



EUROPEAN POLICY ANALYSIS

The European Green Deal and the Risk of Widening the East-West Gap

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Summary

This paper investigates the risk that the European Green Deal (EGD) and associated EU policies could lead to a widening of the economic and social gap between Central and Eastern Europe (CEE) and older member states. This unforeseen consequence could be a result of CEE countries not internalising and adapting EGD principles, but instead approaching the EGD economic strategy as a set of formal targets and external requirements. The paper examines the risk in seven key, interlinked areas: energy; transport; buildings; air quality; research and development; education, and digitalisation.

The paper suggests that the risks described are problems of common European interest, and that both CEE and Western EU countries should work together to avoid these potential policy failures. It proposes eight broad approaches which CEE countries could adopt in the context of the EGD that would mitigate the risks in individual policy areas, and in that way significantly reduce the risk of an overall widening of the gap. The paper also suggests a set of actions for the EU institutions with the same aim. By highlighting the risk and taking targeted policy action, individual CEE governments could help their countries to accelerate convergence with the older member states. This would help the European Union to reduce the internal economic and social rifts that are often a subject of justified concern for policymakers, commentators and the general public.

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1. Introduction

Following the collapse of Communism in Eastern Europe in 1989 the countries of what we now call Central and Eastern Europe (CEE) quickly declared their desire to join the European Union. The majority have by now succeeded: the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Slovakia, Slovenia and Poland in 2004; Bulgaria and Romania in 2007, and Croatia in 2013. In the last three decades the economic development of the 11 countries has been varied. One of the central political objectives of every one of them, and of the European Union as a whole, has been to close the economic gap between the new and the old member states; a process we call convergence.¹

East-West convergence was partially disrupted and complicated by the economic crisis of 2008. The European Green Deal announced by the European Commission in 2019 in combination with the post Covid-19 recovery measures offered a promise to accelerate the convergence through policies often referred to as “just transition” and “nobody left behind”. These policies combine ambitious climate action in accordance with the Paris climate agreement, digitalisation and modernisation of the European economy and support for faster recovery from the economic crisis triggered by measures to combat the spread of Covid-19.

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The EGD has a deep impact on the overall funding and regulatory policy of the European Union including on its Covid-19 recovery measures. As a result of this wide policy penetration the EGD could have a profound effect

on the economies of EU member states and on the convergence goal. The way the objectives of the EGD are implemented in the individual member states could lead to accelerated development of certain sectors in most countries. However, there is a major risk that a divergent approach to the EGD could lead to serious discrepancies in its effect between countries, which could lead not to closing the East-West gap but rather to widening it. This process will not always be easy to identify because the large financial distribution of recovery funds and the natural economic growth in CEE countries is likely to lead to improved standards of living.

Both the speed and the direction of transformation in the East and the West could be different. CEE countries might fail to address some major structural economic issues and fall into a “lock-in” trap of aging technologies and inadequate infrastructure solutions. The result could be a long-term relative slowdown of development that could affect negatively both national economies and EU competitiveness as a whole. At the same time it is possible that, in this scenario, CEE countries will fail to contribute adequately to EU climate objectives. This could weaken the EU’s economic and social coherence and shake the stability of the EU. How might that happen and what could be done to mitigate these risks? This paper examines a few key sectors to illustrate the described risks, and makes some policy suggestions for mitigating them.

The following observations, conclusions and recommendations are directed mainly to the 11 new CEE EU member states. However, to various degrees, they could be relevant to the neighbouring countries of the Western Balkans, Ukraine, Moldova as well as Turkey, whose industry, energy and trade systems are becoming increasingly integrated with those of the EU.

The paper inevitably makes some generalisations about the CEE region. A more detailed analysis of the CEE countries would show a wide variety of developments and some significant differences between countries, cities, regions and industrial sectors. Such analysis is beyond the scope of this short paper.

¹ Measuring convergence, 2021, Eurofound.

Figure 1: EU Carbon Permits price (EUR)



Source: Trading Economics

2. Energy is at the centre of the EGD debate. Often for the wrong reasons

Energy is the sector that attracts most attention in the European Green Deal (EGD) debate. The general perception of Central and East European governments is that they oppose the EGD, and they do so mostly because of the impact on the energy sector. This perception is broadly correct,² but we should look deeper into the reasons for this opposition.

In CEE countries the EGD is often presented as a new decision that has been suddenly imposed by Brussels on newer member states without considering their specific economic and energy characteristics. The two most frequently cited differences are that a) CEE countries are poorer, so they cannot afford a new and costly green assault on their economies and b) their national energy systems are much more dependent on coal than those in the West.

The problem with these views starts with the misconception of what exactly the EGD is. The rise

in the price of carbon that shocked the European coal industry happened a year before the EGD was announced. This rise was the result of the Emission Trading System (ETS) that was introduced in 2005. The initial price of carbon emission permits was relatively high (close to €30/ton) and it was expected to stay high and to increase. Then it declined, partly as a result of the economic crisis of 2008. ETS was based on a directive that was adopted in 2003 which in turn had been discussed for a few years before that. In that sense we blame the EGD for things that have started more than 20 years ago with a very clear objective – reducing carbon emissions through introducing and increasing CO₂ price.

Most of the policies that brought the EGD into existence were adopted with the full participation of the CEE governments: they were in a good position to contribute to them, to consult on them, to oppose them and even to block them. Poland did exactly that several times. Whether all the Polish obstruction benefited Poland or other CEE countries is a separate issue. The point about

² Eastern European countries threaten to wreck EU 'Green Deal', 12/12/2019, Euronews.

coal dependency is also not entirely correct. Yes, Poland, Bulgaria and the Czech Republic are highly dependent on coal.³ But Hungary, Slovakia, Croatia are not. The picture is mixed.

The view that moving out of coal is too expensive is also simplistic. Expensive compared to what? The German energy transition (*Energiewende*) is often used as a reference case. In Germany consumer's electricity bills increased significantly but that was partly because of the early mass deployment of renewables through feed-in tariffs. This increase should be examined in the context of several other factors – the growth of German electricity exports, the opportunities for new industries in the growing low carbon sector, the exclusion of energy intensive industries from the green levy and the strong public and political support for the *Energiewende*. And feed-in tariff is not lost money; it is a form of redistribution of resources which, if used wisely, support a deep transformation of the national energy system. A more extensive analysis might show that the German case is not so costly, and might have even benefited the German economy and consumer.

