CEE challenge: Going green

Less coal-fired energy production, better utilization of EU funds to smooth the transition, more renewables and faster transformation to low-emission vehicles in the EU is the way to go.

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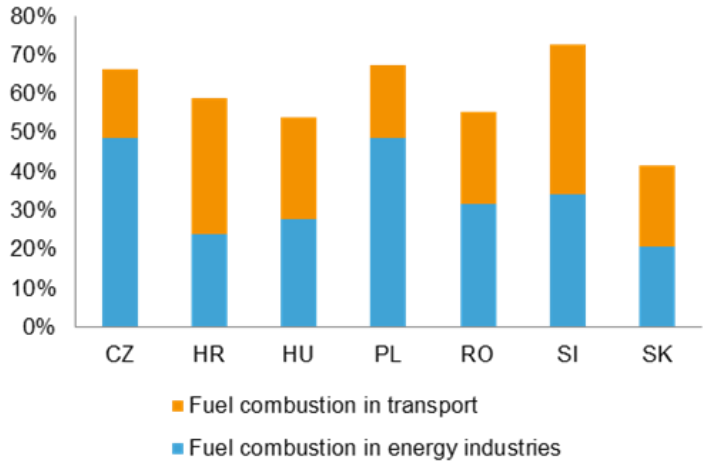
CEE needs to burn less fossil fuel

Once the turmoil caused by COVID-19 subsides, there will be a need for reflection and strategic decisions on how to move forward and be prepared for the next challenges to be faced. The vast majority of EU member countries opted to push the Green Deal, together with the Digitalization Initiative, as the core of the new Recovery Plan for Europe supported by the new 2021-27 Multiannual Financial Framework. Apart from Poland, CEE countries are on track to reduce greenhouse gas (GHG) emission targets[1] by 2020. However; there is still a lot to do to meet 2030 targets. In a decade, the cut in greenhouse gas emissions should be 40% vs. the 1990 reference year, while the share of renewable energy should reach 32%.

CEE countries can further reduce their CO2 emissions and air pollution in this decade via:

- substantial reduction of coal-fired energy production, especially in Poland, which produces 62% of all CEE coal-related emissions.
- utilization of EU funds (the EC is mobilizing EUR 100bn in three pillars) and green financing to smooth the transition, get more involved in renewables and reduce energy intensity, support faster transformation to low-emission vehicles, ideally complemented by EU-wide scrapping and recycling initiatives on a large scale, as only less than 2% of cars from the overall vehicle fleet are being scrapped and recycled per year in the EU.

Largest contributors to CO2 production (as % of total, 2017)



Source: Eurostat, Erste Group Research

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[1] Targets according to their Effort Sharing Decision (EDS) - GHG emissions which are not under the EU-wide supervision of Emission Trading Sectors

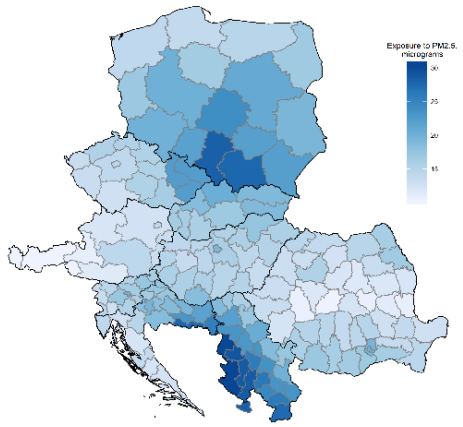
COVID-19 pandemic speaks in favor of Green Deal

In January 2020, the Green Deal was set as the key priority for the EU. Depending on the time frame, targets were set for the reduction of greenhouse gas emissions, increase of renewable resources, as well as improvement in energy efficiency. Since the COVID-19 outbreak, governments have been preoccupied with short-term crisis management and have committed to spend an unprecedented amount of money to avoid both economic meltdown and a humanitarian catastrophe. Strategic decisions have been put on the back-burner for the time being.

