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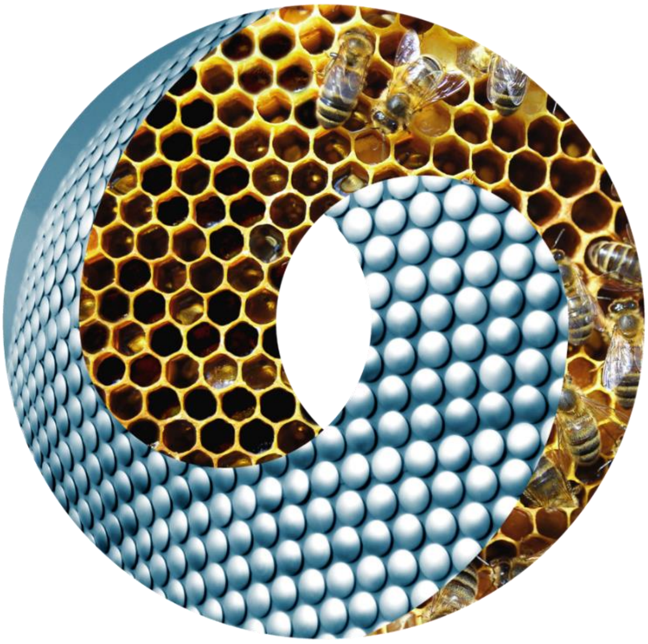
LECTURE N°2
2023 Series



Deloitte Climate & Sustainability Competency Lab

From science to business: providing companies with the knowledge to turn sustainability into action.

LECTURE N°2 | Regulated and voluntary carbon markets: perspectives and business opportunities

Interview with Simone Borghesi

Simone Borghesi is full professor of environmental economics and vice Rector for international relations at the University of Siena. He is president-elect of the European Association of Environmental and Resource Economists (EAERE) and director of FSR Climate, the climate change research unit of the Robert Schuman Center of the European University Institute (EUI). He has won numerous national and international research projects on environmental issues; his research focuses mainly on globalization and sustainable development, the functioning of the European Emission Trading System, and eco-innovation.

Q.1

Why were carbon markets set up and how have they been changing?

Carbon markets exist to give a price to CO2 emission and to create an artificial market that otherwise would not exist, **preventing therefore agents to use resources, or pollute, more than they should**. Carbon markets create a carbon price, and this allows to internalize the externalities, i.e. mitigate emissions.

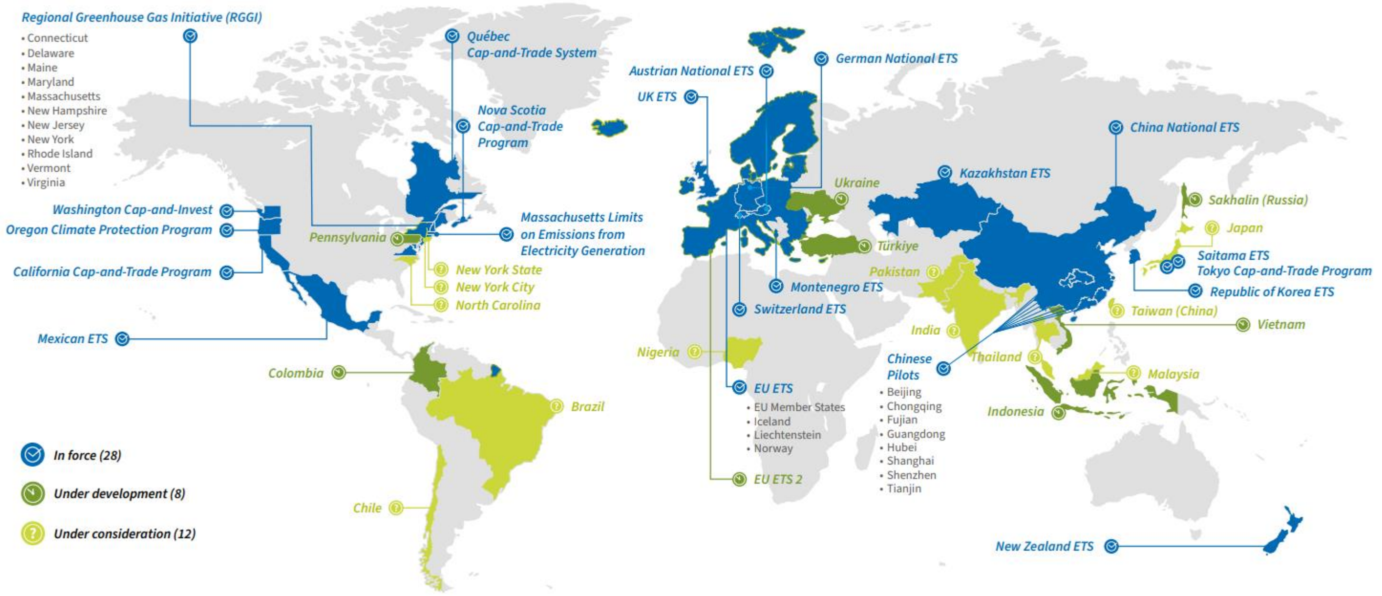
Ever since the beginning, **2005** for Europe, they have been growing and extending to other jurisdictions that followed the European example. At the moment, **carbon markets cover around 17% of global emissions** and about one third of global population, but they keep changing to adjust to the problems that emerge along the way. So far we've worked more with **regulated carbon markets**, i.e. **compliance** markets, where a regulator sets a cap, allocates emissions, and lets operators trade so to create a price. Regulatory markets like this exist in Europe, which was the first one, but also in many other jurisdictions including California, Quebec, Switzerland, along the eastern coast of the United States (RGGI - Regional Greenhouse Gas Initiative) and in China, where they just started national carbon market in 2021 after 8 pilot projects in the past years (see the full map below).

