Green Economic Recovery

White paper

British Embassy Budapest

cambridge econometrics
clarity from complexity

This paper reviews existing green recovery policy measures and programmes, primarily based on recent work of Cambridge Econometrics commissioned by the We Mean Business coalition, as well as economic analysis in the UK and Hungary, with a view to focusing on aspects that are most relevant in the Hungarian context.

This note is structured around topics which were the focus of the online UK-Hungary Green Recovery panel discussion on 23 March 2021. Section 1 introduces the pandemic context. Section 2 describes how a recovery program could take sustainability into account (i.e. being green), with EU and UK examples. Section 3 discusses the Hungarian context, measures taken and the financing of such programs – building on the key messages arising from the online discussion.

Participants of the discussion agreed that green recovery will happen, as governments and the European Commission are committed by setting aside funding for such green measures, which will also involve restructuring. Governments and central banks have a key role to play in terms of political and economic de-risking, kick-starting the take-up of new technologies, ensuring capital markets are involved in closing the technology gap and mitigating unintended impacts.

1 Background – Covid-19

The Covid-19 pandemic is a health crisis that has happened on a scale not seen in recent decades. Its impact on people's lives and our society is significant and already the target of multiple research endeavours from various fields. It is also a substantial economic crisis, stemming from changes in consumer behaviour as well as government measures to curb the extent of the pandemic. These governmental measures are short-term in nature, providing relief and stabilising the economy.

The looming crisis, with lockdowns and travel restrictions, has also created the largest fall in CO_2 emissions ever seen (Evans 2020). It is clearly recognised that, without policy intervention, rates of CO_2 emissions and environmental degradation will increase again as the economy recovers (Evans & Gabbatiss 2020). As a result, there are calls for a 'green recovery' and ideas 'to build back better'. Such approaches are designed for long-term economic and environmental impact, taking into consideration the current health and economic crisis with the need to build climate resilience and tackle the complex challenges presented by climate change.

Economic recovery should now have at least two goals: to restore employment and economic activity, and to support work towards sustainability and reaching climate goals by limiting CO_2 emissions.

2 Green Recovery Program

Although Covid-19 continues to cause economic damage, thoughts are now turning to 'what next?' on the road to recovery.

Eventually, government support schemes will transition to Covid-19 economic recovery measures. However, the approach to recovery is also important, with impacts that could last well beyond the current short-term timeframe that policy makers are currently focusing on. With the effects of climate change becoming increasingly obvious worldwide, the cost of trying to meet the climate challenge and also recover from Covid-19 is considerable. If large amounts of public spending are required anyway for Covid-19 economic recovery, why not also take a green recovery approach and direct it towards reducing our carbon footprints?

Major economies around the world have already proposed, agreed, and implemented several measures in line with the green recovery approach[1]. For example, the EU is aiming to 'at least double' the annual renovation rate of existing building stock through regulatory and financial support.

> **What is Green Recovery?**
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> Green Recovery is about including policies in recovery plans that not only target economic recovery, but also contribute to environment targets.
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> In the context of our previous research, we have focused on a recovery program that would only consist of green measures. These measures, however, are often combined with policies directly targeting employment or boosting consumption in certain sectors.

In our recent research[2] (Cambridge Econometrics 2020a), we used Cambridge Econometrics' E3ME macroeconomic model to assess the socio-economic and environmental impacts of a green recovery. In this work, we analysed a Covid-19 'No recovery plan' baseline, a VAT scenario where VAT rates are reduced by five percentage points worldwide to induce consumption and the 'Green Recovery Program'.