Germany is however only one national, and a very specific, case. There are others. In 2008 the UK introduced its Climate Act which made the energy transition much more predictable for financial investors, businesses and consumers. In 2012 the share of coal in the UK power generation was 41%. Only 8 years later it dropped to almost 0%⁴. The rapid decline of coal did not lead to higher household energy bills. In fact, as a result of a moderate increase in electricity prices combined with increased energy efficiency of buildings and appliances, by 2017 energy bills in the UK were lower than they were in 2008.⁵

In other words, the perception in CEE countries that they do not have the money, their consumers cannot afford it and they are too dependent on coal is incorrect, and often used as an instrument

to frustrate not only climate action, but also economic, technological and environmental progress.

The delay in engaging with the low carbon energy transition is already having a frustrating impact on the modernisation of the energy systems in the region. Currently most CEE countries are betting on natural gas, and campaign strongly for it to be recognised as an unavoidable transitional fuel. CEE governments are seeking to use EU recovery funds to support expansion of their natural gas infrastructure, including infrastructure for import into the EU, often misleadingly claiming that they are planning to build “hydrogen ready” infrastructure. However the EU has significant natural gas import infrastructure overcapacity and its natural gas demand is projected to decline in line with the 2030 carbon emission targets. The cost of renewables and batteries continues to decline.

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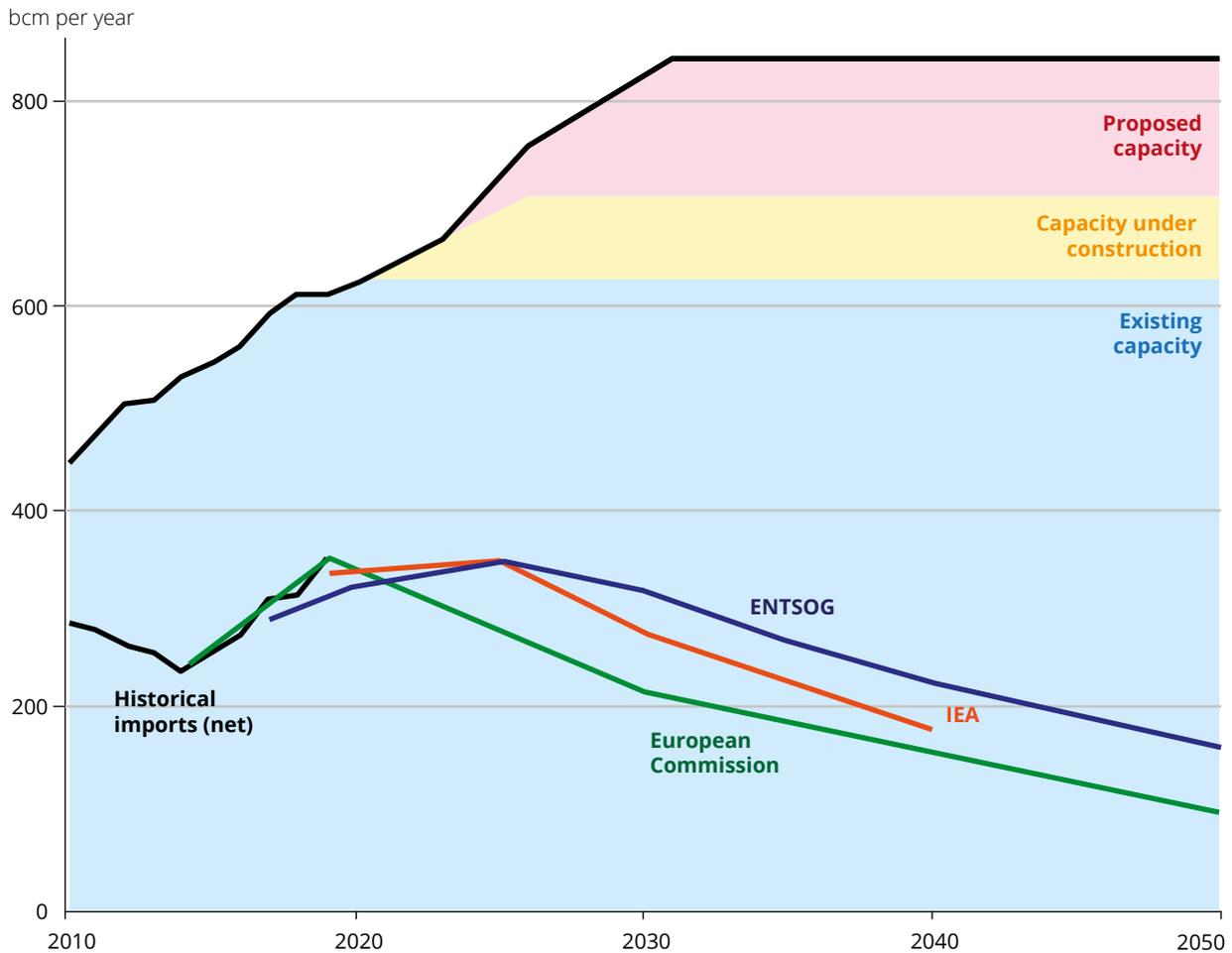
What are the consequences for the energy sector of this active or passive obstruction from the CEE side? First, it leads to a delay of coal phase-out and to mounting losses for the coal companies in the region. These are mostly state-owned companies, and their delayed transformation translates into losses for the taxpayers. Second, it means that CEE countries are late in introducing a wide range of new technologies, far beyond PV solar and wind. The effect is to delay the installation and production of components for renewable energy; heat pumps; digital solutions for the energy sector; the piloting of green hydrogen installations; advances in the bioenergy field and in many other related areas. Third, CEE countries remain more

³ Coal's share in power generation for selected European countries, 2018, 15 Nov 2019, IEA.

⁴ Britain's electricity since 2010: wind surges to second place, coal collapses and fossil fuel use nearly halves, 6/1/2020, The Conversation.

⁵ UK energy bills have fallen since 2008, says CCC, 16/3/2017, Carbon Brief. The UK wholesale price spikes in late 2021 cannot be attributed to the energy transition. They are an international phenomenon and the UK now imports most of its coal (a commodity that also increased its price on the global markets) and 2/3 of its gas. In fact, renewables have helped UK to mitigate the energy price crisis.

Figure 2: Gas import capacity significantly exceeds current needs and future projections



Source: European Gas Tracker Report, Global Energy Monitor, 2021

exposed to energy commodity imports, which in turn weakens their energy security, leaves them more exposed to external political influence and to sudden international price spikes, and negatively affects their balance of trade. Fourth, delaying the transition in CEE countries leads to stronger support for natural gas as a solution for reducing CO₂ emissions and improving air quality. This in turn brings a significant risk of building stranded assets and natural gas lock-in, which will expose these companies to higher overall emissions payments with negative consequences for both the companies and their consumers. Fifth, delaying the transition is leading to much more limited research into and modelling of different transition scenarios. As a result, CEE countries will be forced at some point to introduce ill-informed policies in a hurry and take crisis decisions, rather than transition their energy systems smoothly and efficiently.