Although the green agenda could appear too artificial during a period focused on survival, too expensive (a luxury), or too remote – it is none of these. The COVID-19 crisis has delivered a number of lessons. Similar to ignoring strong warnings from scientists pointing to the adverse effects of global warming and air pollution on health and economies, policymakers and businesses had not seen the risk of a pandemic as imminent and underestimated the need to prepare for one. Apart from contributing to an unprecedented number of pandemic-related deaths, this lack of preparation has also unfortunately also cost a lot of money, threatened the livelihoods of those most affected by it, and caused a (hopefully only temporary) dramatic change in how we live our everyday lives.

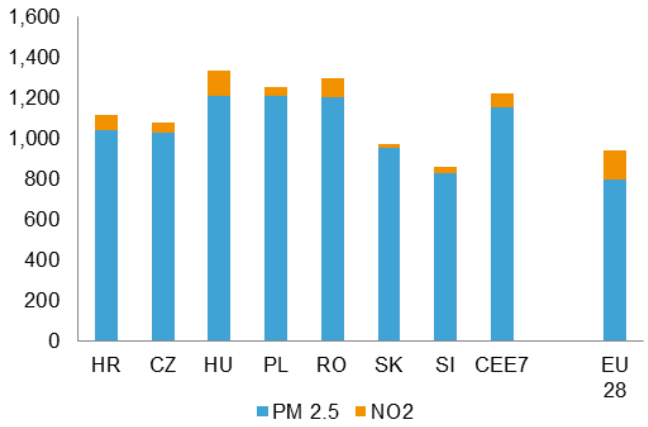
There are a growing number of studies suggesting that high levels of air pollution could contribute to increased morbidity rates in the case of SARS and also COVID-19. The adverse effects of PM2.5 and NOx on health, especially on the respiratory system, have been well known and documented for years. Among environmental hazards, air pollution is one of the most pressing issues for CEE countries. This is due to the fact that those European regions most exposed to small particulate pollution (PM 2.5) are mostly located in CEE. This obviously also has health implications. Premature deaths due to exposure to small particulate pollution were estimated at around 1,153 deaths per one million inhabitants in 2015 in CEE. This exceeded the EU average of 800 premature deaths per million in the same year. The very low number of COVID-19 deaths in CEE results mainly from lower number of infected people as the spread of the virus has been successfully contained.

Exposure to particulate pollution in 2017
(PM 2.5, micrograms / m3)



Source: OECD, Erste Group Research

Premature deaths due to pollution exposure
PM2.5 and NO2 (deaths per million, 2015)