Our modelled Green Recovery Program consisted of five distinct policy measures:
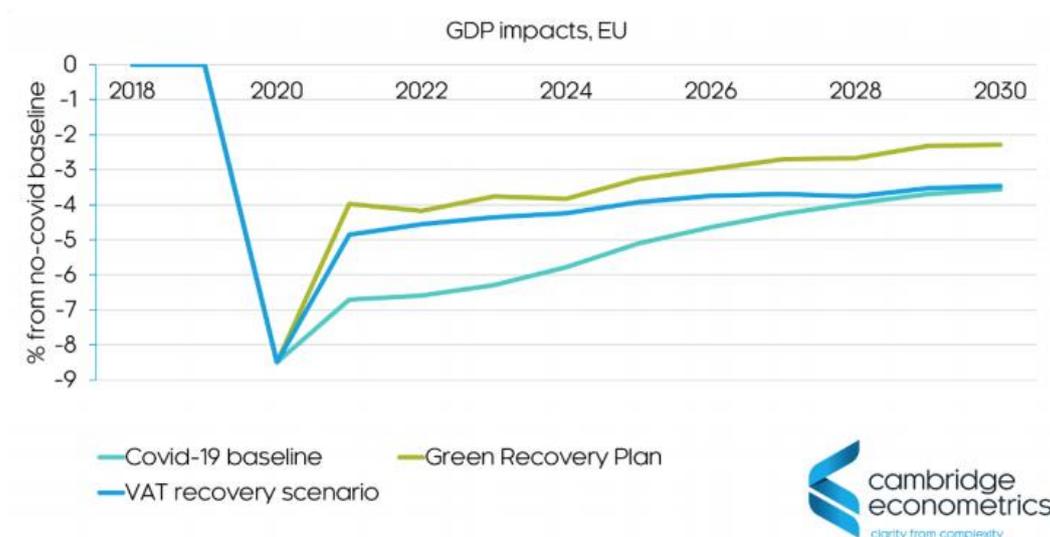- Public investment in energy efficiency
- Subsidies for wind and solar power
- Public investment in upgrading electricity grids
- A car scrappage scheme in which subsidies are only provided to electric vehicles
- A tree planting programme

The Green Recovery Program produces the best results for GDP, employment and emission reductions across Europe
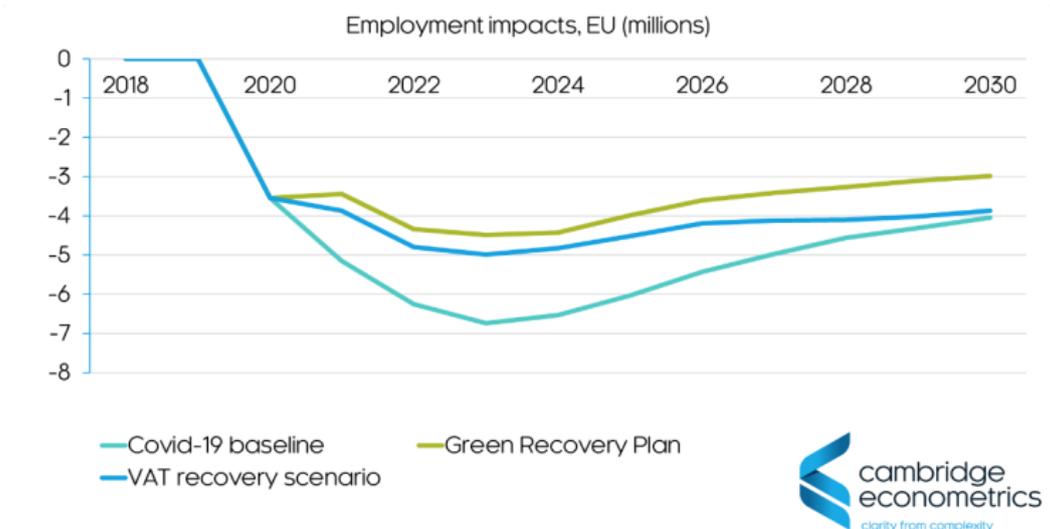
Our headline results for the EU suggest that these five policies, in combination with a more conventional measure (VAT cut) provide enough economic stimulus to significantly reduce the negative GDP impact and job losses over the period 2021-2024. The Covid-19 pandemic is expected to cost the EU between 8% and 9% of GDP, with around half of that being made up by 2030. The two recovery packages have immediate benefits to GDP in 2021, with the Green Recovery Program being slightly better. By 2030, however, the results for the Green Recovery Program are much better. This is in part driven by reductions in fuel imports to Europe, which outlast the initial investment stimulus. The chart below presents GDP impacts for the EU.

