



# Adapting EU energy efficiency targets to V4+ regional context

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# Abstract

Though the Visegrad Four (V4) member states inherited Soviet-era energy-intensive industries, infrastructure and buildings, they have developed invaluable expertise in energy efficiency practices and the modernization and management of energy assets. This knowledge could be effectively used by the broader V4+ community<sup>1</sup>. However, strengthened European Union (EU) decarbonization goals, coupled with energy security challenges created by the Russian war in Ukraine, have increased energy savings targets and drastically reduced the timeframe for reaching these targets. All V4+ countries, consequently, must invest economic, financial and social resources that exceed their national capacities.

## Introduction

The V4+ regional energy sector is characterized by some differences and some common features. Decades of economic development under the Soviet umbrella resulted in the creation of energy intensive industries, vast energy infrastructure and high household energy consumption. From a socio-economic point of view, the Soviet legacy includes lower incomes per capita compared to Western European countries, weak institutions, and corruption – all elements hampering innovation and modernisation.

The Visegrad Group countries have, nonetheless, significantly increased the energy efficiency of their industries and achieved substantial energy savings in buildings going back to their EU accession process. The availability of substantial financial support from EU structural funds, market pressures and social welfare programmes have all played a key role in prompting these changes. At the same

To transform these challenges into opportunities, the V4+ region should apply an “energy efficiency first” principle and foster adequate legal and regulatory conditions for sustainable regional development. These steps would contribute to simultaneously advancing EU decarbonization efforts and the post-war recovery of Ukraine. For this to happen though, the EU should provide sufficient financial support to bolster the production of materials and equipment integral to energy efficiency and expand the number of projects focused on intensive and sustainable renovation in the region.

time, the energy intensity of the V4 remains far above the EU average<sup>2</sup>, as demonstrated in Table 1.

**Table 1. Energy intensity in 2020 (toe/M€)**

EU27	107
Czechia	220
Hungary	207
Poland	205
Slovakia	193

The trade disruptions caused by Russia’s full-scale war against Ukraine and reduced energy supplies to the EU underscored the urgency for the entire V4+ region to further strengthen energy efficiency savings measures and helped forge momentum for new joint efforts and coordinated actions.

<sup>1</sup> For the purposes of this report, we consider the V4+ region as Visegrad Group members (Slovakia, Czech Republic, Hungary and Poland) together with regional Energy Community signatories Ukraine and Moldova as prospective EU candidates.

<sup>2</sup> <https://op.europa.eu/en/publication-detail/-/publication/7d9ae428-3ae8-11ed-9c68-01aa75ed71a1/language-en>

# 1. Legal obligations of the V4+ countries regarding energy efficiency and savings

As a reaction to the Russian war in Ukraine and the ongoing energy crisis, the EU has introduced a set of policy measures - first and foremost the REPowerEU package - with revamped sustainability goals.<sup>3</sup> The Energy Efficiency Directive ((EU) 2018/2022)<sup>4</sup>, notably, set a binding EU energy efficiency target of at least 32.5% for 2030 based on 2007-modelled projections for 2030. The

REPowerEU package, meanwhile, raises the EU's energy consumption reduction target to 13% by 2030 based on the 2020 Reference Scenario - up from the 9% figure proposed by the Commission in 2021. The V4 countries have developed national energy and climate plans with respective energy efficiency targets that detail available internal resources and expected support from the EU.

**Table 2. Energy efficiency targets of the V4 countries, based on final NECP<sup>5</sup>**

	European Union	Czechia	Hungary	Poland	Slovakia
Energy efficiency by 2030	32.5% (under negotiation: 36%)	No binding target	8-10%	23%	30.2%
Primary energy consumption (estimated)	1 128 Mtoe (under negotiation: 1023 Mtoe)	41.4 Mtoe	30.7 Mtoe	91.3 Mtoe	15.7 Mtoe
Final energy consumption (estimated)	846 Mtoe (under negotiation: 787 Mtoe)	23.7 Mtoe	18.8 Mtoe	67.1 Mtoe	10.3 Mtoe
Final energy consumption in 2018 <sup>6</sup>	992 Mtoe	25.9 Mtoe	18.8 Mtoe	72.8 Mtoe	17,4 Mtoe

The European Commission assessments of the national energy and climate plans (NECPs) of member states has shaped recommendations for each V4 country on how to increase their energy efficiency targets – these modifications should be included in their updated NECPs by June 30<sup>th</sup>, 2023. The proposed more ambitious level of obligations should be achieved mostly through an upward reassessment of domestic potential in three key areas: the industrial, transport and building sectors.