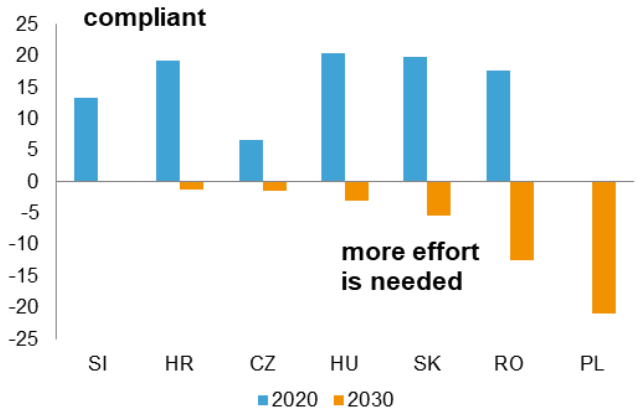


Source: Eurostat, Erste Group Research

On path to meet GHG emission targets…

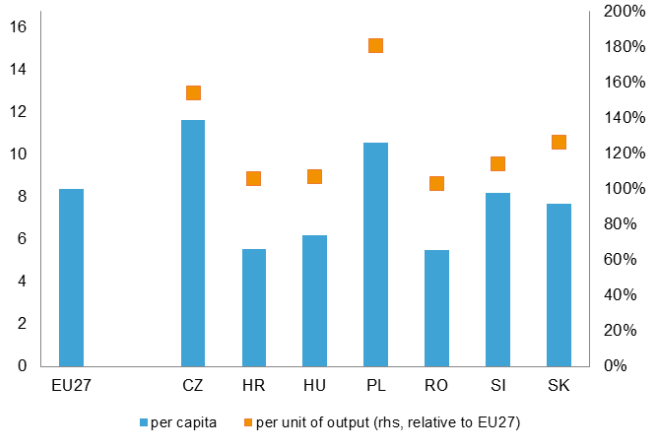
Greenhouse gas emissions (particularly CO2 emissions) are global drivers of climate change. To avoid negative consequences, a reduction of GHG emissions is needed. CEE countries are on track to meet European targets, with one notable exception – Poland. While CO2 emissions per capita are in general lower in CEE compared to the EU average, CO2 intensity per unit of GDP is higher in all CEE countries. That means high CO2 emissions could be a bottleneck for countries with high growth aspirations (which demand more inputs) unless they change the energy mix or reduce energy intensity. On the other hand, the CO2 intensity suggests that Czechia and Poland in particular should have plenty of room to reduce the economy's carbon footprint.

Gaps in meeting GHG reduction targets
Relative to 2020 and 2030 ESD targets



Source: EEA, Erste Group Research

CO2 intensity in 2017
Per capita (tonnes) and per output (relative to EU27)

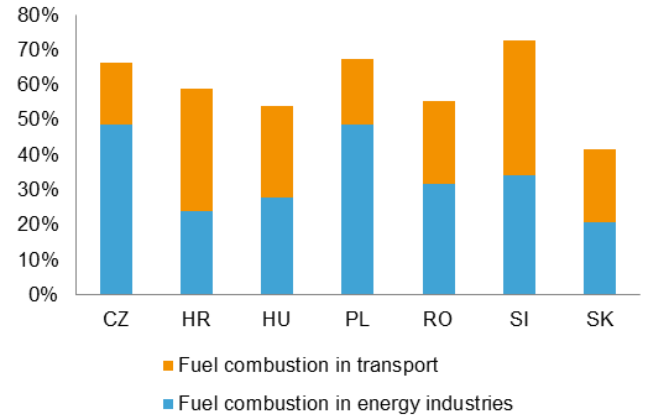


Source: Eurostat, Erste Group Research, output = GDP in PPS

…energy production mix has to change

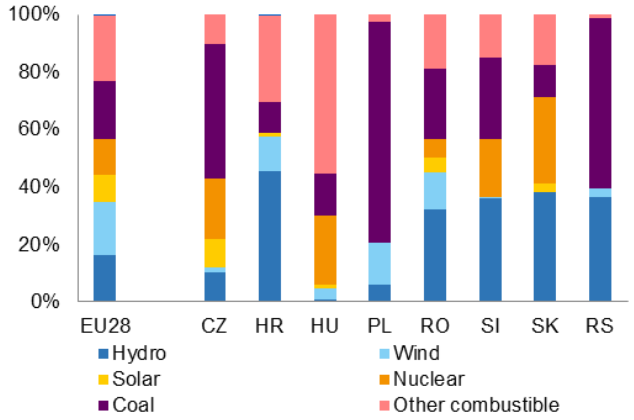
In most countries, the electricity, gas and steam supply sector is a major producer of emissions, followed by transportation. The share of coal-fired power plants in electricity generation remains pretty high in CEE, at 48%, compared with just around 20% for the EU average. The share of coal-fired power plants in electricity production ranges between 77% in Poland to a little less than 11% in Croatia. Excluding Serbia, there were 100 coal power plants in CEE countries, which produced a total amount of 173 Mt CO2 emissions. Not surprisingly, the highest amount was recorded in Poland (107 Mt). With 44 facilities, it produced 61.8% of all CEE coal-related emissions The Czech Republic follows, at 23.7%. We can see that only two CEE countries produce 85.5% of the air pollution caused by coal plants. The other side of the coin is the much lower wind and solar capacity in CEE. These renewable sources provided little more than 12% of electricity in CEE, which compares with nearly 28% in the EU. CEE therefore has huge potential to catch up even with just the EU average.

