

Economic Research:

EU Green Deal: Greener Growth Doesn't Necessarily Mean Lower Growth

February 10, 2020

Key Takeaways

- Our research confirms that the EU's Green Deal can boost the bloc's long-term growth prospects. We find that lower GDP may cause lower emissions, but lower emissions doesn't cause lower growth. The EU's 23% reduction in emissions since 1990 hasn't weakened economic performance and is not due to a larger services sector.
- However, reaching carbon neutrality by 2050 will require the EU to do more. Only Sweden, Portugal, and Greece appear able to reach 2030 goals for sectors not part of the Emissions Trading Scheme.
- Carbon pricing is the most efficient way to tackle climate change, but is difficult to implement because of its social impact. Instead, the EU favors a green budget of €1 trillion and a taxonomy of green investments. However, we believe they will not be enough to do the job.
- Monetary policy looks increasingly likely to lend a hand but can only encourage the market to reprice the cost of carbon. It is also countercyclical and therefore would not be as effective as fiscal policy.
- The EU's fiscal resources are too small, so a game changer would be a revision of fiscal rules to exclude green investments from the 3% of GDP budget deficit cap.
- The union could use trade policy if its aim extends to reaching a zero carbon footprint, which would likely be more detrimental to short-term growth because of its greater uncertainty and higher prices.

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After examining the European Commission's plan for financing the EU's proposed Green Deal, S&P Global Ratings believes it will boost the bloc's long-term economic prospects by reducing the likelihood of climate-related shocks to GDP and improving resilience to those shocks. One of the main goals of this new growth strategy and probably its most ambitious is to reset the EU's climate objectives to achieve climate neutrality by 2050, by more ambitiously reducing greenhouse gas emissions to at least 50% by 2030 (see box). With this, Europe is now the biggest

economic player to set a goal of becoming carbon neutral by the middle of the century.

However, the EU and its member countries will have to do more to meet the Green Deal's ambitions. Country-level climate change policies are currently not enough to achieve goals set for 2030. The EU fiscal lever is too small to meet the investment needs of around 1.5% of GDP growth a year, and policymakers continue to avoid meaningfully higher carbon prices--the most efficient way to tackle climate change.

The Green Deal

Last month, the European Commission (EC) presented the Sustainable Europe Investment Plan that foresees €1 trillion in sustainable investments over the next decade, to finance the EU's Green Deal announced in December 2019. The EC believes the Green Deal can be a "new growth strategy" that formalizes the EU's efforts to transform its economy to a sustainable future. It seeks major improvements in sectors such as energy, agriculture, construction, and real estate with an overarching principle of decoupling economic growth from resource use. To achieve the Green Deal's broad aims, the EC has devised a roadmap of key policies and measures:

- A supply of clean and affordable energy,
- The achievement of a circular economy,
- A shift to sustainable and smart mobility,
- A halt to biodiversity loss, and
- A fair, healthy, and environmentally friendly food system and others.

The deal highlights what investments are needed for achieving these ambitious goals, and how they would flow through the Sustainable Europe Finance Plan, the EU budget, and the existing InvestEU fund. In addition, it puts into place a "Just Transition Mechanism" to support EU regions, particularly the most carbon-intensive ones, to accelerate the transition away from fossil fuels while ensuring they are not left behind.

The move to sustainable growth will boost long-term prospects

S&P Global Ratings has carried out its own research to test the causality between EU countries' emissions and GDP growth. To date, there have been only a few attempts to measure the economic impacts of the broader question of climate change, which suggest that it depresses output. Integrated assessment models used to draw these conclusions suggest the benefits of tackling climate change compared to its costs are visible only in the very long term and thus conclude that the economically optimal temperature rise is 3 degrees Celsius. Yet, this is far above what science regards as sustainable and stems from a number of flawed assumptions. We believe the models:

