

Air quality and pollution during covid-19 emergency

The situation in Europe

SmartEdge want to play a role in the positive change in reducing the carbon emissions and fulfil the climate and energy goals and obligations. The Covid-19 pandemic and the following shut-down of society, resulted in a temporary dip in the emissions. 6 months later, we identify that the emissions are increasing and, in many cases, back to “normal”. Could we have done differently? Probably. We rather ask ourselves:

- What can we learn from the shut-down to make change happen?
- What measures or experience do we believe is relevant or needed to both restore our “normal lives” and reduce the carbon emissions.

Intro

Since the covid emergency spread across Europe early spring 2020, air quality and pollution has reduced massively. The same is true for the economic activities. In all the European countries unemployment rate has hit historical heights (source). How will this situation influence the transition to a low carbon society? Will it put sustainable development back years, or is this an opportunity convert our knowledge into practice and contribute to the transition to a low carbon economy? What was normal before the crisis does not need to be the new normal. We can play a role in defining the future.

Social aspect

When the Coronavirus epidemiologic emergency spread across Europe, many countries opted for lockdown measures to try and contain the positive cases and to protect ourselves. This decision had impact on several aspect of social life and economic activities. First and foremost, our digital tools made the home office the norm, as people were asked to work from home and (if possible) working in remote mode to reduce spreading of the virus.

Our daily routines and mobility patterns have changed drastically, and for a while immobility was the standard. Many of us has been isolated or encouraged to stay home. This have had direct effects on many families. In Norway, [a study states](#) that low income families with children feel most isolated, and during the corona crisis this have had influence in both physical and mental health, and the overall quality of life.

In Barcelona AMB has taken measures and established a moratorium [to support the rent payment](#) of apartments and commercial premises during April and May. These aspects bring the attention to the necessity of access to green parks and accessible recreation areas in the urban areas. Furthermore, it emphasises the importance of participation in urban and climate planning. A crisis like this can be an opportunity to revise our routines for citizen involvement and take advantage of the planning process to secure and improve the qualitative aspect of the built environment. Our institutions can play a crucial role in this process of establishing public discussions on the themes related to quality of life, the importance of public space and public health issues.

Employment and job creation

Many people have lost their jobs in the last couple of months, or are at risk of losing it, as businesses go bankrupt. One estimate the Norwegian broadcasting network conclude with, was that [the crisis will cost](#)

[2,2 billion € pr. month](#) for the government. So far the pandemic has resulted in a [historic high unemployment rate at 11%](#), while [its at 8,2%](#) in Sweden. Also the labor market in Berlin/Brandenburg have suffered greatly from the Corona Pandemic. This is especially true for [companies in the service sector](#), resulting in losses that are difficult to overcome.

These days many have great hopes for the [€500 billion „recovery fund“](#) suggested by the German and French leaders (but [not without opposition](#)). Whether a recovery fund or a bailout will work, depend how both local and regional authorities are able to convey sustainable strategies and put an emphasize low carbon economy initiatives as a means to both create jobs and turn the society away from carbon economy. Multi-level government models have never been more relevant to investigate, and our partnership have showed examples on methods to elaborate further and influence our policy documents.

PS. Other than economic oportunities in the low carbon economy – more countries are opening up these days, as in Brandenburg and Viken whereas from the of [May 15th, restaurants are allowed to open under strict conditions](#), e.g. with a safe distance, service only at the table and with mouth protection.

Travel and Emission

Airplanes cancelled every route at global level, many industries had to close their facilities and stopped their activities. All these elements affected also the urban environment and the global situation for what concerns air quality, traffic, and energy consumption. The short-term implications are much easier to see: many of the behaviours people have given up — like driving to work every day or taking international flights — are extremely carbon intensive. For example, in 2018 air travel accounted for [2.4% of global carbon dioxide](#) emissions from fossil fuel use. One study estimated that in the first week of April there were [60% fewer flights](#) compared to the same time last year. The decline in emissions could change as the world begins to emerge from quarantine and rebuild the economy. ¹

Ironically, in times of limited travel, [the opening of the Berlin-Brandenburg airport](#) in autumn 2020 was recently confirmed, many years overdue.