Share in total CO2 emissions
in % (2017, excluding land-use)



Source: Eurostat, Erste Group Research

Electricity output by different sources
2018

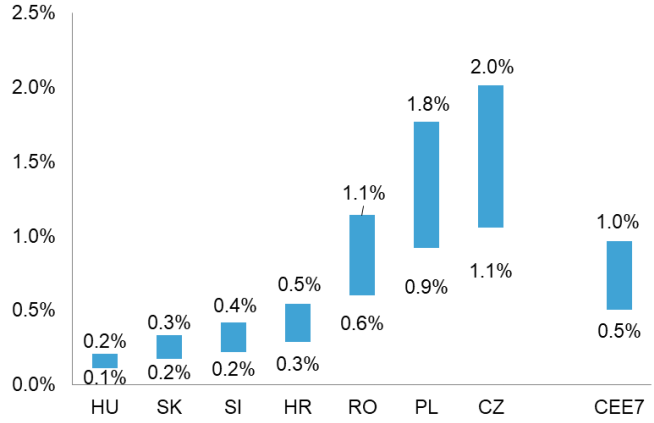


Source: Eurostat, Erste Group Research

…away from burning coal

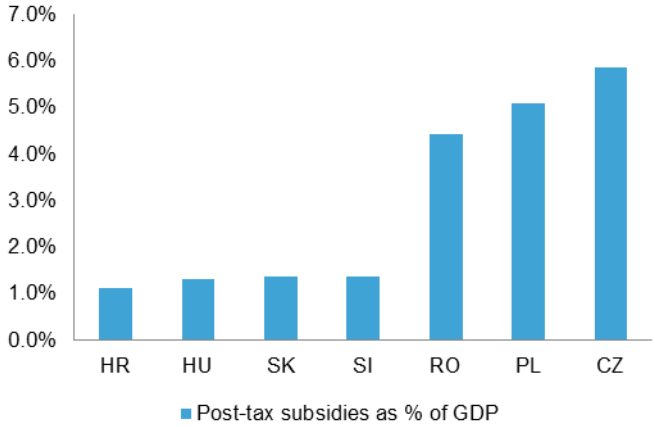
While CO2 emissions cause global problems, there are a lot of locally present negative externalities related to coal-fired power plants. These plants were responsible for an estimated 6,841 premature deaths in 2016 in CEE (including Austria and Serbia). But the damage to health goes beyond the sheer death toll. Air pollution stemming from such plants increases the number of chronic illnesses (adult and childhood bronchitis), increases hospital admissions and translates into lost working days. Health costs stemming just from coal-fired power plants can be estimated in billions of euro per year. As a percentage of GDP, this ranged from 0.1-0.2% in Hungary to 1-2% in Romania, Poland, and Czechia..

Health costs of coal-fired power plants
2016



Source: IMF, Eurostat, Erste Group Research

Post-tax subsidies to coal related industries
2017, includes implicit environmental and health costs



Source: IMF, Erste Group Research

Moreover, the running of coal-fired power plants is not economical, even though at first glance it can be considered a cheap source of energy that does not require new investment. The industry has been relying on heavy subsidies, not just direct (as state aid is regulated in the EU), but also many indirect, via loans, guarantees, long-term power purchase agreements, take or pay clauses, tax rebates, special pensions. On top of that, the producers

and consumers of such energy have not been charged to compensate for the environmental and health damage the production of coal energy has been causing, which according to IMF estimates exceed the value added reported by the industry by a vast margin.