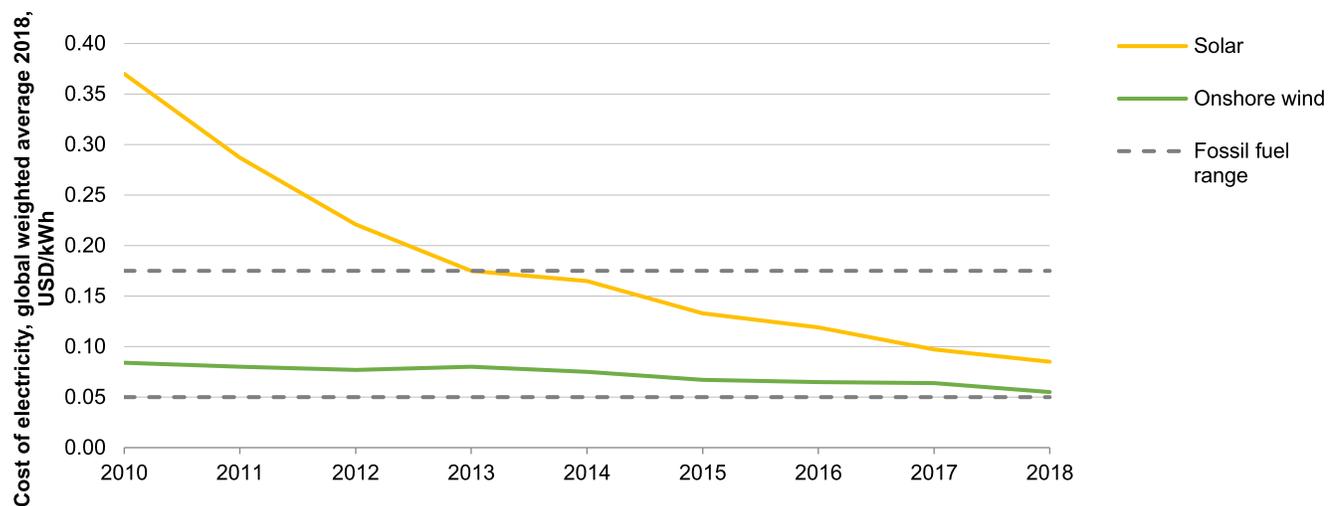
- Underestimate the negative impact of climate change as they take into account only temperature increases and not other variables like rainfall, biodiversity, or potential tipping points where the costs of climate change escalate.
- Overestimate the costs of moving to a more sustainable economic growth model. They assume

an increasing marginal cost of carbon reduction, even though we see increasing economies of scale in environmental friendly innovation. Subsidized investments in greener energy sources have dramatically reduced the price of renewables, making onshore wind and solar photovoltaics power now frequently less expensive than fossil fuels, even without subsidies (see chart 1). Historically, solar energy costs have fallen much faster than annual forecasts predicted.

- Apply a low value to the future through a high discount rate, which goes against the current historical lows in the risk-free rate and introduces a generational bias.

Chart 1

Environmentally Friendly Innovations Have High Returns To Scale: The Cost Of Renewable Energy Continues To Decrease



kWh--Kilowatt-hour. Sources: IRENA, S&P Global Ratings.
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Our findings corroborate the EU's view that moving to more sustainable economic growth should boost growth. We tested the direction of causality between EU countries' emissions and GDP growth, which shows that while lower GDP may cause lower emissions, lower emissions do not cause lower growth (see table 1). Indeed, the EU's carbon emissions trajectory has decoupled from GDP growth (see chart 2). Interestingly, we also find the shift to a more service-based economy explains less than 5% of the reduction in emissions since 1990 (see chart 3). Considering that a more sustainable model for growth should lead to less climate-related shocks and more resilient economies, the EU Green Deal should actually boost the EU's economic long-term prospects.