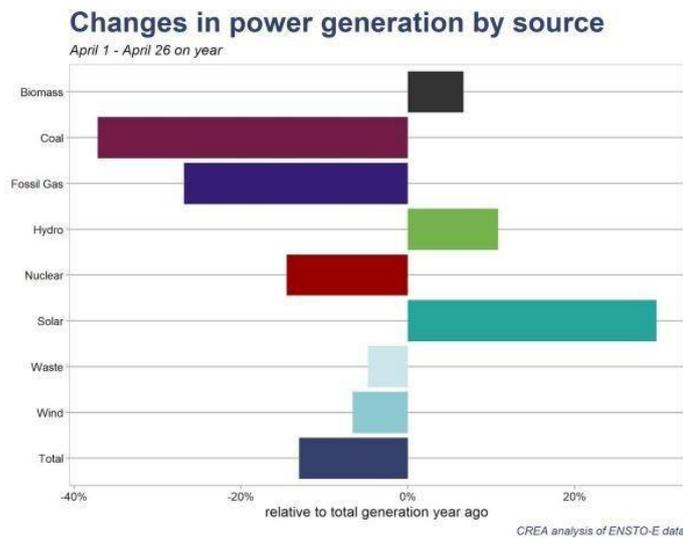
Positive effects

Thanks (or due) to Coronavirus lockdowns across Europe, some positive effects also happened: the levels of some of the most harmful air pollutants have been reduced by almost half, resulting in 11,000 fewer deaths from air pollution, according to a new study drafted by the Centre for Research on Energy and Clean Air (CREA) which says that [levels of nitrogen dioxide \(NO2\) dropped by 40% in April](#) and particulate matter in the atmosphere was reduced by 10% during the same period last year.

Researchers predict that the pollution “break” generated by COVID-19 restrictions will also result in 1.3 million fewer working days lost to respiratory illnesses, 6,000 fewer new cases of asthma in children and almost 2,000 avoided emergency hospital visits due to asthma attacks. The greatest projected health benefits from the lockdowns are expected to be in Germany, the UK, Italy, France, Spain, Poland and Portugal, according to the analysis.

¹ <https://www.weforum.org/agenda/2020/05/coronavirus-lockdown-cuts-air-pollution-deaths-avoided/>

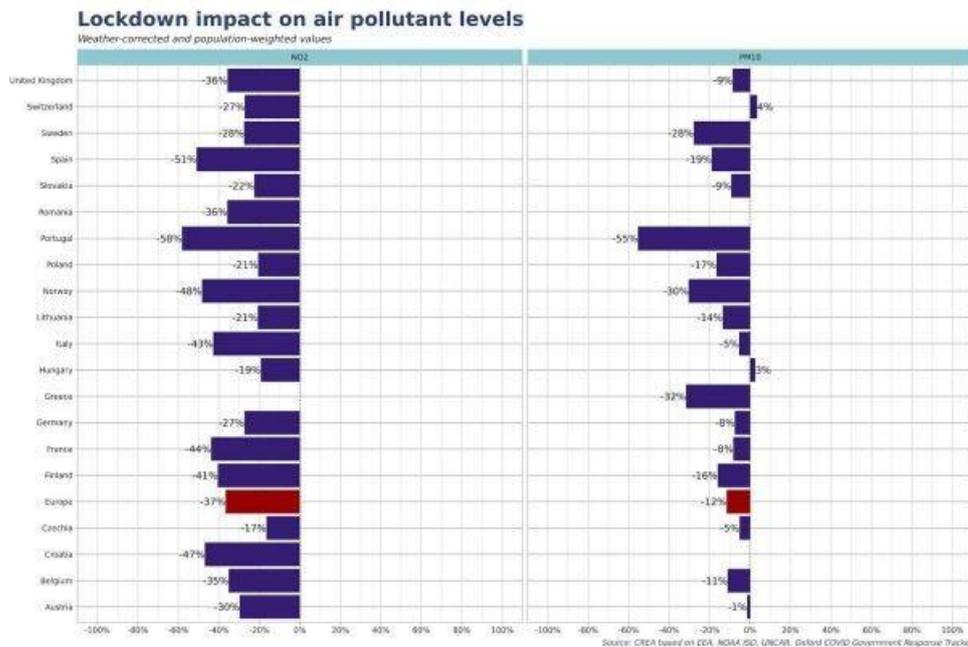
The absence of traffic has been a major factor, but so too has a sharp drop in demand for electricity, which has led to many coal-fired power stations being taken offline. In total, coal burning to generate electricity dropped by 37%. [Oil consumption declined by almost a third.](#)²



