Event report[1]

Economic arguments for an ambitious Paris climate agreement: Decoupling energy consumption from sustainable growth in Europe, China and the United States

The transformation of economic growth towards a lower dependency on fossil fuels and related greenhouse gas emissions is essential for the feasibility of a successful global climate strategy. Last year was the first in decades in which the world economy grew but global CO2 emissions didn't – a development referred to as "decoupling". In the run-up to the international climate conference in Paris (COP21), the Heinrich Böll Foundation published the study "Turning point: Decoupling Greenhouse Gas Emissions from Economic Growth" which presents empirical evidence from different countries. The EU has set itself the goal to decarbonise its energy system by the middle of this century and wants to show that climate action and economic growth go hand in hand. The United States has seen a trend of declining energy use on both a per capita basis and in relation to GDP of the US economy. The success of Obama's Clean Power Plan will be measured not only against its ability to reduce US carbon emissions but also for not jeopardising economic growth. Meanwhile, China is undertaking a major structural shift away from carbon-intensive development. As one of the first of the major emerging economies, China successfully reduced the energy intensity of its economy. What can we learn from decoupling trends in different countries at the global level? What are the main drivers and barriers of decoupling conventional energy consumption from sustainable growth? What are the opportunities and challenges for developed and developing countries? And what are the expectations of COP21 to spur the decoupling trend at global level?

Outdated views and promising prospects

In 1972, the Club of Rome submitted its report "The Limits of Growth" to high-level representatives of diplomacy, industry, academia and civil society. This report presented what today may be called a "conventional view" on the nexus of economic growth, energy consumption and greenhouse gas (GHG) emissions. It claimed that economic growth would lead to an increase in production and hence necessarily to a raise in energy use and GHG emissions. Nowadays, this conventional view is overruled by a phenomenon which could be observed over the last few years on an aggregated world-wide basis: Energy consumption and GHG emissions do not necessarily develop proportionally to economic growth. This decoupling trend is driven by different forces. Firstly, a growing share of renewable energy sources reduces the damaging effect of energy use on the climate. Secondly, higher energy efficiency both on

[11] The event took place as a breakfast debate on 22 October 2015. Speakers included: **Rainer Steffens**, Director of the Representation of North Rhine-Westphalia to the European Union; **Anselm Mattes**, Senior Consultant at DIW Econ of the German Institute for Economic Research; **Reinhard Bütikofer**, MEP and Co-Chair of the European Green Party; **Sandrine Dixson-Declève**, Director of the Cambridge Institute for Sustainability Leadership and **Jana Frejova**, Research Associate at the New Climate Economy. The event was moderated by **Klaus Linsenmeier,** Director of the Heinrich Böll Foundation European Union. The opinions expressed do not necessarily represent the opinions of the Heinrich Böll Foundation.

the supply and demand side helps to decouple the increase in production from energy consumption. And finally, long-term structural changes in economies such as the displacement of energy-intensive by less energy-intensive sectors also support the decoupling process.

The new study by the Heinrich Böll Foundation focuses on the relation between conventional energy use and GDP growth and shows that so-called "weak decoupling" can be observed on a global scale. This means that there is a decrease in the energy consumption per unit of GDP, whereas "strong decoupling" implies an absolute drop in energy consumption with growing GDP. Such strong decoupling has for instance occurred in the OECD over the period from 2010 to 2012 and again from 2013 to 2014. Germany experiences strong decoupling, cashing in on its large share of renewables in its energy mix. The United States has also seen strong decoupling between 2004 and 2012 but only weak decoupling from 2012 to 2014. As strong decoupling has not continued over the last two years it remains unclear how the US will further develop. While prospects for decoupling in India seem rather uncertain, data for the global player China gives proof of weak decoupling, and – if the current trend continues – the country might soon even experience strong decoupling. According to the OECD, nearly 1.300.000 Chinese died in 2010 because of air pollution. Hence, health considerations played a key role in China's decision to undertake a major structural shift away from the carbon-intensive growth model. The most important findings and graphs from the study are available here.