Table 1

Fewer EU Emissions Do Not Lead To Lower GDP Growth

Pairwise Granger causality tests

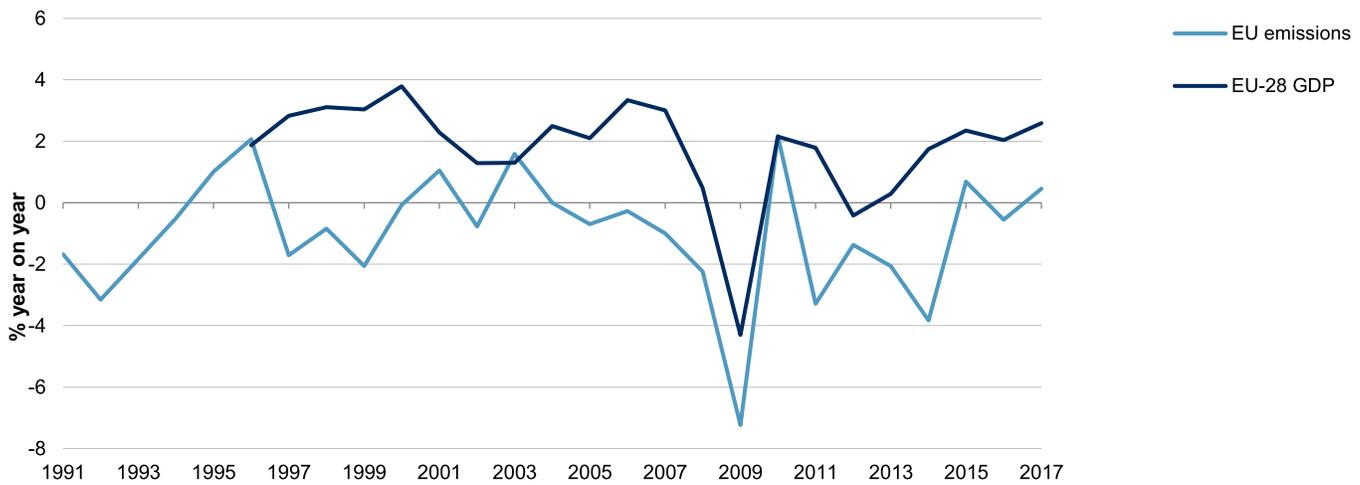
Sample: 1990-2017; Lags: 1; Observations: 572

Null hypothesis	F statistic	P-value	Causality
GHG growth does not cause GDP growth	0.96	0.33	No
GDP growth does not cause GHG growth	38.89	0.00	Yes

Note: We use panel data for 22 EU countries for which we have data on GHG emissions, and look at the relationship between annual GDP growth and GHG emissions growth with a Granger causality statistical Test. GHG--Greenhouse gas.

Chart 2

Lower Growth Leads To Lower Emissions But Not The Other Way Around

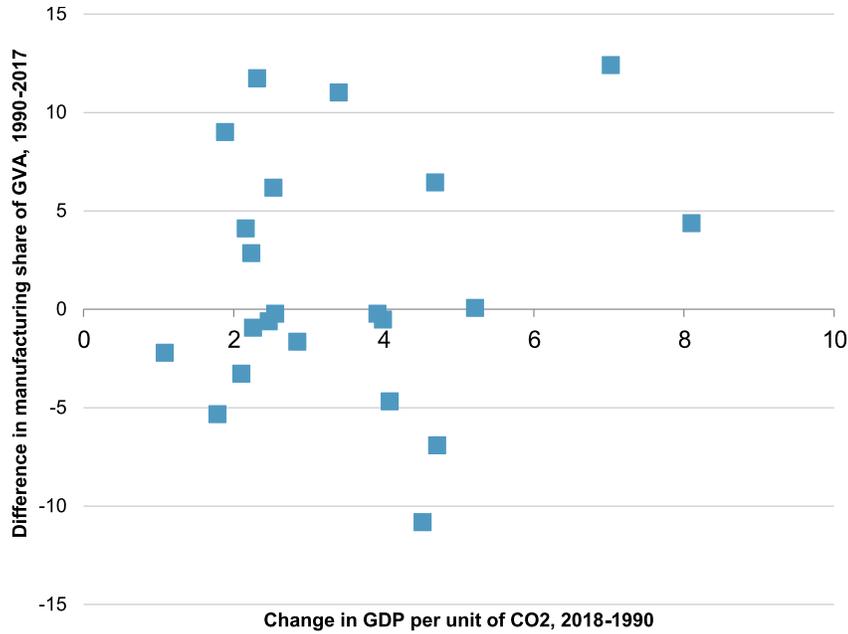


Sources: OECD, Eurostat, S&P Global Ratings.

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Chart 3

The Shift To More Services-Based Economies Does Not Explain Why The EU Is More Carbon Efficient