Many countries have already outlined their plans

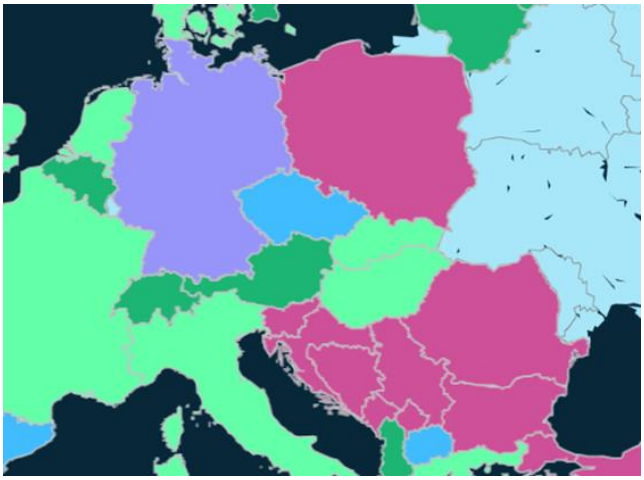
There is a clear ambition to phase out coal power plants in Europe, as it is a very efficient and economically meaningful way to reduce emissions and air pollution by a big margin. Austria, Belgium and Sweden have phased out coal-fired plants from their electricity production and many other European countries plan to do so in this decade. There is a significantly different approach between CEE countries to the solution of greening the energy mix. Slovakia plans to do so by 2023, Hungary by 2030. The Czech Republic is discussing a possible timeline, while Poland has agreed to cut the share of coal power to 60% by 2030 from the current 77%. For Poland, due to the big size of the industry in the energy mix, the full decommissioning of coal-fired power plants will take more time and could extend well beyond 2050.

Decommissioning coal-fired power plants
Timeline according to announcements

Legend:
dark green – coal-free
light green – phase-out date known
blue – phase-out under discussion
red – no phase-out discussion

Source: Beyond Coal, Erste Group Research

CEE countries by phase-out plans for coal plants



Source: Beyond Coal

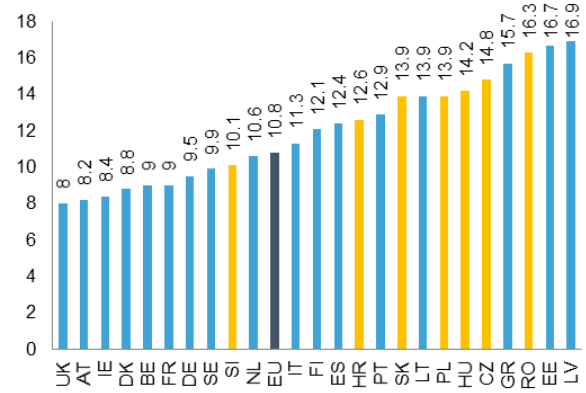
At present, the European Commission provides tailored support to coal-mining regions to smooth their transition and reduce the economic impact on affected regions. Operational country teams or bilateral discussions are accompanied by existing EU financing tools and programs. Currently, 20 coal regions across the EU are actively taking part in the initiative – this includes regions in Poland (Silesia, Lower Silesia, Greater Poland, Lesser Poland), Czech Republic (Moravia-Silesia, Usti, Karlovy Vary), Romania (Jiu Valley), Slovakia (Upper Nitra) and Slovenia (Zasavska, Savinjsko-Šaleška).

Boost of low-emission cars needed…

Mobility is another area that can significantly contribute to the reduction of CO2 emissions and air pollution. The Green Deal counts on more stringent emission limits, no further support for fossil-fueled transportation and higher efficiency of travelling through shared cars or mobility provided as a service that would result in fewer cars. Cars are supposed to be built in such a way