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[1] Carbon Brief (2020) Coronavirus: Tracking how the world's 'green recovery' plans aim to cut emissions.
https://www.carbonbrief.org/coronavirus-tracking-how-the-worlds-green-recovery-plans-aim-to-cut-emissions
[2] In late-2020, Cambridge Econometrics was commissioned by the We Mean Business coalition to assess whether it is possible to have such a green Covid-19 recovery plan that is effective at reducing greenhouse gas emissions while simultaneously boosting incomes and employment.
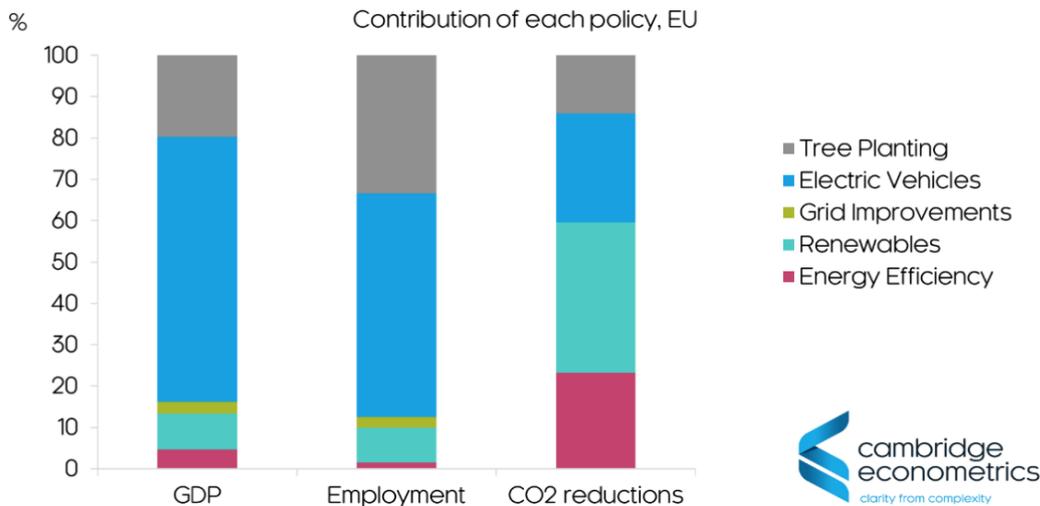
GDP impacts, EU

The next figure shows the impact on EU employment. Modelling results suggest that without support, a prolonged slump in employment to 2023 is possible. The VAT recovery scenario and Green Recovery Program are effective at stopping the slump getting worse. The Green Recovery Program also has long-term benefits for employment levels in the EU.

Employment impacts, EU (millions)

How each policy is anticipated to contribute to the overall impacts (see chart below):
- For GDP, the largest contribution comes from the car scrappage scheme that promotes EVs.
- The impact of the renewables subsidies is less, in part because renewables are being built anyway in Europe.
- The energy efficiency investment creates activity over the crucial period 2021-2023 but less thereafter, so it has a more modest impact overall.
- The contribution of each policy to jobs is similar to that for GDP, but the tree planting programme has a larger impact. The main reason is that the jobs related to tree planting are lower skilled than those related to electric vehicles, which means the same amount of funding can create more jobs.
- The right-hand bar on the figure shows that the biggest contribution to reducing emissions comes from renewable energy subsidies, which push large amounts of coal

power in Europe out of the market and are therefore effective at reducing total emissions.