3. Transport is in need of radical system-transformation

Transport is one of the key targets of the EGD. This is another area where CEE countries are lagging. The railways are ancient. Trains on some routes move at a speed close to that of the first trains, in the 19th century. Traveling from Sofia to Bucharest by train takes more than 10 hours, for a journey that by road is 384 km. A search for a train ticket Bucharest-Warsaw is likely to come back with a suggestion to take a plane to Istanbul and from there to fly to Warsaw. The road distance is 1,270 km and according to Google Maps it would take you 17 hours by car. By train the journey would be at least 29 hours.

The CEE car fleet is old and the number of cars on the road is rapidly expanding thanks to mass import of second-hand cars from the West. CEE

countries are building new roads with the generous support of the EU. These roads, however, are not designed for a future expansion of electric transport.

The problem is recognised by some policymakers in the region. The four Mayors of the Visegrad capitals appealed for stronger action by CEE states.⁶ Their call will hardly reduce the risk of the cities in the CEE moving slower than those in the West where radical bans of diesel cars are already announced, and ambitious low carbon urban mobility programmes are well underway. The voice of the Visegrad mayors however points at a key problem: national governments lack ambition (the four mayors are from the opposition in their respective countries).

“In other words, mobility in the CEE countries needs deep and radical system transformation.”

The problem is not simply with the ageing car fleet or slow rail network. Mobility in the East needs to be reimagined. It needs a new vision that is nationally shared; supported by national governments, by business, civil society organisations and the general public. In other words, mobility in the CEE countries needs deep and radical system transformation. This is not happening. We witness improvement but not transformation. And improvement in the wrong direction means capital investments in wrong development and widening of the East-West gap.

4. Buildings – inadequate renovation standards; inadequate financial instruments

CEE building stock is poor. The situation differs significantly from country to country, but there is a clear need for policy intervention in all countries in the region despite the fact that there has been a

significant improvement in building quality. When the CEE countries joined the European Union the level of energy poverty in most of them was high. It declined over the years. This progress is probably one of the most significant and most ignored achievements of the CEE economies.

In 2008 a staggering 66.3% of households in Bulgaria reported that they were unable to keep their home adequately warm.⁷ In 2018 this figure dropped to 33.7%, still remaining the highest in the EU. The same figure in Poland declined from 20.1% to 5.1% in that period. In Romania it went from 24.4% to 9.6%. Energy poverty is an elusive indicator that depends on income, culture, infrastructure and energy prices. Many countries lack a clear definition of energy poverty. However, the above-mentioned figures depend to a significant degree on the standards of the buildings. It seems that quality of buildings in most CEE countries is improving. However, in most cases energy prices are kept low, and legislators, governments and regulators do not have sufficient leeway to use energy prices as a tool for modernisation of the heating systems. In 2020 consumer electricity prices in all CEE prices were lower than the EU average⁸ while the wholesale energy markets are to a large extent integrated. This is a result of lower taxes on electricity in most CEE countries. Taxes are not used as an energy policy tool which reduces the ability of governments to introduce more ambitious building renovation measures.

It would be incorrect, and perhaps even populist, to simply say that East Europeans are poorer and therefore electricity prices should be kept lower. Or that if we compare electricity prices to income they would be much higher than in the West. They are not. Measured in purchasing power parity (PPP) terms electricity prices in Estonia, Hungary, Bulgaria, Latvia, Croatia, Lithuania and Slovenia are lower than the EU average.⁹ They are higher only in Slovakia, Poland and Romania. In all

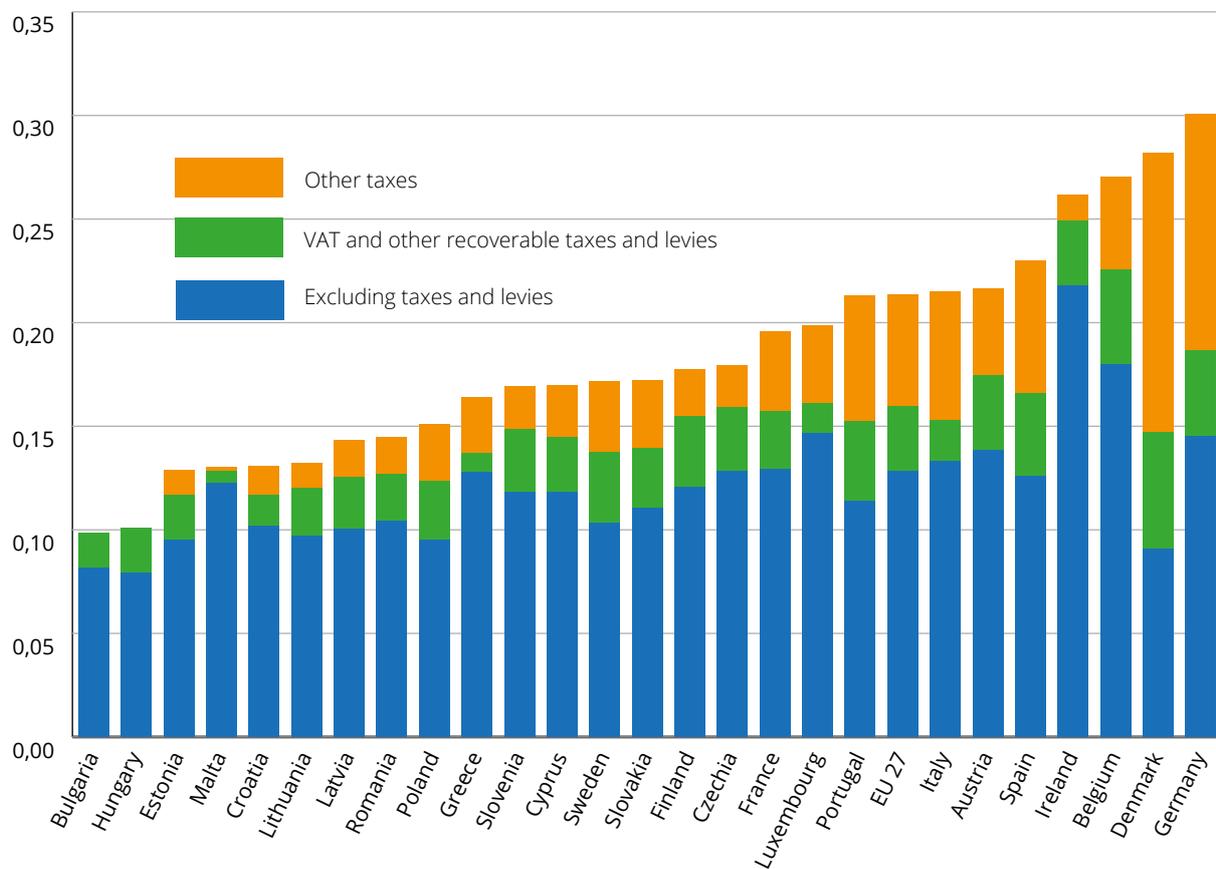
⁶ Balance climate ambition with recovery efforts so that East can meet West, 9/7/2021, Euractiv.