## 1.1 V4 energy efficiency achievements and national targets: an overview of key trends

**In the Czech Republic**, total energy consumption increased from 25.5 Mtoe to 25.9 Mtoe between 2000 and 2018 (see fig.1 below). The transport sector was primarily responsible for this growth - energy consumption in this area increased by 58% over the mentioned period as the population's expanding wealth has enabled it to purchase more vehicles. Conversely, the industrial sector saw energy consumption decrease by 23%.

3 [https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/repower-eu-affordable-secure-and-sustainable-energy-europe\\_en](https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/repower-eu-affordable-secure-and-sustainable-energy-europe_en)

4 [https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-directive\\_en](https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/energy-efficiency-directive_en)

5 See country reports [https://energy.ec.europa.eu/topics/energy-strategy/national-energy-and-climate-plans-nceps\\_en#final-nceps](https://energy.ec.europa.eu/topics/energy-strategy/national-energy-and-climate-plans-nceps_en#final-nceps)

6 <https://www.odyssee-mure.eu/>

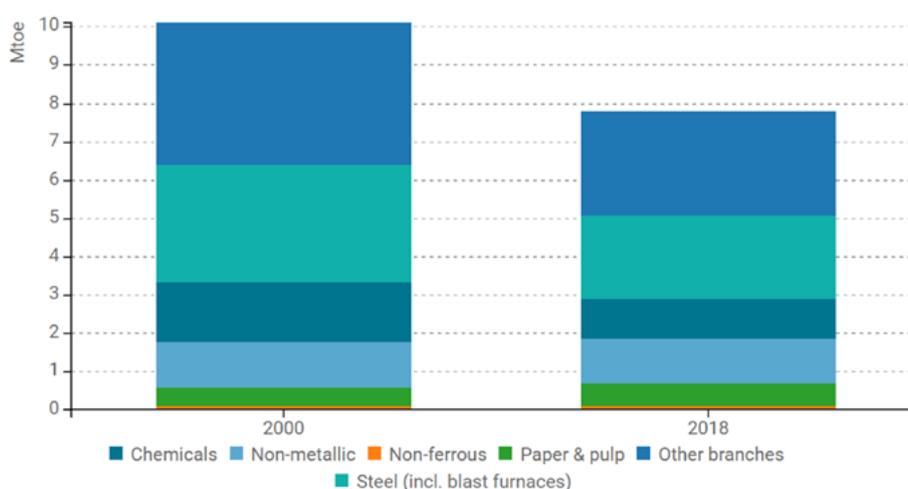
**Figure 1. Final energy consumption in the Czech Republic by sector in 2000 and 2018 (Mtoe)**

Source: Odissee<sup>7</sup>

In assessing energy efficiency best-practices that can be adopted by other V4+ countries, the Czech industrial sector, which has experienced the fastest decline in energy consumption (an average decline of 1.4% per annum over the past two decades), especially invites further analysis.

The Czech Ministry of Industry and Trade, which is tasked with ensuring energy efficiency, has introduced numerous programmes to support related measures. The government-launched Operational Programme Enterprise and Innovation for Competitiveness was the main driver behind the overall drop in industrial energy intensity<sup>8</sup>.

However, the overall fall in industrial energy intensity does not reflect a uniform pattern across all industrial sectors, as shown in figure 2. Distinct industries are rather experiencing different and fluctuating energy intensity trends. While the steel industry, for instance, reduced its energy consumption by 12.7% between 2000 and 2018, other sectors, such as pulp and paper, increased theirs by 36% during the same period. To make sense of these trends, it is important to heed two key developments in Czechia: the shift from heavy to light industries and a growth in total industrial production.