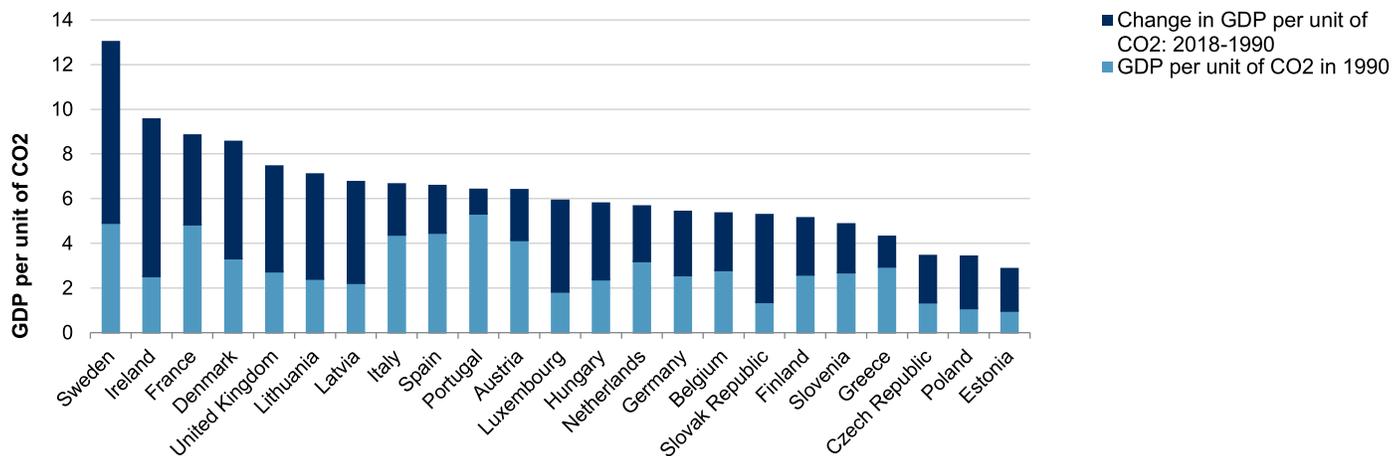
CO2--Carbon dioxide. GVA--Gross value added. Sources: OECD, Oxford Economics, S&P Global Ratings. Copyright © 2020 by Standard & Poor's Financial Services LLC. All rights reserved.

Eastern EU countries have more work to do

The Green Deal will require different policy efforts from each EU country because their environmental efficiency varies widely (see chart 4). Sweden is already well ahead of its EU peers, producing four times more output per unit of CO2 than Poland or Estonia, the worst performers in 2018.

Chart 4

More GDP With Less CO2: Sweden Is Well Ahead In The Race And Poland Very Far Behind



CO2--Carbon dioxide. Sources: OECD, S&P Global Ratings.
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As it stands, the Green Deal is aspirational, containing many pledges to change or adopt new legislation and regulations to achieve its goals. As for carbon neutrality, it states the EC will propose a climate law by March 2020 to write the Green Deal into legislation and adopt a new EU strategy for adapting to climate change. The EC also plans to review every EU law and regulation to align them with the new climate goals, including the Emissions Trading System (ETS) Directive and the Effort Sharing Regulation. However, it is important to understand what the EU has achieved so far in meeting its climate change goals, so that we can assess the possibility of its achieving carbon neutrality by 2050.

Current Climate Change Policies In The EU

The EU and its member states presented their nationally determined contributions (NDCs) under the 2015 Paris climate agreement jointly with the binding target of at least a 40% domestic reduction in greenhouse gas (GHG) emissions by 2030 compared with 1990. Since then, the EU has revised its legislation. Its current 2030 climate and energy framework set up key targets for achieving this commitment, which were much higher than the 2020 targets (see table 2).

The EU plans to meet the GHG target by meeting two subtargets. The sectors covered by the ETS must reduce emissions 43% (compared with 2005), and non-ETS sectors (transport, buildings, agriculture) will need to cut emissions by 30% (compared with 2005). The Effort Sharing Regulation covers non-ETS sector targets. It means that each member state has a binding annual GHG target for 2021-2030, based on the principles of fairness, cost-effectiveness, and environmental integrity.