⁷ Bouzarovski S, Thomson H, Cornelis M, Varo A and Guyet R, Towards an inclusive energy transition in the European Union: Confronting energy poverty amidst a global crisis, Publications Office of the European Union, Luxembourg, 2020, EU Energy Poverty Observatory.

⁸ Electricity price statistics, Eurostat.

⁹ Energy prices in 2018, 21/5/2019, Eurostat.

Figure 3: Electricity prices for household consumers, second half 2018



Comment: Data for Netherlands not available. Data for Sweden estimated by Eurostat.

Source: Eurostat

CEE countries the taxes and levies on electricity are lower than the EU average. This translates into limited funds for infrastructure investments and limited ability to apply policies for higher energy efficiency and better infrastructure for the deployment of renewables. With the opportunity to expand the use of high efficiency heat pumps, smarter use of energy tax policies will become even more relevant than it is now.

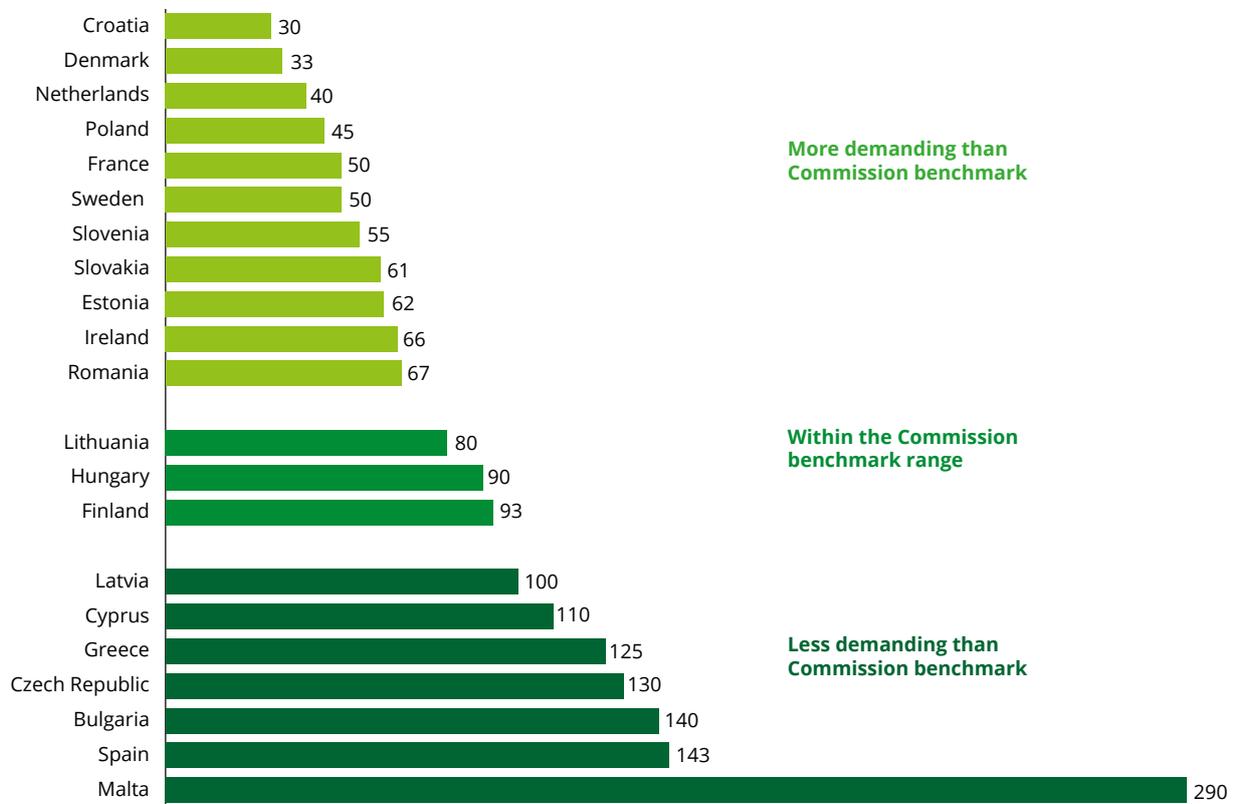
When we talk about a ‘just transition’ it is essential to consider the dynamics of energy poverty in the different countries and the changes in this indicator over the years. Otherwise, governments will miss the opportunity to use taxes and other charges on energy prices as a policy and investment instrument.

It is unwise in principle to use energy prices as the main tool to reduce energy poverty. Doing so means that the main beneficiaries are those who

consume most, which, for households at least, tends to be the richer part of the population. It is better to use more complex financial instruments that could provide targeted support for the energy poor both by covering part of their energy bills but also by supporting energy efficiency measures.

The European Green Deal could in theory help CEE countries to adjust their energy tax system. However, the indications are that governments will try to fill budget gaps rather than reforming and adjusting the tax system while combining this reform with mobilisation of a wide variety of financial instruments to bring much-needed private investments into the still sluggish and unambitious building renovation programmes. The former will lead to only partial alleviation of potential energy price increases and unnecessary redistribution of public funds through the EU financing instruments.

Figure 4: Nearly zero-energy buildings standards for offices in EU countries, kWh/m2



The Commission's benchmark range for offices is 80–100 kWh/m2/per anum
 Source: Buildings Performance Institute Europe

The way the EU recovery package as well as the other EU financial instruments are applied to buildings will not mobilise sufficient financial resource for deep, radical and mass renovation. If CEE governments want buildings in their countries to meet higher standards, they will have to leapfrog some improvement measures and aim for much higher standards than now. The nearly zero energy buildings standard (nZEB) is already compulsory for all new buildings in the EU. The standard is not fixed across the union but defined on a national level. Some CEE countries have adopted an ambitious definition for the nZEB standards, others do not. The laggards are locking in to their new building stock higher energy consumption and lower comfort.

The building sector is also a sector of rapid innovation. This innovation is much more visible in the West where standards are higher, building technologies are more advanced and where

most of the leading construction companies are headquartered.

The end result of low ambition and lack of innovation in the building sector combined with inadequate energy prices and limited use of adequate financial instruments could be the already described trend: partial improvement of the building sector which will be slower than the improvement in most of the West. Ultimately the simplified application of EGD in this area will lead to a widening of the East-West gap.