How to get things moving

All in all the data draws an encouraging picture on decoupling. As there is no one-size-fits-all approach there is a need to identify relevant drivers and tailor-made solutions to scale up decoupling in different countries. Regulatory frameworks should ensure that public and private funds are directed towards energy efficiency and renewables and that investment in coal is phased out. In 2000, 69% of total energy investment went to fossil fuels and in spite of growing investment in renewables in absolute terms over the last decades its relative share stayed the same.

The idea of divestment, which is promoted by different civil society movements, can help to change course. 90 trillion US dollars need to be invested in the global infrastructure over the next 15 years anyway. A low-carbon shift of these investments would only require an additional 4 trillion US dollars. At the same time, structural change needs to be managed for a just transition and competitive low-carbon economy. As the backbone of the European economy, the energy-intensive and manufacturing sectors should be taken along on the way towards a decarbonised future. There is a growing voice of progressive industries which can help make the case for a new "business-as-usual" based on low-carbon growth models.

Decoupling can also be spurred through bi- and multilateral cooperation and in particular within the context of the transatlantic partnership. The EU could for instance provide some guidance for the emissions trading system in California and other states in the US. By exchanging knowledge and technology and by bringing forward process and systemic solutions, countries and non-state actors can join forces to show the benefits of decarbonisation.

Going beyond GDP?

When discussing decoupling, it is important to create a common understanding of what "growth" means. The growth model by OECD countries should not just be replicated over the globe. As exemplified by China, this kind of growth can severely damage the environment and impair the living standard of millions of people. With some sort of "strategic hesitation" China now strives for more inclusive growth, trying to bring forward different sectors at the same pace. This example raises the question whether the GDP is still an adequate measure of growth. GDP does for instance not account for environmental damage. The most radical approach in the context of this so-called "going beyond GDP" discussion is the complete abandonment of GDP as an indicator. However, as the world still works and thinks in terms of GDP for the time being, introducing the idea of decoupling based on a new definition of growth may create adverse attitudes.

At this point in time, showing that decoupling energy consumption from the *gross domestic product* is possible might just be the most expedient way. Nevertheless, supplementary indicators should be added to the GDP to reflect the quality of growth. A third category of decoupling could then be introduced next to "strong" and "weak", called "sustainable decoupling".

Success factors in and after Paris

In the run-up to COP21, more than 150 countries have submitted their climate pledges (INDCs) which mirror their respective progress to decouple economic growth from conventional energy consumption. But politics also matter. Obama currently goes beyond what internal US politics actually allow him to do. On the other hand, the EU's INDC stays below its potential with adverse effects on Europe's climate leadership role. To boost EU climate ambition and to isolate blockers such as Poland, the European Parliament should increasingly seek alliances with national parliaments and the EU should make use of qualified majority voting.

To further spur decoupling on a global level, COP21 must provide a long-term goal with a clear vision of a decarbonised future. A monitoring process including a five-yearly upward revision of countries' pledges will put some pressure on potential deviators. Furthermore, it is crucial that fossil fuel subsidies

expire and that carbon pricing mechanisms are improved. Over the last years, such mechanisms have popped up in different corners around the globe and provide a factual basis for a shared carbon pricing.

Communication and the right messaging will be key to make Paris a success. Rather than purely referring to whether or not Paris will have delivered the 2°C, countries must be encouraged to continue decarbonising their economies. Investors should be given a clear signal to shift the trillions towards a decarbonised future. Citizens and sub-national stakeholders such as cities, businesses and NGOs have to strengthen their efforts and be reminded that the responsibility for a successful low-carbon transformation does not merely lie with governments and UN diplomats.

The decoupling trend in the global economy provides a powerful argument for an ambitious Paris climate agreement. When the last light will have been turned off at the Paris Le Bourget conference space, lots of work will lie ahead. While the Paris deal should be understood as floor rather than ceiling, the focus will be on the implementation of what has been decided. Both state and non-state actors should then be encouraged to get the world on the right path to avoid dangerous climate change and to reap the benefits of a successful low-carbon transformation.

About The Transatlantic Energy and Climate Network

The Transatlantic Energy and Climate Network is a project of the Heinrich Böll Foundation committed to strengthening dialogue between Americans and Europeans to advance a sustainable clean energy economy on both sides of the Atlantic. This project is funded by the European Union.

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