU projects.

4. **Technology and Innovation**

- Research on the role of **emerging technologies**—like AI-driven energy demand forecasting, decentralized energy systems, and energy-sharing platforms—can offer insights into scalable solutions for energy-poor households.

5. **Socio-Behavioral Dimensions**

- Further study is needed on **consumer behavior**, energy use patterns, and barriers to uptake of subsidies or renovation support.
- Special attention should be given to **trust in institutions** and how that affects participation in programs targeting energy poverty.

6. **Interdisciplinary and Systemic Research**

- A more integrated approach linking **social science, energy policy, climate science, and digital innovation** is recommended.
- Research should inform a **whole-of-society perspective**, ensuring policies are inclusive, equitable, and responsive to both climate and social justice imperatives.

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