**Figure 2. Final energy consumption in the Czech Republic by industrial sector (Mtoe)**

Source: Odissee<sup>9</sup>

7 <https://www.odissee-mure.eu/publications/efficiency-trends-policies-profiles/czechia.html>

8 <https://www.mpo.cz/en/business/grants-and-business-support/opeic-2014-2020/operational-programme-enterprise-and-innovations-for-competitiveness-2014--2020--169167/>

9 <https://www.odissee-mure.eu/publications/efficiency-trends-policies-profiles/czechia.html>

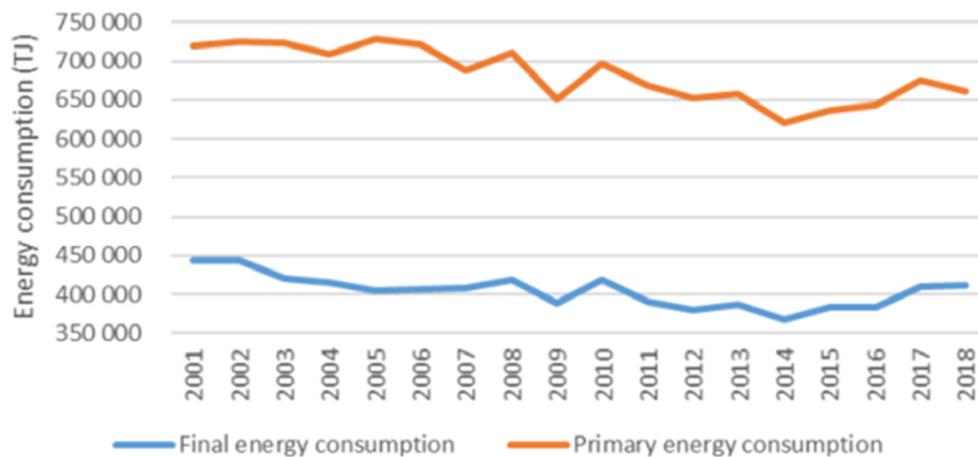
These uneven developments are largely affected by the top-down nature of the Czech approach, centred around the executive body initiative, which has proven less efficient compared to decentralised instruments, such as the introduction of a dedicated energy efficiency agency.<sup>10</sup> The latter often comes with better technical expertise, flexibility in policy development and sufficient monitoring capacities. These features ensure the efficient utilization of funds and project implementation, the sufficient ability to work at the regional and local levels with communities and the competencies required for complex, multi-year, extensive renovation projects. The switch from a centralised to decentralised approach can potentially boost energy efficiency in other industries too and more broadly in additional energy intensive sectors as well.

Slovakia's Ministry of Economy, for its part, is responsible for energy policy development,

including energy efficiency targets and state support measures, in its own backyard. The Slovak Energy and Innovation Agency<sup>11</sup> (SIEA), established by the Ministry of Economy, moreover, plays a major role in this field. The country achieved one of the highest relative drops in energy intensity among European countries during the 2000-2018 period (see Figure 3). This outcome was accomplished by the successful restructuring of industries, including through the introduction of low-energy manufacturing processes, improvement in building thermal and technical properties and the replacement of appliances with more energy-efficient alternatives<sup>12</sup>.

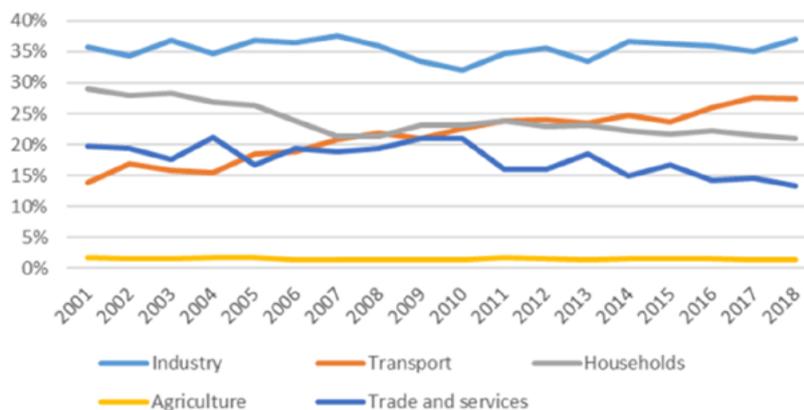
In absolute terms, industry has remained the top energy intensive area, followed by the transport and building sectors (See Figure 4).