Table 2

The EU's Current Climate And Energy Targets

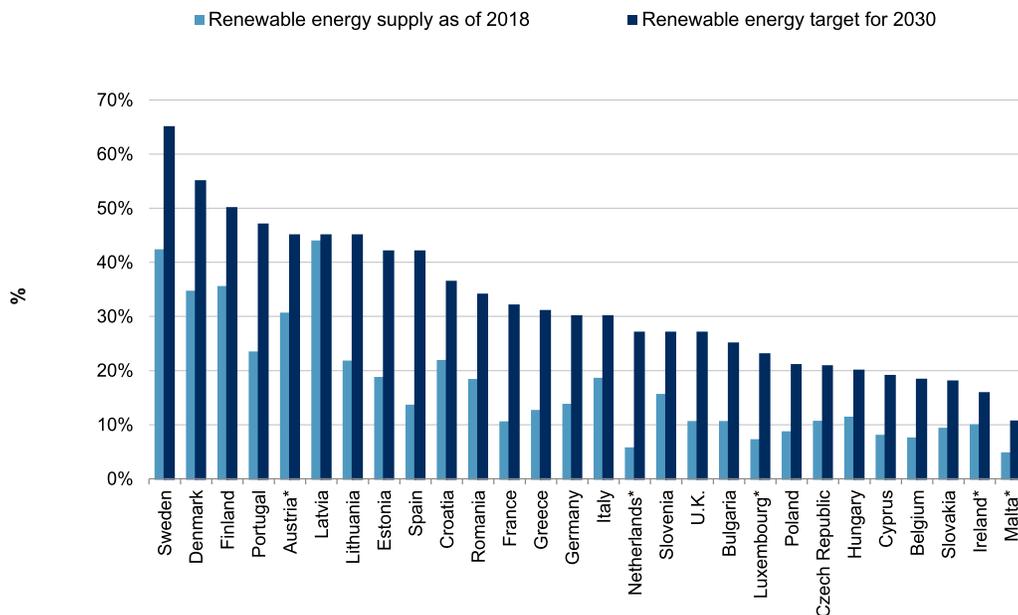
	GHG emissions	Renewable energy	Energy efficiency
2020		-20%	20%
2030 (current targets)	Less than or equal to -40%	Greater than or equal to 32%	Less than or equal to 32.5%
2030 (Green Deal target)	Less than or equal to -50%		N.A.

N.A.—Details not yet available.

With the EU's 2018 GHG emissions down by 23% below the 1990 level, the EU is on track to achieve its 2020 target. However, the EC is indicating that this may not be enough. In the drafts of each member state's 10-year integrated national energy and climate plan (NECP) for 2021-2030, the EU has flagged that policies and measures as of the end of 2018 are not enough to achieve 2030 targets and long-term carbon neutrality. The draft NECPs fail to go far enough in renewables and energy efficiency contributions. The shortfall is 1.6 percentage points for renewables and as much as 6 percentage points for energy efficiency (see chart 5 for the large gap between renewable energy supply as of 2018 and national targets for renewables by 2030).

Chart 5

The EU Has More Work To Do On Renewables And Energy Efficiency
 Renewable Energy Supply As Of 2018 And National Targets For Renewable By 2030



*These countries have provided their target as a range, so we used the minimum target. Sources: Drafts of NECPs, Eurostat.

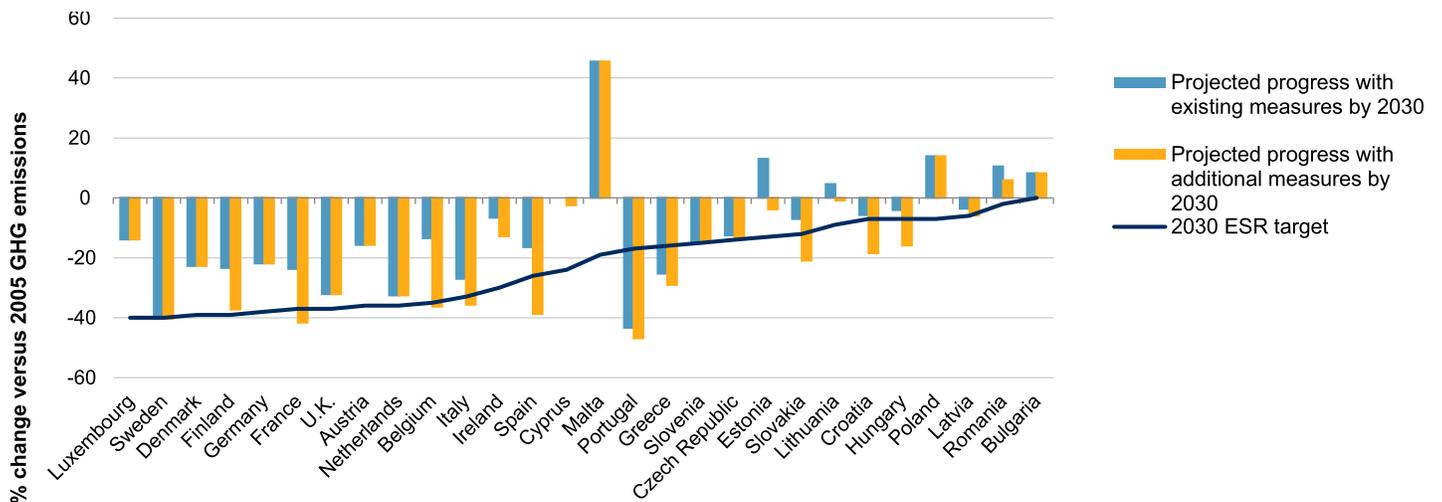
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National long-term strategies of at least 30 years to be submitted in January could be more