5. Air quality: high political sensitivity and a strong policy driver

Air quality is not widely seen as a central component of the EGD. Among the follow up strategies there is no air quality strategy. However air quality is mentioned in the EGD Communication with the statement that the

Commission will “propose to revise air quality standards to align them more closely with the World Health Organization recommendations”.¹⁰ This is an ambitious goal. The World Health Organisation’s air quality guideline values for pollutant levels¹¹ are much lower than those required by the EC.¹² More importantly, air quality is an area with very high political sensitivity both in the East and in the West. It is also an area where the East-West differences are painfully visible.

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According to data from the European Environment Agency, between August 2020 and August 2021 the air in Warsaw was “poor”, “very poor or extremely poor” 54% of the time. In Krakow it was 42%, Sofia it was 21% of the time, in Budapest 15%, Bratislava 15%, and in Prague 14%. For the same period the air quality in Paris was “poor” for 3.4% of the time, in London 3.1%, Rome 1%, Madrid 10%, Vienna 8.3%, Brussels 10%. (selected EEA stations)¹³.

If we move to countries in the Western Balkans the picture is worse still. Poorer air quality in CEE cities is mostly caused by use of solid fuels for heating and by older cars imported from the West. A significant part of CEE “achievements” in using renewable energy is in fact inefficient burning of highly polluting wood for heating. If CEE countries do not use the recovery funds for transforming their heating and transport systems the air quality in their cities might improve

modestly, while at the same time more ambitious energy, transport and building policies in the West will lead to a much more significant improvement. The gap will widen.

6. Research and development: low funding is a major threat for the region and the EU

One of the most significant differences between East and West is in the field of research and development (R&D) and innovation. R&D is poorly funded in most CEE countries. For a transformation that relies on innovation and new policies that need to be richly informed by extensive analysis, low funding of R&D is a major barrier.

R&D funding is a contentious issue for the European Union. In 2000 the European Union launched its Lisbon Strategy¹⁴ aiming at transforming the EU into “the most competitive and dynamic knowledge-based economy in the world” by 2010, a target that assumed that EU R&D funding should reach 3% of GDP. The EU has never come close to this target. R&D investment is hovering around 2%, on par with that of China. A key reason for lower overall R&D funding is the low levels of funding in CEE member states. All of them have R&D funding below the EU average and most of them around or below 1%. The only CEE country with R&D funding (just) above 2% is Slovenia, between 1.5% and 2% are the Czech Republic and Estonia, while Lithuania, Slovakia, Romania, Bulgaria and Latvia are below 1%.¹⁵

The low level of R&D funding is combined with an unreformed R&D sector where government funding often barely covers budling maintenance or the low salaries of employees of research institutions. These institutions rely on EU funds, often as

¹⁰ Communication from the commission to the European Parliament, the council, the European economic and social committee and the committee of the regions, Communication from the commission to the European parliament, the council, the European economic and social committee and the committee of the regions, 11/12/2019, European Commission.

¹¹ World Health Organisation, Ambient (outdoor) air pollution, 2 May 2018

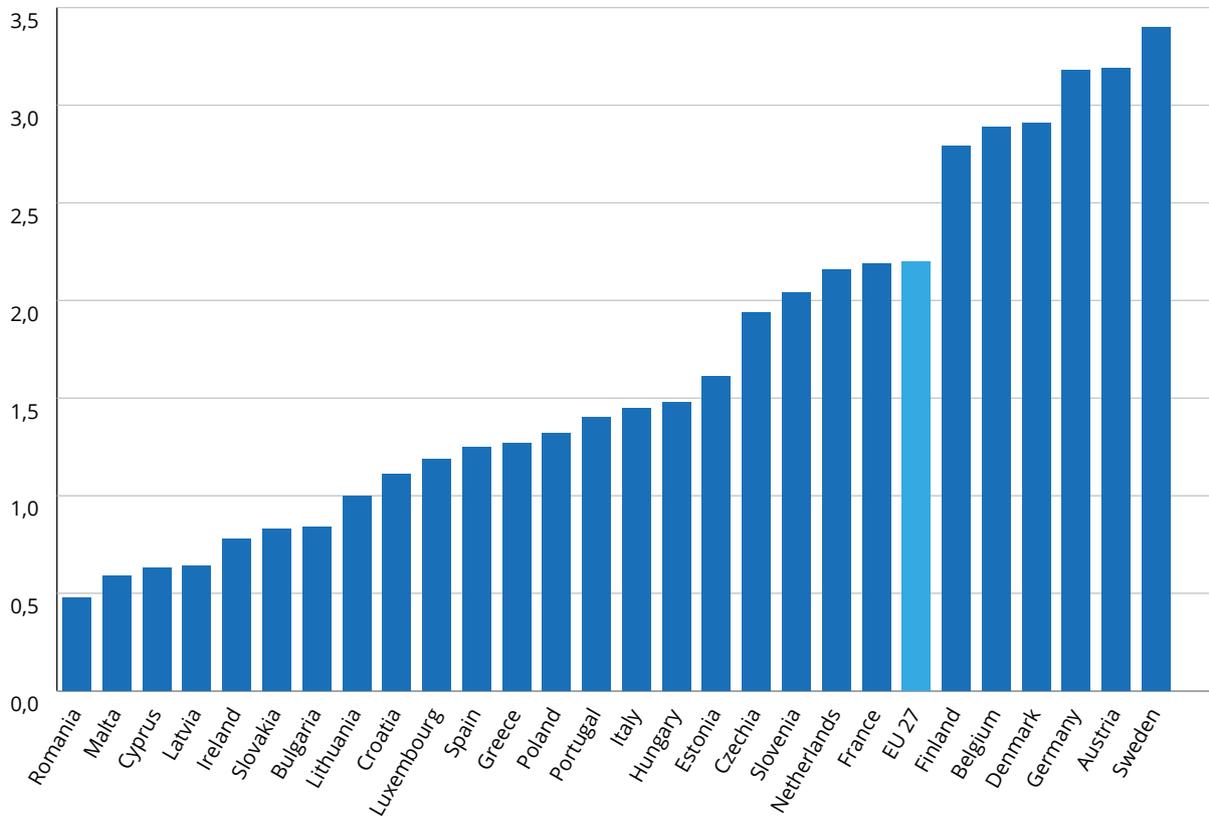
¹² European Commission, Air Quality standards.

¹³ European Air Quality Index, European Environment Agency.

¹⁴ The 3% objective: brief history, Investing in European Research, European Commission.

¹⁵ R&D spending in six EU countries fell between 2009 and 2019, 30/11/2020, Research Professional News.

Figure 5: EU R&D spending in 2019
Average EU spending as a percentage of GDP



Source: Eurostat

secondary partners in EU-wide consortia. Lately, outsourcing of industries to Eastern Europe and the growth of the IT sector attracts some commercial research funding but levels are still very low.