**Figure 3. Primary and final energy consumption in Slovakia 2001-2018 (TJ)**



Source: Ministry of Economy of Slovakia

**Figure 4. Final energy consumption in Slovakia by sector (%)**



Source: Ministry of Economy of Slovakia

10 <https://iea.blob.core.windows.net/assets/301b7295-c0aa-4a3e-be6b-2d79aba3680e/CzechRepublic2021.pdf>

11 <https://www.siea.sk/en/>

12 [https://energy.ec.europa.eu/system/files/2019-03/ec\\_courtesy\\_translation\\_sk\\_necp\\_0.pdf](https://energy.ec.europa.eu/system/files/2019-03/ec_courtesy_translation_sk_necp_0.pdf)

In the industrial sector, energy savings voluntary agreements (ESVAs) are considered to be the most effective instrument towards boosting energy efficiency. An ESVA was signed between the Ministry of Economy of Slovakia and the largest industrial companies in the country to achieve energy savings in exchange for public support. Slovak industries have also significantly increased their energy performance by introducing energy managers, the regular control of heating and air conditioning systems, energy audits and monitoring.

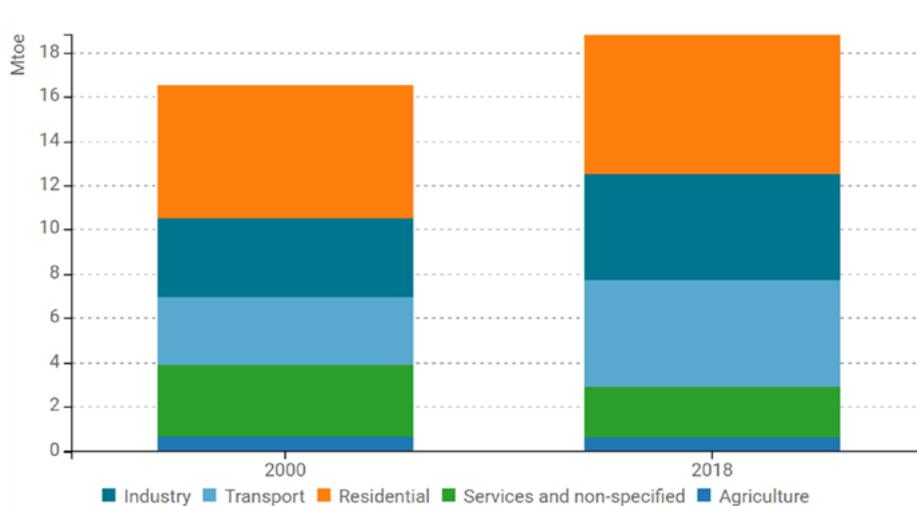
Slovakia has implemented a successful long term systemic approach to the reduction of final energy consumption in public and private buildings by providing state funds for renovation projects and technical improvements. It has also helped achieve one of the highest rates<sup>13</sup> of renovated residential buildings in the EU (block of flats at 64.7%; family homes at 49%) through an effective combination of private owner willingness to save on utility costs, the introduction of condominiums and the use of EU structural funds. However, since 2015, the speed of building renovations has slowed down substantially

due to a more limited energy savings potential and a considerable rise in the costs required to achieve each new kWh of saved energy.

The transport sector poses the greatest challenge for Slovakia as it pertains to energy savings. The growth of public wealth has contributed to a corresponding rise in ownership of private vehicles that predominately run on fossil fuels. Alternative and electric vehicle transport are negligibly present at around 2.14% market share in Slovakia<sup>14</sup>. Freight transport<sup>15</sup> has also expanded the carriage of goods via lorries, with numerous industries and services switching to this flexible shipping mode and comparable financial costs in comparison to rail.

Turning next to **Hungary**, the responsible institution for energy efficiency policy development is the Ministry of Innovation and Technology. In 2018, the final total energy consumption of Hungary was 13.8% higher (18.8 Mtoe) than in 2000 (16.5 Mtoe)<sup>16</sup>. The residential sector is the most energy intensive in Hungary, making up around 40% of all energy consumption, followed by the transport and industry sectors at 25.6% and 25.4%, respectively (See Fig.6)

**Figure 5. Final energy consumption in Hungary by sector in 2000 and 2018 (Mtoe)**



Source: Odyssee<sup>17</sup>

Hungarian industries and services have achieved major energy efficiency improvements - an average of 2.3% and 3.6% per year – through the introduction of legally binding energy efficiency requirements and labelling regulations for buildings, equipment, processes and appliances. Their success has been bolstered by access to EU funded support schemes and more liberalized energy price regimes. However, the expansion of

industrial production has offset part of the efficiency improvements, resulting in overall growing energy consumption.