ambitious, but under current measures, Sweden, Portugal, and Greece are the only countries on track to achieve the 2030 ESR targets (see chart 5). The gap is particularly big for Malta, as well as Luxembourg, Cyprus, Estonia, Ireland, and Poland, suggesting they will need to switch to much more environmentally friendly policies. Overall, it is fair to say the EU needs to push countries to increase their targets by putting into place more effective policies for meeting the 2030 targets. Pressure is also increasing at the national level, for example with the Dutch Supreme court ruling in December 2019 that the government had to cut emissions faster.

Chart 6

Sweden, Greece, And Portugal Are The Only Countries On Track To Meet 2030 Effort-Sharing Targets

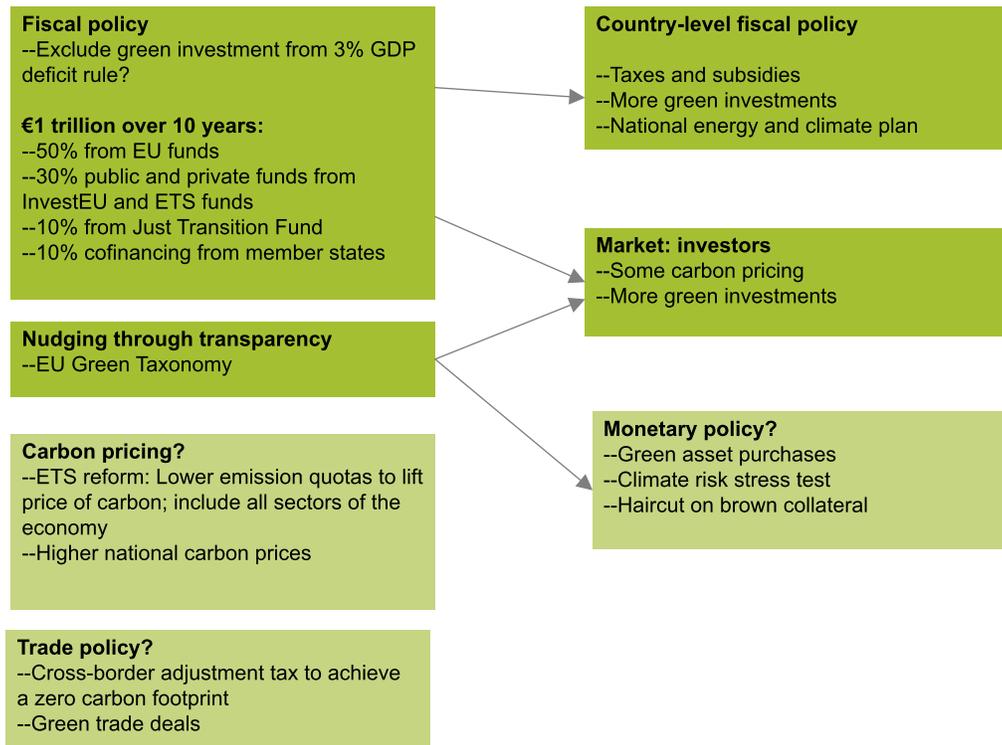


ESR--Effort sharing. GHG--Greenhouse gas. Source: European Environment Agency
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The EU cannot reach its goal of carbon neutrality by 2050 alone

With the Green Deal, the EU is using more tools to steer the economy on a more sustainable growth path. This is a move in the right direction, but it still relies on other participants such as national governments and the private sector for help, suggesting that more "green policies" are still to come (see chart 6).

The EU's Toolkit For Reaching Carbon Neutrality By 2050



Source: S&P Global Ratings.