The United Kingdom (UK) generated no electricity from coal for two weeks in April, while Portugal used no coal for the whole month, CREA noted. Sweden [decommissioned its last coal-fired power station](#) two years ahead of schedule, [swiftly followed by Austria](#), which also went coal-free.

On the other hand, [the Norwegian government are giving tax reliefs](#) to the oil industry to preserve and create more jobs in the sector. Even though the tax break is a temporary strategy, it has received a lot of opposition. Claiming this is an incentive to engage in risky and unprofitable offshore projects, and at the same time slow down the restructure of Norway's economy, making it less oil and gas dependent.

² <https://www.businessinsider.com/coronavirus-environment-impact-pollution-climate-quarantine-2020-4?IR=T>



To monitor the situation and collect some inputs for future analysis, the European Environmental Agency has developed an interesting tool that tracks the weekly and monthly average concentrations of nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}).

The EEA's data are measured hourly or daily, on the ground, at about 3 000 monitoring stations across European countries. The viewer shows those cities according to their definition in Eurostat's [city statistics](#) database (former Urban Audit) and all types of air quality monitoring stations within a city are considered. To test the system and check the situation in your country, you can go to <https://www.eea.europa.eu/themes/air/air-quality-and-covid19>.

Furthermore, the EEA's Executive Director, Hans Bruyninckx, declares that "The EEA's data show an accurate picture of the drop in air pollution, especially due to reduced traffic in cities. However, addressing long-term air quality problems requires ambitious policies and forward-looking investments. As such, the current crisis and its multiple impacts on our society work against what we are trying to achieve, which is a just and well-managed transition towards a resilient and sustainable society."

How will this impact our green ambition?

As our regions are getting back to normal, we can see that the the Covid situation, paradoxically has shown us that change is possible, but that the established institutions and the framework of the economy has made it difficult to capitalize on – most of all due to the negative economic effect. It has shown us how fragile the economic systems we have created are, and that it is difficult to make a foundation for long lasting change in a couple of months. The bail outs we have seen have been short term solutions and, in most cases, necessary. On the other hand, the bail outs are symptoms that unmask systemic challenges, and signals that if there is money there is hope. This is not a sustainable solution to either the climate crisis or the general economy.

What is clear for us is that the transition to a low carbon economy is needed and it is clearer than ever that the planning for a transition is crucial. The planning for a robust and sustainable economy is crucial. The planning for implementation that takes this fragility in to account is important. Because of our one sighted framework for growth, our institutions were not prepared for a pandemic of this scale – as we

where not prepared for the economic crisis in 2008. It seems that the virtue of forgetfulness is deeply rooted in our institution, making us head to the short-sighted solutions.

Can we afford walking along this long-lasting road, blindfolded? We think not! With this pandemic fresh in mind we holler for a green holistic perspective! Whereas each partners first challenges will be to overcome the state of public finances – tax revenues will be smaller – many municipalities might have difficulties finance transition projects, unemployment – basically get through the crisis – we should absorb these experiences and build stone by stone in order to improve our institutions in building a sustainable future.

Conclusion

Even though the crisis is a practical example on how fast the carbon submissions can change, it will require a great deal of effort to adopt sustainable behaviours and implement solutions that will benefit in the long term.

The SmartEdge partners have been faced with different situation during the crisis. It shows evidence of weaknesses and strengths that will help us understand whether implementation of goals is realistic or not. Whereas a lot of countries has reduced the production of coal-based electricity, other countries struggle to be a part of the restructuring of the economy.

We are currently preparing our action plans, and contribute to a meaningful change that both support the creation of jobs in the low carbon economy sector, and at the same time improving the way we work in multi-lever governmental structures, the way we involve the citizens in the process and supporting the transition to renewable energy sources in buildings and transport.