In the Hungarian case, the residential sector has remained the least energy efficient due to outdated building stocks, inefficiencies in supporting policy measures and fixed end-use energy prices for residential customers. Space heating is the most

13 [https://projects2014-2020.interregeurope.eu/fileadmin/user\\_upload/tx\\_tevprojects/library/file\\_1626087733.pdf](https://projects2014-2020.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1626087733.pdf)

14 <https://alternative-fuels-observatory.ec.europa.eu/transport-mode/road/slovakia>

15 [https://ec.europa.eu/energy/sites/ener/files/documents/sk\\_annual\\_report\\_2019\\_en\\_002.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/sk_annual_report_2019_en_002.pdf)

16 <https://www.odyssee-mure.eu/publications/efficiency-trends-policies-profiles/hungary.html>

17 <https://www.odyssee-mure.eu/publications/efficiency-trends-policies-profiles/hungary.html>

energy consuming part of household energy consumption, mostly due to old heating systems.

Hungarians are increasingly purchasing more personal vehicles, thereby contributing to greater reliance on fossil fuels. Freight lorry traffic is also growing at the expense of rail and rival transport options. These trends have contributed to a decline in the use of public transport and complicated further energy savings.

In **Poland**, finally, the National Energy Conservation Agency is the institution responsible for energy efficiency measures. Final total energy consumption increased by 25.8% between 2000 and 2018, an average pace of 1.4% per year, driven by transport and household energy consumption. (See Figure7). The industrial sector, that said, saw a downward trend, with energy consumption decreasing by 0.4% per year.

**Figure 6. Final energy consumption by sector in Poland in 2000 and 2018 (Mtoe)**



Source: Odyssee<sup>18</sup>

Polish industries have been able to increase their energy efficiency by rebalancing the shares of different products they're producing. While non-metallic minerals saw an increase in consumer demand, steel and chemicals witnessed declines. New energy efficiency measures also helped counterbalance production growth and enable expansion to a new industrial sector.

The Polish building sector has been a target for substantial renovation and technical improvements that have contributed to reduced consumption for space heating despite intensive construction. At the same time, the growing number of electric

appliances for households and offices has diminished progress on overall energy efficiency.

The transport sector experienced the largest spike in energy consumption over the 2000-2018 period due to the growth in personal vehicles and heavy lorries that have assumed a more prominent role in freight transportation at the expense of rail.

Residential and public buildings constructed in the past are now quite outdated as it pertains to their energy performance. Moldova, for its part, has only recently adopted respective renovation programmes, with their success contingent on obtaining financial support from national and European sources.

## 2. Perspectives of enhanced V4 energy efficiency targets within the European Green Deal targets

The Regulation on the Governance of the Energy Union and Climate Action (EU/2018/1999) introduced a requirement for EU Member States to establish 10-year integrated NECPs to meet their energy and climate targets for 2030.

Energy efficiency is a core pillar of the NECPs coordinated with other central components (renewables, GHG emission reductions, interconnections, research and innovation). It would be especially prudent for governments to apply the “energy efficiency first” principle. This emphasis promises positive long-term impacts on public and private expenses, contributions to climate protection and sustainable development.

At the same time, the Revised Energy Performance of Buildings Directive 2018/844/EU requires EU countries to adopt long-term renovation strategies to support the renovation of their national building stocks to make them highly energy efficient and decarbonise them by 2050<sup>19</sup>. Long-term renovation strategies should provide the foundation for implementing the pan-European strategy “A Renovation Wave for Europe – Greening our buildings, creating jobs, improving lives”.

The Renovation Wave identifies three focal areas<sup>20</sup>:

- ▶ Tackling energy poverty and addressing the worst-performing buildings
- ▶ Public buildings and social infrastructure
- ▶ Decarbonising heating and cooling.

The construction sector, due to its material and labour-intensive orientation, boasts the potential to become a driving force for long-term sustainable economic development in the V4 region. All V4 members are home to obsolete building stocks that need to be modernised. The sector opens opportunities for boosting cooperation among countries and supporting local businesses, employment and economic growth.

The Fit for 55 package, which aims to revise current EU-level targets for energy efficiency from 32.5% to

36%<sup>21</sup> for final energy consumption by 2030, could further accelerate renovations.