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A greener EU budget could include greener budget rules

In terms of fiscal policy, the EU is dedicating more of its budget toward greener sources of growth. In the €1 trillion climate finance plan, there is more money from the EU budget and funds going to climate and environmental spending, commitments for the cofinancing of green investments with national governments and the private sector, subsidies for high emitters with the Just Transition Fund, and taxes for high carbon emitters through the ETS. That said, of the €1 trillion in the fund, only €7.5 billion is fresh money (less than 0.1% of EU GDP), of which the EU plans to leverage €100 billion. We are still far from the EC-estimated €260 billion needed each year to fill the investment gap for meeting 2030 climate and energy targets.

Clearly, the EU does not have enough own resources with a budget of 1% of GDP, so it needs to empower and push countries to prioritize climate-friendly investments. We believe the option of reforming fiscal rules by revising the 3% of GDP deficit rule with specific carve-outs for green investments, as mentioned in the Green Deal, could be a game changer. In 2017, EU environmentally related government R&D averaged less than 0.005% of GDP, too little to fill the huge investment gap.

EU Taxonomy provides transparency on green investments but may not be constraining enough

As another way to get other actors on board, the EU is nudging investors to adopt a greener way of investing, with the EU Taxonomy (see "Credit FAQ: The EU Green Taxonomy: What's In A Name?" published on Sept. 11, 2019). Yet, while it will help increase transparency and prevent green washing, it can only work if consumers and investors push the market in that direction. The fast expansion of the green bond market (49% in 2019) is a good sign, but the market remains small at \$255 billion in issuance in 2019, only 0.03% of global GDP.

If the taxonomy doesn't succeed in creating the necessary additional momentum via financial markets, the EU may consider binding constraints through climate-related regulation, which can be more disruptive for the affected industries. At the local level, such initiatives exist already, like the ban on the use of diesel cars in some cities.

Monetary policy is under consideration, but cannot do the heavy lifting

Central banks are also looking into reducing climate risk through monetary policy. The Network for Greening the Financial System (NGFS), a forum central banks and supervisors committed to better understand and manage the financial risks and opportunity of climate change, is driving progress here. The Bank of England and Banque de France have already announced they will start stress-testing banks and insurance portfolios for climate risk. The European Central Bank, in the context of its strategic review, may also consider rebalancing in favor of green assets in their purchases or apply haircuts on collateral according to a "green" label, such as in the EU Taxonomy.

While central bankers still debate whether they can target climate change within their mandate, one thing is clear: monetary policy can nudge the market to reprice the cost of carbon, but not as effectively as fiscal policy. As such, green quantitative easing would apply only to a small part of the central bank's portfolio, which mostly buys government bonds and is typically countercyclical. Fiscal policy by contrast can target a greening of the economy at all levels, beyond financial markets, and with resources that are more constant.

The first best policy remains carbon pricing, suggesting that reform of the ETS might be in order

Something the EU has not emphasized much so far is carbon pricing, even though it would be the most efficient way to tackle climate change (see "Why It May Makes Sense To Tackle Global Warming," published on Dec. 5, 2018). The current ETS carbon price is €25/ton. This is an improvement from the €6-€15/ton range of the previous decade, but well below the \$50-\$100/ton target by 2030 recommended by the High-Level Commission on Carbon Prices to achieve the Paris Agreement goal.

Thus, one lever the EU may study to reach green targets is the reduction of emissions quotas under the ETS, to push up the EU carbon price in the next few years. It might also consider extending the scheme to additional sectors to cover more than 45% of the region's GHG emissions.

Carbon pricing could also happen at the local level. However, implementation is difficult given its

social impact, which tends to disfavor lower-income households, even though studies have showed no net job losses from higher carbon taxes. After the yellow vest experience in France, triggered by additional taxes on fuel, we believe countries are unlikely to go down that route anytime soon.