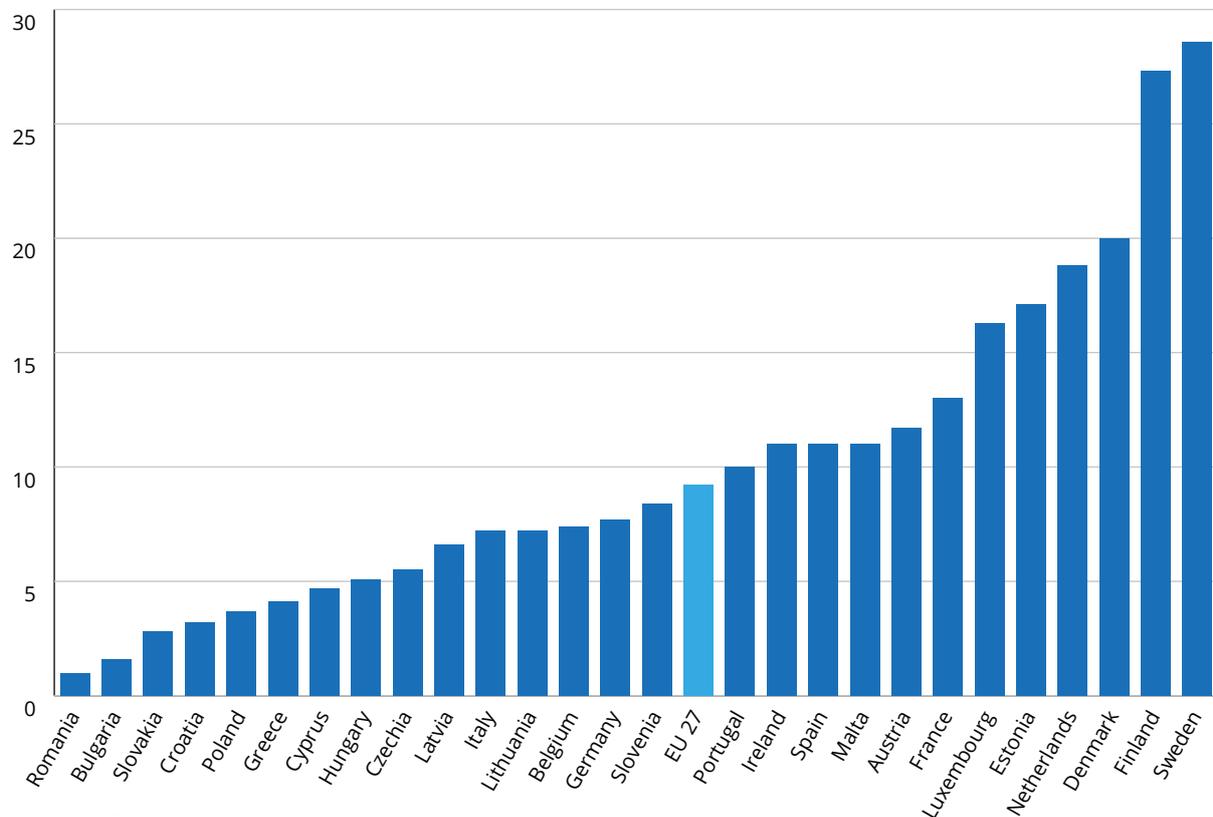
The Stanford global ranking of the top 2% scientists also gives a general idea of the R&D capacity of CEE countries. Among them Poland leads the rankings with 725 scientists – less than the University of Oxford which has over 800 names in the list. The University of Oxford has 24,000 students, while the University of Warsaw alone has 51,000 students. Imperial College London has 609 names on the list which is approximately what Czech Republic (334) and Hungary (281) have combined. Hungary and Sweden have roughly the same population, but Sweden has 2,545 scientists in the top 2%, nine times more than Hungary. Romania’s population is slightly larger than the population of the Netherlands, but the Netherlands has 34 times more scientists on the list. While such

comparisons cannot reflect the precise value of scientific capacity and product, they give a good general picture of the massive gap in R&D between East and West, as well as the differences between South Eastern Europe and the Visegrad 4, which are slightly better positioned than Bulgaria and Romania.

As part of the drive to implement ambitious new strategies associated with the EGD, research funding will be naturally channelled where R&D resources are located. R&D centres in Germany, France, Denmark, Sweden and a few other countries will naturally, and deservedly, attract the bulk of the zero-carbon transformation R&D funding. If CEE countries do not use the recovery funds for boosting their research capabilities, they will be left behind as technology-takers and laggards.

European funding however is far from enough if the CEE countries want to change their innovation fate.

Figure 6: Adult participation in learning, 2020
Percent of population aged 25–64



Source: Eurostat

National budgets, legislation and various forms of state aid need to be brought in to retain and attract talent, and to create good conditions for building or relocating the R&D capacity of leading companies.

How is this picture of R&D and education linked to the risks that the EGD poses for the CEE countries? The EGD will be realised through rapid innovation on several levels. This innovation will a) require talent and b) attract talent. Those countries that have better research and development opportunities will attract both talent and R&D public and private funding. We will see again the already familiar pattern – improvement in the East vs transformation in the West. The gap will widen.

7. Education: talent drain and a lack of lifelong learning

Spending on education shows a slightly better pattern. Several CEE countries (Slovakia, Bulgaria, Romania) spend less than the EU average on education.¹⁶ But Estonia, Poland and Slovenia score above 500 points in the OECD PISA assessment of 15 year-olds, and are in the top 20 of the 78 countries studied¹⁷. Romania and Bulgaria, the two countries which spend least on education, unsurprisingly fall below 450 points and are 49th and 50th in the PISA rankings. If we add to these low scores the fact that many of the high performing students move to universities in the West after finishing school, we will realise that the

¹⁶ Education spending as a share of gross domestic product (GDP) in European Union countries in 2018, Statista.

¹⁷ PISA 2018 Worldwide Ranking – average score of mathematics, science and reading, Facts Maps.

talent drain in Romania and Bulgaria, and to some extent the other CEE countries, poses a serious risk for their accelerated development.

The industrial transition of the CEE countries will be stalled by lack of skills and knowledge. Rapid transformation requires a dynamic workforce with adequate qualifications. This will be difficult to achieve without increasing government spending on education to at least 5% of GDP, and a significant increase in the participation of adults in education and training.

“The industrial transition of the CEE countries will be stalled by lack of skills and knowledge.”

The record of lifelong learning in the CEE is poor. In 2018 the only CEE country that scored above the EU target level of 15% for adults participating in learning was Estonia (19.7%). Of the rest only Slovenia (11.4%) scored above the EU average (11.1%).¹⁸ The EU average participation however is a misleading reference because it is dragged down by CEE countries with extremely low rates of participation: Romania (0.9%), Bulgaria (2.5%), Croatia (2.9%), Slovakia (4%), Poland (5.7%), Hungary (6%).