### 2.1 Looking ahead towards 2030 and 2050 energy efficiency targets

The V4 countries are all moving at different speeds towards achieving the 2050 decarbonization goal. This variation is underpinned by the different requirements they face from relevant EU legislation, distinct peculiarities in their economies and the energy sector, available financial resources and the level of political will in each country. In general, all countries have put forward lower energy efficiency targets for 2030 compared to the EU average and the overall target of 32.5%. The V4 countries have projected their primary and final energy consumption based on outputs up until 2020 and their expectations for future economic and demographic developments. The situation in 2021 and especially 2022 has fundamentally changed European energy markets and should become a turning point for substantial amendments to national legislation and energy efficiency targets.

The **Czech Republic** prepared its NECP for the period covering the present to 2030 – it came into effect on January 1<sup>st</sup>, 2021 and supersedes the earlier national action plans on renewable energy that lasted until 2020. The Czech national energy efficiency plan foresaw a linear increase of energy consumption<sup>22</sup> by 2030 based on an anticipated rise of economic activity. These economic projections, however, have already been impacted by the pandemic, rising energy prices, supply disruptions and the overall uncertain climate linked to Russia’s war against Ukraine.

The Operational Programme Enterprise and Innovation for Competitiveness<sup>23</sup> was considered to be the most successful instrument for increasing the energy efficiency of industries by providing investment subsidies and low interest loans to businesses. It will be reportedly extended through 2023<sup>24</sup> and managed by the Czech Agency for

19 [https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/long-term-renovation-strategies\\_en](https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/long-term-renovation-strategies_en)

20 [https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/renovation-wave\\_en](https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficient-buildings/renovation-wave_en)

21 <https://www.consilium.europa.eu/en/policies/green-deal/fit-for-55-the-eu-plan-for-a-green-transition/>

22 [https://energy.ec.europa.eu/system/files/2019-06/cz\\_swd\\_en\\_0.pdf](https://energy.ec.europa.eu/system/files/2019-06/cz_swd_en_0.pdf)

23 [https://ec.europa.eu/regional\\_policy/EN/atlas/programmes/2014-2020/czechia/2014cz16fop001](https://ec.europa.eu/regional_policy/EN/atlas/programmes/2014-2020/czechia/2014cz16fop001)

24 <https://www.agentura-api.org/en/>

Business and Innovation.<sup>25</sup> At the same time, the Operational Programme Transport<sup>26</sup> seems to have achieved only minor results due to insufficient incentives towards using railways and multimodal freight instead of road transport and private vehicles. Energy efficiency improvements in the building sector, despite increasing energy efficiency from renovations, were largely dwarfed by the addition of more dwellings, appliances and larger homes.

The European Commission endorsed the Czech National Recovery and Resilience Plan (NRRP) in July 2021. The NRRP builds effectively on existing programmes, for instance, the New Green Savings<sup>27</sup> scheme which supports the complex renovation of residential buildings and the Kotlíkové dotace<sup>28</sup> scheme subsidizing the replacement of coal boilers in rural areas.

While the NRRP is well integrated into Czechia's long-term renovation strategy<sup>29</sup> and NECP, the plan does not envision a much-needed injection of additional domestic funding and investments. It, therefore, underlines the high reliance of Czechia on European financial support and the reluctance of national authorities to add substantial resources from their own state budget to accelerate the rate and depth of renovation efforts.

**Hungary** adopted its NECP in January 2020 with energy efficiency targets assessed as aspiring to a very low level of ambition<sup>30</sup> by the European Commission. The report does not elaborate on the application of the 'energy efficiency first' principle, leaving the national government opportunities for introducing further subsidies on fossil fuel consumption.

The national long-term renovation strategy was adopted in September 2021 with a declaration of intent to adapt to the latest EU climate policy developments and subsequently amend the NECP and sectoral strategies.

Hungary introduced numerous operational programmes with a focus on energy efficiency improvements in households, SMEs, local

governments and energy market players, but their functionality was strictly related to financing from ESIF<sup>31</sup> and Cohesion Funds. Private investments, notably, are not estimated or elaborated on in the proposed energy efficiency improvements.

Hungary has committed to introducing an energy efficiency obligation scheme<sup>32</sup> requiring energy companies to achieve yearly energy savings of 1.5% of annual sales to final consumers. To stimulate energy efficiency measures, the authorized Hungarian bank is offering a residential soft loan scheme, with low to zero interest rates, financed through EU funds.

Numerous support schemes were additionally introduced to spur the development of road infrastructure, including low-carbon vehicles and electro-mobility.