If the EU goes for a zero carbon footprint, it might impose a tax on carbon imports

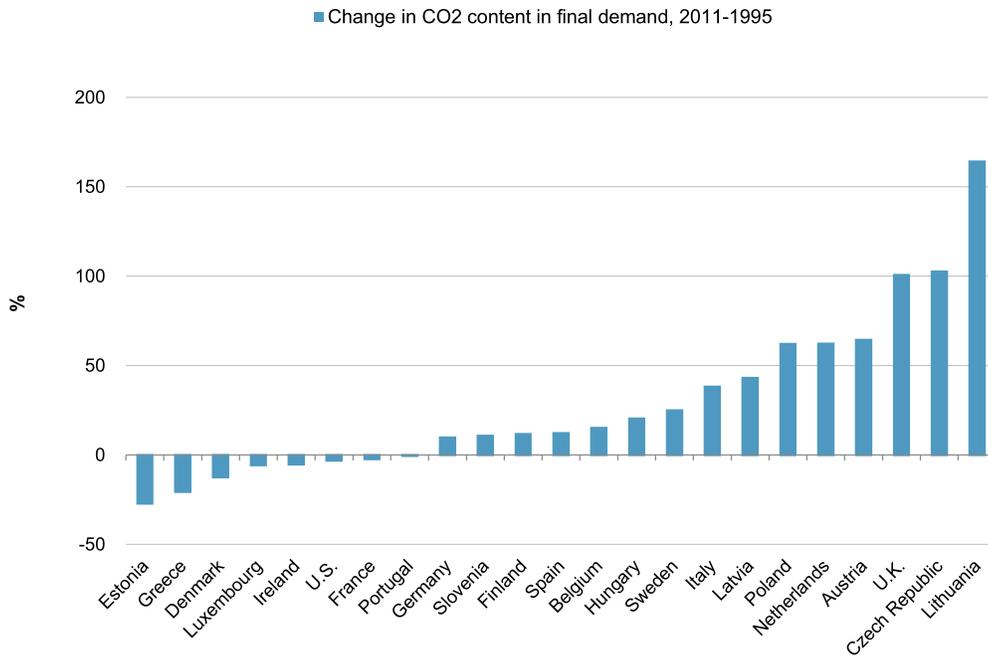
Last but not least, even if the EU achieves carbon neutrality by 2050, it will still remain a consumer of CO₂. Currently, the EU accounts for 9% of global emissions, but also consumes another 2% through imports (see chart 8). With this carbon leakage in mind, the EU has already noted that it might consider a cross-border adjustment tax, to ensure consumers and firms internalize the cost of importing carbon. The EU's two largest trade partners, the U.S. and China, are also the two largest producers of CO₂ worldwide, so would be the most affected by such a tax.

However, the EU is unlikely to apply a carbon tax on all imported goods in one single move. This would be detrimental for growth in the short term. It would lead to higher prices and thus hurt consumers' purchasing power. It might also increase global trade tensions and uncertainty, leading to lower investment. In the context of global trade tensions, EU policy-makers may consider a carbon border tax as a justified protectionist instrument especially if it develops a comparative advantage in more climate-friendly production systems. That said, before going down that road, it might have to first ensure that local products are more climate friendly. Thus, we think the EU is more likely to take a sectoral approach: tax more-polluting sectors like steel and cement first. Another path would be to make environmental pledges part of its next trade deals.

Looking ahead, the EU will have to introduce more climate-friendly policies to reach its 2050 commitments. A higher price for carbon would be more challenging for more polluting sectors, but might ultimately be needed to push the market to reprice the cost of carbon. We think the EU Taxonomy for sustainable investments or monetary policy are unlikely to be enough to reach carbon neutrality. Filling the huge investment gap will also require EU countries to invest more, which suggests that without a relaxation of fiscal rules for green investment this may prove difficult.

Chart 8

The EU Imports 2% Of Global Greenhouse Gases



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Related Research

S&P Global Ratings research

- Credit FAQ: The EU Green Taxonomy: What's In A Name? Sept. 11, 2019
- Why It May Makes Sense To Tackle Global Warming, Dec. 5, 2018
- COP25: There's Still Life In The Sputtering Climate Change Talks, Dec. 18, 2019

Other research

- Communication From The Commission To The European Parliament, The European Council, The Council, The European Economic And Social Committee And The Committee Of The Regions: The European Green Deal, EC, Dec. 11, 2019
- Trends and projections in Europe 2019. Tracking progress towards Europe's climate and energy targets, European Environment Agency, 2019
- Preparing the ground for raising long-term ambition – EU Climate Action Progress Report 2019,

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European Commission, Oct, 31, 2019

- Energy Union: Commission calls on Member States to step up ambition in plans to implement Paris agreement, European Commission, June 18, 2019
- Economics: current climate models are grossly misleading, Stern, N., Nature, Volume 530, No. 7591, Feb. 25, 2016.

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