Ignoring and underfunding education has a major negative systemic impact on CEE economies. Low standards of secondary education and a low level of participation in adult learning, combined with emigration of young talent leaves the region with limited ability to implement rapid economic change. The high added value industries that the region aspires to attract require and depend on higher education standards and an agile labour retraining system. It would be a mistake to expect that the competence requirements of the EGD could be met with single EU-funded projects and short-term retraining programmes. Without deep transformation and an increase in funding, the education systems of most CEE countries would be another factor in the widening East-West

gap. The EGD could jumpstart the education transformation in the region but that cannot be done without significant changes along the full education chain.

8. Digitalisation: a key component of the European Green Deal

Digitalisation is a complex field which can be measured in different ways. Several CEE countries (Poland, Romania, Bulgaria and others) have established themselves as hotspots for the digital sectors. They attract IT centres serving large international companies and also have a thriving mix of domestically grown IT start-ups. Behind this picture however there is a different one. Household access to the internet in all CEE countries, including the digital champion Estonia, is below the EU average.¹⁹ Only Poland, Slovenia and Estonia from the CEE countries have teleworking levels higher than the EU average, while in Bulgaria, Romania, Hungary, Latvia and Lithuania less than 5% of the work force practices teleworking.²⁰ The picture is similar with regard to e-commerce and other related measurements.²¹ As for the digital success stories in CEE countries, most of them are companies that have either outsourced their digital services to the region or start-ups that work mostly for export. In other words, they are only to a limited extent part of a national or regional digital progress.

The implementation of the EGD goals requires a high level of widespread digitalisation linked to smart homes; demand-side response; energy markets; the cyber security of critical infrastructure; energy cooperatives; virtual power plants; distributed energy; integration of vehicles, grid, and home, and a further long list of technological solutions. CEE countries are not sufficiently equipped to advance rapidly in these fields. The risk is that they will continue to act as digital outsourcing destinations and digital exporters while at the same time apply analogue solutions to their energy and transport systems, building renovation, agriculture and other key areas associated with the EGD.

¹⁸ 11.1 % of adults participate in lifelong learning, 2019, Eurostat

¹⁹ Share of households in selected European countries with internet access from 2017 to 2020, Statista.

²⁰ Telework in the EU before and after the COVID-19: where we were, where we head to, 2020, Joint Research Centre.

²¹ Online shopping ever more popular in 2020, 2021, Eurostat.

9. The leapfrogging plan

CEE countries face a major risk of falling behind in its economic transformation. Such a risk could be mitigated with a number of targeted, ambitious EU and national policies which aim at not only accelerating the transition but in some cases at leapfrogging stages that have been completed by the old member states.

Here are eight policy suggestions which could enable to the region to jump over the expected partial improvement and land in the future, where most of the older member states will soon be:

1. **Renovation of building stock.** This is an essential part of the leapfrogging strategy. CEE countries should use EU recovery funds and other public resources to unlock personal savings and channel them into the building sector. The region needs more sophisticated financial instruments that would be able to integrate energy performance contract components (ESCO model) in every single renovation project; to combine savings, loans, energy poverty and air quality funds and other sources of finance. On-bill repayment options should also be explored. These instruments should be able to bring in the huge financial mass needed for fast and deep renovation of buildings, including integration of renewable energy, demolition of dilapidated stock, raising new buildings and development of new climate resilient urban environment. A new European Commission supported finance platform to assist CEE countries in developing the required complex financial instruments should be established.
2. **Electrification of urban transport.** There are several reasons why urban transport needs to be electrified rapidly. Improving air quality is the obvious one. Reducing noise pollution is rarely mentioned but this will be another clear benefit for cities in the region. There is also another obvious reason – it is easy. Many CEE capitals inherited and then enhanced electric public transport. More than 50% of public transport journeys in Sofia for instance are electric. Old diesel busses can easily be replaced with electric ones. It would be relatively simple for city authorities to introduce restrictions and incentives for fast electrification of delivery transport and taxis. Building bicycle highways could quickly attract electric bicycles. Such a transformation could be supported by the EU recovery funds and other EU and national financial instruments. As a result of the low maintenance cost of electric transport the fully electrified backbone of the urban transport system will pay back the investment in a relatively short period. In this way public funding will serve not only climate and environmental goals but will also benefit the taxpayer. This move will have a clear system benefit. Electrified public, delivery and taxi transport will create a critical mass for rapid electrification of the rest of the transport network. It will also boost manufacturing demand along the whole electromobility supply chain. With smart political support CEE countries are in an excellent position to develop production capacity to satisfy this demand.
3. **Green transport corridors.** CEE countries should develop a regional network of Green Transport Corridors. This is a proposal that has been discussed among EU ministers, but needs to be taken further. If you want to travel from Hamburg to Istanbul or from Venice to Tallin approximately 3/4 of your trip will be through CEE countries. The main European transport corridors need to be properly adapted for zero carbon transport and they must be designed and ready for renewable electric (and possibly green hydrogen) charging. CEE countries will need to plan infrastructure and renewables capacity to provide this energy. The Green Transport Corridors system will benefit the transition of the entire car industry in the EU by expanding the effective range of new EVs.
4. **Transform coal regions into renewables and hydrogen industrial hubs.** European coal regions offer highly valuable transition assets. They have the potential to produce more electricity from solar PV than they are producing

now from coal.²² Coal regions have strong grids that allow them to integrate large renewables capacity at a comparatively low cost, they offer huge consolidated plots of land and a skilled engineering workforce. Turning most of the coal regions in CEE states into renewables and green hydrogen hubs could, at a competitive cost, a) serve the green transport corridors; b) attract industries with ambitious zero carbon strategies, and c) replace a significant part of the energy generation lost from the closure of coal production.

5. Reform of the energy tax system. CEE states have travelled a long way since their entry in the European Union. It is time for them to review their energy taxation and make it more adequate to EU policies and their own national modernisation ambitions. The ‘Fit for 55’ package will press countries to reform their energy taxes but it would be better if CEE governments take that initiative ahead of the “Brussels dictate”. They should engage with consumers and industry, and work together on tax reforms which better reflect the growing wealth of the population and the need for infrastructure investment and innovation. Setting up a joint energy tax observatory to analyse the long-term implications of different tax approaches might be a good move.

6. Ambitious air quality policies. The growing political sensitivity to air pollution in CEE countries calls for radical measures. These radical measures need to be properly researched and communicated. An early ban on solid fuels for heating, a ban on the import of old cars, and low emission zones are the obvious and frequently discussed measures. They should be rapidly implemented. However, CEE countries need to go beyond them and recognise that natural gas is not the right heating solution (and is furthermore an air pollutant) and that cross-border pollution from coal power plants is a problem that needs to be addressed collectively. It would be a hypocrisy to talk about “just transition” and “nobody left behind” if the

transition results in half of Europe breathing clean air and the other half not.

