Greece: Achieving the green economy transition

Category: Energy
written by oecdecoscope | May 26, 2023

Greece faces challenges from a warming climate and high investment costs for the green transition.

Confronting the energy crisis: changing behaviours to reduce energy consumption

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Households react to prices as well as habits, expectations and biases. Energy saving measures should factor in these behavioural aspects.

Energy expenditures have surged, posing challenges for policymakers

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Energy expenditures in OECD economies increased rapidly in 2022, raising the risk of widespread recessions among advanced economies.

Emergency plans and solidarity: Protecting Europe against a natural gas shortage

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Rationing and solidarity can serve as last resort, but energy must be saved across all sectors of the economy in the face of Russian gas exports cuts.

Clean energy investment could be a key driver of economic recovery in Europe

Category: COVID-19,investment,Uncategorized
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by Laszlo Varro, Chief Economist, International Energy Agency

***The IEA Chief Economist on energy investment in the COVID-19 recovery*:**

The economy is in a deep recession. Weak demand and excess capacity weigh down corporate investment; skyrocketing unemployment cuts consumption and threatens social stability. Policymakers respond by debt-funded public investment into clean energy projects that not only successfully stimulates

the economy but furthers long-term strategic objectives for an energy transition. The year is not 2020 but 1935, the clean energy projects are the large hydro plants in the Tennessee Valley and the French Alps, and the energy transition is moving the countryside from the petroleum lamp to electric light.

It is interesting to note in the context of the discussions on a Green New Deal that are unfolding in several countries today, that the most iconic achievements of the original New Deal era were actually clean energy projects. This was decades before the emergence of climate concerns, but the energy sector can absorb capital investment rapidly and trigger spillovers into both construction and manufacturing, two sectors that were both hard hit then and today.

Europe has a chance to repeat this historic progress with the implementation of the recently-announced increase in climate ambition. Previous policies under implementation and technology change already put Europe on a declining CO2 emissions path. However, the recently enhanced target of “at least 55% reduction by 2030” represents a step change in ambition. Compared to the trajectory determined by previously-stated policies and national emission plans, the new ambition that puts Europe on track for full decarbonisation requires an additional over 400 million tons emission reduction. In a single decade, Europe will need to eliminate the equivalent of the combined fossil fuel use of France and Belgium, on top of the already meaningful clean energy policies under implementation.

The pandemic reduced emissions, but mostly for the wrong reason, of depressing economic activity. The social and behaviour changes it brought have only a minor energy impact: some people work from home instead of commuting, others drive instead of using public transport. Faster and larger emission reductions will require an unprecedented investment effort. But, the potential rewards are sizeable: as the recent IEA

Special Report on a Sustainable Recovery pointed out, a three-year focused clean energy investment push at a global level can lead to 4.5% higher GDP level and create an additional 9 million jobs by the end of the investment drive. This would represent a substantial contribution to the post virus recovery. Europe would represent around 10% of the global green job creation with around 900 thousand additional jobs. Due to labour costs and technology characteristics, clean energy development in Europe tends to be capital intensive and relies on skilled, well compensated jobs. There are significant differences in the labour intensity of various low carbon options, with building retrofits and rooftop solar having a higher than average employment effect. It is appropriate to integrate considerations on labour market impacts into clean energy investment policy design.

For a timely deep decarbonisation, investment in the energy system does not simply need to recover to the 2019 level, as that investment was insufficient for the energy transition objective, but to go significantly beyond. In the IEA Sustainable Development Scenario which is broadly consistent with the new, stringent climate ambition, average energy investment in the 2020s in the European energy system will have to more than double. The increase – from the current depressed level – is around 1% of EU GDP. One reason why this could have a measurable positive macroeconomic impact is that Europe is a very large oil and gas importer. In a high carbon trajectory the oil and gas industry would invest over 60 billion USD annually into projects outside Europe that serve European demand. If this is replaced by wind turbines or building retrofit projects domestically, Europe will need to move to a structurally higher energy investment/GDP ratio.

Investment would have to be transformative. It is not possible to have a “copy–paste” replacement of fossil fuels. A credible decarbonisation pathway will have to involve a step change improving energy efficiency, into renewable energies and

investment for new infrastructures. The efficiency ambition is equivalent to retrofitting a Berlin in every three months.

Moreover, as the most successful clean energy technologies like wind and solar generate electricity, massive investments are needed to electrify transport and other energy use. This includes households spending to buy electric cars as well as utility and public investment in charging infrastructures. This will need to be managed carefully: Europe is a powerhouse of internal combustion engine manufacturing but there is currently no European company among the top 5 battery manufacturers. Overall benefits would improve further if a viable and competitive battery manufacturing value chain can be developed in Europe.

For renewables to reach the required volumes, investment in the most mature and scaleable wind and solar will have to increase by 60%, but other technologies like bioenergy and nuclear power will also need to play a role. While there will be imported solar panels, Europe has strong industrial capabilities in most clean energy technologies. Recent technological progress allow renewables to provide energy on a larger scale and they are more technology intensive. They require specialized technical skills Europe can provide, especially in the case of wind turbines and modern grid solutions, Europe is a significant exporter. Retrofitting buildings also require better skills to be efficient, and can be a sizeable source of emission reductions.

The current macro financial environment is a major opportunity for both private and public investment. Most low carbon technologies like wind turbines or electric cars demand a significant initial investment but are then cheaper or even free to operate and save fuel costs. As a result, the ultralow interest rate environment improves their competitiveness. IEA analysis suggests the majority of the investment can be mobilized from the private sector. A wind park with a credible long-term contract is to a certain extent a financial

substitute of a long-term bond and is made attractive by negative bond yields. Direct government investment could complement, investing in new infrastructure like hydrogen pipelines and technologies with unusual risk profiles like nuclear. The EU Recovery Fund and national budget funding can thereby appropriately complement private investment.

However to reap the full benefits of the macro-economic environment, non-market barriers to clean energy investment need to be lifted. Despite improving technology and falling costs, the growth of clean energy in Europe flattened in recent years below its historical peak. Complicated and lengthy licencing procedures are a constant complaint from investors. Scale and speed matters. In the Sustainable Development Scenario trajectory, by 2030 Europe will have to build 140 GW more renewable capacity than what the current renewable policies would deliver. This is 20000 wind turbines and the equivalent of a 100000 football fields covered by solar panels. As the current electricity network is not suited to integrate this new energy inflow, and additional 400 billion euros of network investment will be needed over the decade, both to a physical backbone and also into digitalization to the grid. The experience with priority interconnection projects is that even if the money is in the bank, it is not easy to spend it on the electricity network. What is needed is a bottom-up effort to streamline and accelerate such investment regulatory framework.

During the Great Depression, Keynes famously recommended for governments to pay people to dig holes and pay other people to fill them up. We can do even better, by paying people to put the foundations of wind turbines and electric car chargers into those holes. In order to put the energy system on a low-carbon trajectory consistent with the scientific consensus, clean energy investment has to scale up. With an appropriate policy design, this can lead to substantial positive macroeconomic spillovers, helping the recovery of the European

economy. The time is now.

Further reading: Global Energy Review 2020: The impacts of the Covid-19 crisis on global energy demand and CO2 emissions