UK: Further measures are needed to meet long-term decarbonisation targets

In November 2020, the UK Government published its Ten Point Plan (HM Government 2020) to recover from the impact of coronavirus, which is a set of proposals across the economy aimed at cutting emissions and securing long-term growth for the whole country. While the Plan brings together ambitious policies and significant new public investment, our recent analysis (Cambridge Econometrics 2020b) shows that the Plan is good for the economy, growing GDP and providing more jobs. However, the current emissions target of the Ten Point Plan does not align with the UK's net zero goal by 2050 – which, in line with the December 2020 UK Prime Minister announcement is aiming for at least 68% reduction in greenhouse gas emissions by the end of the decade (compared to 1990 levels). In fact, the analysis indicates the Ten Point Plan is predicted to grow GDP by up to an additional 1.8% (£ 43 billion) by 2030 compared to our E3ME modelling baseline, but achieves a reduction in emissions of only 60% on 1990 levels. The key insight from our modelling was that these measures will certainly create jobs, while simultaneously reducing emissions. However, further measures will be required if the UK is to meet its long-term decarbonisation targets.

Our research on UK Green Recovery yielded similar results. The two recovery plans modelled (VAT reduction, Green Recovery Program) both help the UK over the period 2021-2024. While the Green Recovery Program again shows better outcomes for GDP and jobs in both the short and long runs, the difference is less pronounced than in other countries. One reason is that the VAT reductions are particularly effective in the UK's service-oriented economy.

The Green Recovery Program also leads to falls in emissions that continue to increase beyond the end of the stimulus period. There are two reasons for this long-term impact:

1. The support for renewables provides additional stimulus to a growing sector.
2. Conventional capacity is reduced over 2021-2024. Electric vehicles become established as a mainstream technology and the vehicle fleet starts to transition even after the subsidies are withdrawn.

With regards to the impact of specific policy measures, the UK sees a much larger contribution from the renewables subsidies and grid improvements (around 30% combined) than other European countries.

3 Hungary: Low carbon development opportunities for long term growth

The Hungarian government acknowledges the importance of a Covid-19 recovery with a primary focus on mobility with a green transition and on digitalisation. The framework for economic development and low-carbon development has already been well established. The Government published a Recovery and Adaptation Plan in January 2021. The Plan consists of nine components and the total estimated resources required to finance the programme is HUF 5,760 bn (~ EUR 17 bn). The measures should be aligned with the 2050 climate-neutrality goals and with the new EU Sustainable Finance Taxonomy. Any of the planned investments should take a "Do No Harm" approach to Covid-19 response. An action plan to relaunch the economy, as well as Increased budget for subsidising green investments made by SMEs have been announced. Subsidies range between HUF 1.6 million and HUF 100 million for projects such as installing a solar system, upgrading heating and thermal insulation, as well as replacing the doors and windows. There is also a wage support scheme, to commit HUF 80 billion to struggling businesses as part of its helping them save 250,000 jobs.

Environmental commitments were also announced to bring coal exit forward by five years. The plan is to reach 90% carbon neutral electricity generation by 2030 – with two essential pillars: (1) maintain existing production capacity in the long run, and (2) ensure supply security and stable prices. The country's last coal power plant will be shut down in 2025 instead of 2030. Hungary's Mátra Power Plant, a major provider of electricity is transformed from coal-fired power plant to a renewables-based pillar of the country's electricity generation. The Mátra Power Plant, with a nameplate capacity of 950 MW, is the second-largest power plant in Hungary – after Paks Nuclear Power Plant – providing for up to 14% of the country's electricity production. It also accounts for nearly 50% of the total energy sector GHG emissions in Hungary.
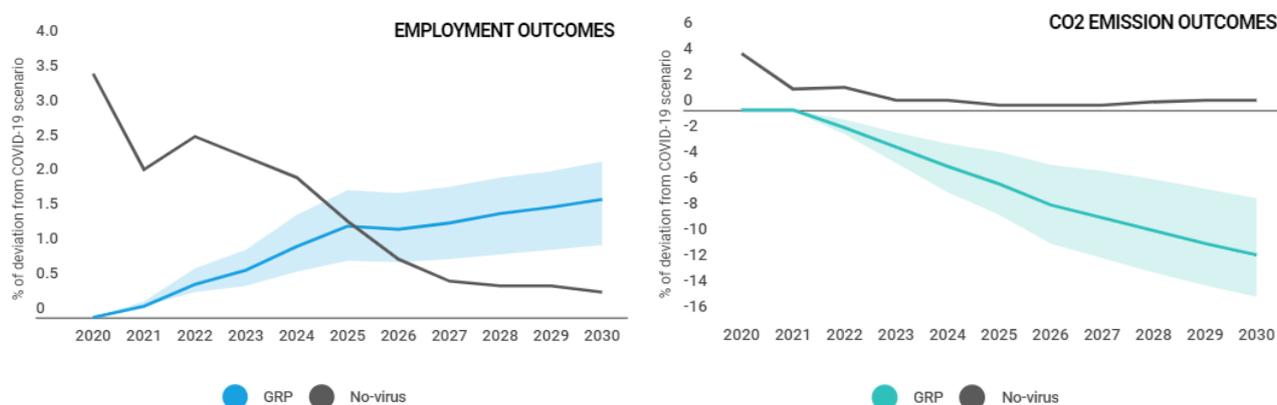
Green Recovery policies can cut time needed for recovering to pre-Covid employment levels, while severely reducing emissions