**Poland's** National Energy and Climate Plan<sup>33</sup> for the years 2021-2030 was submitted to the European Commission on December 30<sup>th</sup>, 2019. Poland's national contribution for energy efficiency in 2030 (91.3 Mtoe for primary energy and 67.1 Mtoe for final energy consumption) was considered by the EU Commission too modest compared to the steps needed to reach EU-wide targets<sup>34</sup>.

Poland plans to introduce an energy obligation scheme, provide financial support to the thermal renovation of buildings and expand low-carbon public transport in cities. These measures will be based on existing instruments in the building sector (Thermo-modernization and Renovation Fund for residential buildings, thermo-modernization bonus for single-family houses, Clean Air programme etc...), transport sector (public transport in cities, low emission transport fund) and numerous industries (Energia Plus, support for energy efficiency and renewables deployment in industrial enterprises).

Poland also aims to develop ecological and efficient district heating systems<sup>35</sup> based on cogeneration, the increased use of RES and waste heat, the modernization of networks and the switching of individual homes from coal to low-carbon alternatives.

25 <https://www.agentura-api.org/cs/>

26 [https://ec.europa.eu/regional\\_policy/en/atlas/programmes/2007-2013/czechia/operational-programme-transport-3](https://ec.europa.eu/regional_policy/en/atlas/programmes/2007-2013/czechia/operational-programme-transport-3)

27 <https://www.sfzp.cz/en/administered-programmes/new-green-savings-programme/>

28 <https://www.sfzp.cz/dotace-a-pujcky/kotlikove-dotace/kotlikove-dotace-3-vyzva/>

29 [https://ec.europa.eu/energy/sites/default/files/documents/cz\\_2020\\_ltrs\\_official\\_translation\\_en.pdf](https://ec.europa.eu/energy/sites/default/files/documents/cz_2020_ltrs_official_translation_en.pdf)

30 [https://energy.ec.europa.eu/system/files/2021-01/staff\\_working\\_document\\_assessment\\_necp\\_hungary\\_en\\_0.pdf](https://energy.ec.europa.eu/system/files/2021-01/staff_working_document_assessment_necp_hungary_en_0.pdf)

31 [https://ec.europa.eu/info/funding-tenders/funding-opportunities/funding-programmes/overview-funding-programmes/european-structural-and-investment-funds\\_en](https://ec.europa.eu/info/funding-tenders/funding-opportunities/funding-programmes/overview-funding-programmes/european-structural-and-investment-funds_en)

32 [https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/obligation-schemes-and-alternative-measures\\_en](https://energy.ec.europa.eu/topics/energy-efficiency/energy-efficiency-targets-directive-and-rules/obligation-schemes-and-alternative-measures_en)

33 <https://www.gov.pl/web/klimat/national-energy-and-climate-plan-for-the-years-2021-2030>

34 [https://energy.ec.europa.eu/system/files/2021-01/staff\\_working\\_document\\_assessment\\_necp\\_poland\\_en\\_0.pdf](https://energy.ec.europa.eu/system/files/2021-01/staff_working_document_assessment_necp_poland_en_0.pdf)

35 <https://www.odyssey-mure.eu/publications/national-reports/energy-efficiency-poland.pdf>

Poland's recovery and resilience plan was positively assessed by the European Commission, securing €23.9 billion in grants and €11.5 billion in loans under the Recovery and Resilience Facility (RRF)<sup>36</sup>. The plan allocates 42.7% of total funds to measures that support climate objectives and its implementation is expected to contribute significantly to decarbonising the Polish economy by increasing the share of renewable energy and energy efficiency. Regarding the latter, the plan dedicates €3.5 billion to the energy-efficient renovation of buildings. The plan also includes investments worth over €7.5 billion in green and smart mobility to tackle the huge GHG emissions share of the transport sector.

**Slovakia** submitted its NECP to the European Commission on December 20<sup>th</sup>, 2019 with energy efficiency targets assessed as low at 15.7 Mtoe for primary and 10.3 Mtoe for final energy consumption by 2030. The estimate draws on the 'energy efficiency first' principle as a tool for Slovakia to enhance its ambitions. The greatest potential in the country pertains to improvements of the energy efficiency in buildings through complex and extensive renovation work.

In December 2020, Slovakia submitted a long-term renovation strategy for building stock in order to establish a roadmap for decarbonisation by 2050, which is assumed to set up ambitious milestones for 2030, 2040 and 2050, measurable progress indicators, expected energy and wider benefits, measures and actions to renovate the building stock and a solid financing component with mechanisms for mobilising public and private investment<sup>37</sup>.