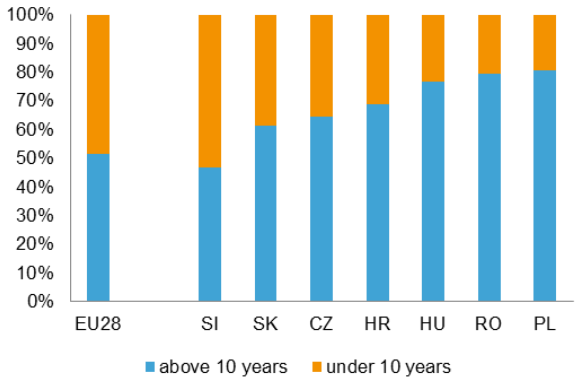
that they enable the easy recycling or reuse of materials. In order to comply with the above-mentioned goals, the vehicle fleet would need to change dramatically. However, even if new cars comply with more stringent emission standards, the share of new cars in the total vehicle fleet is still very small and thus overall produced emissions remain high. The average age of passenger cars in the EU was about 11 years in 2018, whereas it was higher in CEE (12-16 years) and is on the rise.

Average age of cars
2018, in years



Source: ACEA, Eurostat, Erste Group Research

Distribution or cars by age
2018

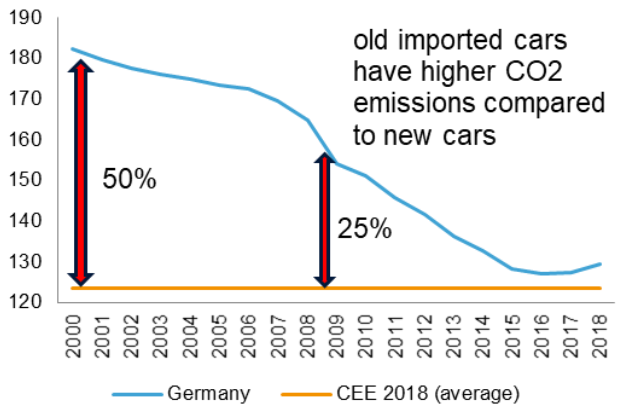


Source: ACEA, Erste Group Research

… as much as scrapping and recycling of old cars

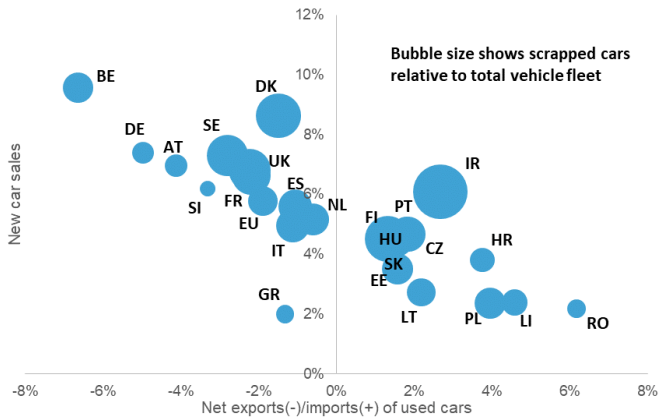
Equally important as boosting the production and deployment of the next generation smart and low-emission cars to the market is to deal with the legacy of old cars. 10-20Y old cars produce on average about 25-50% more CO2 emissions per km compared to new passenger cars. Concentration of old cars will become a mounting problem for CEE countries, which are net importers of used cars (about 1.5m per year). Romania and Poland, two countries with the highest net imports of used cars in Europe (even exceeding sales of new cars), currently have about 80% of cars older than 10 years.

CO2 emissions of new passenger cars
reported type-approval CO2 per km



Source: Eurostat, Eurostat, Erste Group Research

New car sales vs. net exports/imports or used cars
As % of total vehicle fleet, 2017/2018 data



Source: ACEA, Eurostat, Erste Group Research calculations

Less than 2% of cars from the overall vehicle fleet are being scrapped and recycled per year in the EU. That is insufficient to speed up the transition to new goals and avoid an ageing vehicle fleet. Those countries which are the largest net exporters of used cars (Belgium, Germany, Austria) are usually the biggest buyers of new cars and at the same time the least involved in scrapping their old cars – they just sell them abroad. A pan-European scrapping/recycling scheme would limit the moral hazard related to exports of very old vehicles to CEE. An alternative approach would be to use Cohesion Funds to build capacities for the scrapping and recycling of old cars as part of the circular economy initiative. It would not be surprising if CEE countries find a good synergy between high specialization in the production of new cars and scrapping and recycling of old vehicles at the same time. A review of the End of Life Vehicles Directive by the EC, which may set more ambitious targets for the recycling/reuse of scrapped cars, is scheduled for 2021.