Our recent analysis of Green Recovery in the Visegrad countries[3] (Cambridge Econometrics 2020c) found that across Visegrad countries, jobs lost due to the pandemic are largely concentrated in low-skilled sectors. In Hungary, this observation is even more applicable, as losses in low-skilled service, sales and elementary occupations amount to 117% of net losses (by comparison, in Slovakia the net loss in these occupations is of 76%) (Eurostat 2020). These figures are also in line with what could have been intuitively expected, as well as with earlier reports on the risk of employment loss in vulnerable groups (such as people with lower education) (Pouliakas & Branka 2020).

Low-carbon development opportunities are a strong stimulus for future growth, although there are some trade-offs that need to be considered between building up long-term capacities and the short-term resource constraints. For example, granting discounts on the purchase of new electric vehicles to reduce greenhouse gas emissions, and the provision of state subsidy schemes to support energy-efficient solutions for building upgrades to reduce energy consumption also needs to be balanced with the supply side of EV manufacturers and building renovations.

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[3] Tree planting was not included as a measure in the V4 analysis, focus was on the other four areas.

The below charts present employment and CO_2 emission results for Hungary[4]. The Green Recovery measures (GRP) produces a recovery in employment, driven by energy efficiency investments (retrofitting) in the short-run, and the transformation of the energy system in the long-run.

While the impacts of the Green Recovery policies can differ across the countries, in general, the Green Recovery policies can cut time needed for recovering to pre-Covid employment levels. Meanwhile, they can severely reduce CO_2 emissions, contributing to climate mitigation targets.

Financing the green recovery

To finance such recovery measures the European Commission has set up a Recovery and Resilience Facility (RRF) in 2020 for the EU Member States with maximum grant allocations per each Member State. The RRF will make in total EUR 672.5 bn in loans and grants available to support reforms and investments undertaken by Member States, in line with a sustainable Covid-19 recovery agenda. In line with the RRF, Hungary is entitled for a total financial support of EUR 7.2 bn (HUF 2,600 bn) (current prices) for public investments and reforms, available up to 2026.

In order to achieve a long-run sustainable recovery, it is suggested that the public sector acts as a mission-oriented, strategic investor with a key role to supporting early-stage technology development. It will be important to complement and support the development of private capital markets in Hungary, which have been historically under-developed (as elsewhere in Central Europe). The availability of risk capital, especially venture capital, is particularly limited.

Hungary has been innovative in public and private sector green bond issues, and the central bank has used subsidies to promote green preferential lending by private banks. There is a need to also make considerable grants to fund renewable technologies and to upgrade the national electricity networks, while also generating private financing. Policy needs to restrict and phase out the 'dirty' activities, as well as support the green ones. There may be scope to re-use / recycle short-term central bank support for emergency liquidity as those loans are repaid to repurpose it for green recovery initiatives.

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[4] You can also notice a 'confidence interval' around the Green Recovery Program (GRP) impact: this represents results from a more aggressive and a less aggressive green recovery scenario.

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