7. Increased R&D funding. Most CEE countries need significant reform of their R&D policies and funding. The EGD could be used as a catalyst for reforming the sector and securing adequate funding for a rapid expansion of research facilities. However, EU funding cannot replace national budget contributions, state aid for companies relocating their research activities to the CEE, or growth in research spending by companies in the region. CEE countries will need comprehensive policies that would bring their national R&D funding to at least 2% of GDP.

8. Reform of the education system. CEE countries should increase adult participation in learning to at least the EU 2020 target of 15%. Therefore, it would be appropriate that a significant portion of the EU funds for recovery, just transition and structural support are instead used to address this discrepancy. It is essential, however, that EU funds are not used to fill education budget gaps but that they are instead combined with a sustained *increase* in national education budgets.

10. Key recommendations for the EU policy approach

The policy recommendations listed above are mostly directed at CEE governments. At the same time the European Commission, other key EU institutions, and the governments of older EU states should also revisit their approach to CEE countries. Currently many Western EU leaders quite rightly criticise antidemocratic trends in Poland and Hungary. However they are not confronting other countries simply because of their loyal EU policy declarations. If we want a successful economic conversion of East and West, proper cohesion across the continent and closer alignment with respect to core democratic values, we should pay less attention to declarations of their loyalty and more attention to things that matter

²² Bodis, K., Kougiyas, I., Taylor, N. and Jaeger-Waldau, A., Solar photovoltaic electricity generation: a lifeline. for the European coal regions in transition, SUSTAINABILITY, ISSN 2071-1050 (online), 11 (13), 2019, JRC116679.

more: corruption, a genuine fight against external malicious influences, quality of education and proper engagement with the economic, social and environmental progress of the Union.

“European institutions should investigate progress behind the loyalty narratives. They might find cases of deep strategic corruption, where EU funds are spent by the book but not in the best possible way.”

Superficially loyal behaviour often hides issues that hold back progress in individual countries, including the substantive adoption of the principles of the EGD. European institutions should investigate progress behind the loyalty narratives. They might find cases of deep strategic corruption, where EU funds are spent by the book but not in the best possible way. Often EU funds are used to compensate national budget gaps, a lack of sophisticated financial instruments that could catalyse advance economic activities, or to support political or industry incumbents.

In that context the European Commission, the European Parliament and some EU governments should insist on stronger action on education and R&D spending, deeper engagement in innovation, working not only to targets but also properly using the potential of the individual countries in the economic transition of the EU. If CEE countries use the EGD for their own accelerated economic progress this will have a positive impact on the strength, competitiveness and democratic leadership of the entire EU.

EU institutions should focus on several areas that might unlock CEE countries’ ambitions and the opportunities offered by the EGD. Here are suggestions for seven policy actions that could be taken by them.

10.1 Conditionality for national innovation drive

There are many “innovation programmes” offered to CEE member states. The scale of these should increase, and a clear link should be established with start-ups and entrepreneurs. Support should

be based on measurable attraction of investment and transformation. CEE innovation needs clear demonstration projects and centres of excellence, for example cases of whole-city transport electrification; integration of citizens science air quality networks into official measurements; zero carbon steel or cement production plants, or carbon neutral industrial zones.

10.2 Support for national R&D expansion

The EU should support the establishment of highly advanced R&D centres in CEE countries. This support should be made under strict condition of increased national R&D spending (public and private). EU support should include clear objectives and conditionality, i.e. R&D spending of 2% of GDP by 2030 and 3% of GDP by 2040. Clear outcome and impact targets must be introduced – peer reviewed research, university ratings, clean tech patents, etc. The sustainability and longevity of national research initiatives is essential.

10.3 Rapid renovation of building stock and urban environment

The EU should not only support but *require* ambitious building renovation programmes in CEE countries. Renovation programmes should meet three key criteria: 1) raising private capital at an average ratio of at least 1-to-3; 2) high energy standards in renovation, and 3) proven advances in innovation in the building industry (use of zero carbon building materials, high level of digitalisation of contracting, prefabricated buildings, etc.). There is a clear need to set up a proactive building renovation financial platform to promote more complex and adequate financial instruments that could mobilise loans, personal savings, ESCO savings and other sources of financing.

10.4 Expand the carbon-neutral industrial hubs movement

The CEE region needs industrial centres dedicated to carbon neutrality. Existing industrial zones and coal regions are perfectly suited for this role. The Commission should require a certain proportion of the recovery package, the Modernisation Fund and other instruments to be dedicated to development of industrial zones with clear and ambitious zero-carbon roadmaps. Such development will attract technologically advanced industries, support industrial modernisation, and improve the R&D and innovation landscape in the region.

10.5 Introducing trans-European green corridors

EU transport corridors should be built using infrastructure that could support, in future, the full electrification of transport, including freight. This should include access to sufficient renewable electricity and possibly green hydrogen. The Three Seas Initiative could be a good platform for development and support of such a scheme.

10.6 Impose national budget conditionalities for ambitious support

Support for EGD-related spending (including the Modernisation Fund and other instruments) should be linked to long-term budget commitments and clear evidence that EU grants are not being used to compensate for budget gaps. This is not at all easy to prove – it requires deep analysis and investigation. Energy taxes should also be reviewed and openly discussed.

10.7 Conditions for higher level of adult training participation

The Commission should require commitment to much higher adult participation in quality education. The current approach of one-off retraining of workers in the coal industry and other affected sectors is insufficient, and is likely to turn into a wasteful exercise with no significant material impact on the quality of jobs or the development of a competitive economy.

11. Conclusion

The main objective of this paper has been to catalyse the debate on how to accelerate the achievement of the European Union's economic and social cohesion and increase its resilience while at the same time advance the European Green Deal's objectives. The paper had two specific aims: a) to examine some of the risks associated with the implementation of the EGD and b) to suggest a set of broad policies that could mitigate the those risks. The overarching risk is the widening of the gap between new and old EU member states. Such a development could damage the fabric of the EU far beyond the area of climate action. It could undermine trust in the European Union and open the space for harmful populism and malicious external interference. The paper examined seven specific policy areas: energy; transport; buildings; air quality; research and development; education, and digitalisation. It showed how limited and superficial reform supported by massive EU funds could lead to a wider – rather than narrower – economic and social divide between West and East. This risk could be mitigated, however, through ambitious national and EU policy interventions targeting some key areas – education, research and development, buildings, transport, industry and others. If these policies are successfully implemented the EU's competitiveness and cohesion will strengthen and we will see an accelerated economic and social convergence between the East and the West.