Financing of green investments via EU schemes

In December 2019, the European Commission presented the Green Deal together with a Just Transition Mechanism (JTM) aimed at supporting European countries and regions on the road to a greener economy. The allocation of funds is influenced (among other conditions) by the amount of the region's emissions or coal production. To reduce the environmental burden, adverse economic and social consequences, the EC is mobilizing EUR 100bn in three pillars:

- The **Just Transition Fund** is primarily dedicated to grants, with its own budget of EUR 7.5bn, complemented by the European Regional Development Fund (ERDF), the European Social Fund Plus (ESF+), as well as national co-financing, generating EUR 30-50bn,
- **InvestEU**, which is expected to leverage approx. EUR 279bn of private and public climate and environmentally-related investments until 2030 through an EU budget guarantee (supporting private investments), will contribute part of its funds to the Just Transition Mechanism under its dedicated Just Transition Scheme – mobilizing up to EUR 45bn for this purpose
- **EIB scheme** – its main role is leveraging public sector loans (EUR 25-30bn).

JTR allocation for CEE countries (EUR mn):

Country	Proposed JTF allocation (2018 prices)	Total estimated funding under Pillar 1* (2018 prices)	Estimated expected investments to be mobilized under Pillar 1, 2 and 3**
CZ	581	2.074	7.761
HR	66	235	879
HU	92	330	1.234
AT	53	331	867
PL	2	7.692	27.344
RO	757	2.704	10.116
SI	92	327	1.223
SK	162	580	2.17

Source: EC
** including the national contribution required under the cohesion policy as well as a minimum*

transfer of EUR 1.5 from the European Regional Development Fund and/or the Social Fund+ for every EUR 1 drawn from the JTF.
*** reflects total minimum funding JTF and expected investment to be mobilized in Pillar 1, 2 and 3 in nominal prices. The split by Member State is an indicative estimate.*

First green bonds on scene in CEE

With the changing attitude of stakeholders, social and ethical responsibility is gaining in importance. The popularity of green financial products has been rising sharply – papers worth USD 250bn were issued in 2019, pushed mainly by issuers from the US, China and France. In order to comply with commitment to the Paris agreement and determination to shift to low-carbon industries, the EU will need to invest EUR 320bn by 2025, in addition to its yearly investment of EUR 180bn.

In the CEE region, green financing has been negligible so far, with an exception in the case of Poland. Poland issued the world's first government green bond in 2016 (EUR 750m) followed by issuance in 2018 and 2019, worth EUR 1bn and EUR 2bn, respectively. The funds collected translated into higher volume of green projects to be financed, mainly in clean transportation (77%), sustainable agricultural operations (8%) and renewable energy (7%). Lithuania was another sovereign that issued green bonds with a minor placement in 2018. From institutions, Slovenian development institution SID Bank placed its first green bond in 2018.

For the process to be financially feasible, the value of the issuance should be high, as there are fixed costs in certifying the bond as 'green'. Some smaller economies with strict budget rules do not have much space for this type of debt. Another hurdle could be the administrative burden of going through the certification process and proper preparation of the projects. Other green financing products, such as green mortgages, green deposits and green pension funds are not offered by financial institutions in CEE, as there is little awareness and demand stemming from poor ecologic consciousness among customers. In order to shift the attention towards green financial products, the authorities could relax the tax burdens and other associated financial and administrative costs.

To unite and clear up the classification of 'green' finance in the EU, the European Commission has published its taxonomy for sustainable finance, which will be implemented by the end of 2021. The document is an official guide that will help institutions in the financial sector determine which economic activities are considered to be environmentally sustainable. They will use it to understand whether investments, financial products, and financing activities align with the goals set out in the Paris Agreement.

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