Slovakia's National Recovery and Resilience Plan, endorsed by the Commission in June 2021, is directly linked to LTRS and provides for sectoral investment proposals to address renovation needs in single-family houses, public buildings and new constructions. Among the main challenges to its implementation include obtaining access to sufficient financial resources from national and European funds and engagement from private investors.

## 2.2 Challenges for achieving more ambitious energy efficiency targets in V4+ region

The European Regulation on the Governance of the Energy Union and Climate Action EU/2018/1999 is based predominately on the Western European energy market environment. Many features characteristic of the V4 region were not adequately

addressed or considered as part of evaluations of the financial and time resources of countries:

1. Social protection of consumers is widely understood as ensuring affordable energy prices and volumes. These practices differ between Western European and V4 countries due to lower incomes and lower quality of buildings and services in Central Europe. Moreover, certain V4 politicians have regulated and subsidised prices over protracted periods of time. Subsidised prices for private households in the form of rebates, discounts and partial payments without regard to energy consumption have disincentivised consumers from investing in energy efficiency measures.
2. Multi-apartment buildings are owned by a large number of owners. The internal technical equipment and property around dwellings, meanwhile, are so called "jointly owned" with no clear legal basis, rights and responsibilities. Different prices are used for residential and non-residential parts of multi-apartment dwellings, especially for heating energy.
3. Public procurement and tenders often emphasize lowest cost offers despite their poor quality or disregard for energy performance. This tendency further reinforces the use of shoddy construction materials and outdated building standards and procedures.
4. Tedious bureaucratic procedures for the submission and approval of renovation proposals, together with high interest rates for bank loans and complicated borrowing procedures, are additional barriers.
5. Fragmented public support schemes for energy efficiency measures, with a primary emphasis on minimizing renovation costs and maximizing savings over the short-term appear to be rampant.
6. The region also suffers from a lack of consumer awareness concerning energy efficiency measures, available support instruments, quality of construction products, procedures for controlling results and the responsibilities of service providers.
7. A lack of educated professionals as well as respective courses and certification of service providers is yet another hurdle.

36 [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_22\\_3375](https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3375)

37 [https://energy.ec.europa.eu/system/files/2021-01/staff\\_working\\_document\\_assessment\\_necp\\_slovakia\\_en\\_0.pdf](https://energy.ec.europa.eu/system/files/2021-01/staff_working_document_assessment_necp_slovakia_en_0.pdf)

### 3. Policy Recommendations: options for turning EU-wide energy efficiency targets into reality in the V4 region

The V4 countries are expected to advance building stock renovation by setting the highest possible energy efficiency standards for new dwellings and the renovation of outdated public buildings and private households. These strategies will be effective only provided sufficient investments, incentives, European and national support as well as the coordination of activities and sharing of best practices.

The ongoing energy crisis in Europe has made it evident that energy efficiency matters much more than merely delivering populist rhetoric about “low prices for voters”. Soaring energy prices can inflict a devastating effect on public and private budgets. Those with efficient homes, notably, come out less severely harmed. The payback period for investments is shorter for those private households that have made more extensive renovations.

The following policy recommendations, against this backdrop, are directed at advancing energy efficiency in the V4 as well as the region’s alignment to EU-wide targets:

1. Developing a comprehensive road map for large-scale energy efficiency and modernization through regular intergovernmental meetings and exchange of best-case practices.
2. Halting subsidies and regulated prices and supporting the “energy efficiency first” principle in energy policies.
3. Public expression of support from the V4 for Ukraine’s recovery and joint efforts to achieve European Green Deal targets as well as adjusted requests for financial and technical support from the European Modernisation Fund and other sources.
4. Agreement on a common “green list” for construction materials and products developed by national energy regulators and energy efficiency institutions in the V4 region to send a clear message to local business and production facilities.
5. Adoption of a single certification procedure for business entities as energy efficiency service providers.
6. National authorities should negotiate and agree on a transparent and easy-to-access platform for public tendering of energy efficiency projects in the entire CEE region for any business entity with certification as well as remove any barriers for entering national markets.
7. National governments should amend state budgets in a way that enables them to implement the energy efficiency first principle, including through affordability and substantial financial support allocated to respective programmes for industries, transport and private households.



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