Beside regulatory markets, there are **Voluntary Carbon Markets** (VCM). These are what I call the new frontier of carbon markets and probably the carbon markets of the future, since if we manage to achieve climate neutrality by mid-century, carbon markets should come to an end and the cap should get to 0. But even then, there will probably be the need to compensate for residual emissions, and this leaves the door open for VCM.

C-TAKEAWAYS

Fast facts for the C-level

- Carbon markets keep evolving, following global changes while also shaping their national and international contexts
- The present and future state of carbon markets may foster and depend on geo-political cooperation
- Carbon prices have been fluctuating and they are expected to keep growing in tandem with climate ambitions
- Higher prices are likely to have regressive effects and cause a delocalization of the production process, but also increase revenues to address those regressive effects within and across countries
- Invest on training, a good communication strategy and clean technologies or mitigating techniques that reduce your emissions
- Climate neutrality requires negative emissions technologies, and this opens the door to voluntary carbon markets and carbon credits



Source: Emissions Trading Worldwide, ICAP Status Report 2023. This is the current state of play in cap-and-trade. The ICAP ETS world map depicts emissions trading systems currently in force, under development or under consideration. As of January 2023, there are 28 ETSs in force.

Q.2

How do socio-political changes affect carbon markets and viceversa?

It is true that socio political changes affect carbon markets, but also the other way around. For instance, the increasing attention for environmental issues is an important social change that has induced governments to **increase the ambition of the climate policies**. And this was reflected in a reduction of the cap, i.e. the number of allowances in carbon markets and in an increase of the price. This, that we call **the "stringency" of carbon markets**, **reflects social and political change**s. But the link runs both ways because changes in carbon markets have economic and therefore also social and political effects. For instance, the increase in price that we have observed in all carbon markets in the last few years generates **distributional concerns** because it's likely to be regressive and affect the poorest sectors and the most vulnerable classes of society**. The increase in carbon prices also creates a disparity** with respect to the jurisdictions that have no carbon price or a low one. So it may induce a **delocalization of the production process** with obvious consequences at the economic, social and political level. I think that we have the tools to address these concerns, but we have to be careful.

Q.3

What are the most important regulatory changes we need to prepare for, if we want to achieve the objectives of the Paris agreement?

I think the extension to additional pollutants that are really key, like **methane emissions,** because it has a huge global warming potential, 84 times higher than CO_2 on a 20-year timescale; it stays for a shorter period in the atmosphere, but its global warming potential is much higher. We need therefore to find a way to extend the function of the system to methane emissions. And then I believe we should also **extend the system to all sectors**. So far the system covers **40% of the European emissions**, but it does not cover building and transport, which are expected to be covered with the ETS2, but we cannot forget also sectors like waste and agriculture that contribute to an important share of emissions. I know this opinion is not fully shared by other colleagues, but I think we should get to a **common carbon price that covers all sectors and, ideally, all countries**. This harmonization, in my view, is a big challenge for the future, maybe for a distant future, but I think we should try to proceed faster towards that direction.

Q.4

What are the main challenges that carbon markets will be facing and their biggest missed opportunities?

As I've mentioned, the main challenge will be addressing the **distributional and competitiveness concerns** because we need to bring everyone onboard, which includes also the **general public**. What I mean is that the price has to increase in a way that is perceived as fair and at the same time with a clear link between entries, generated by carbon markets, and the expenditures to avoid regressive effects, which can be important as well. So the challenge here is to **create a match between the money that is raised and the way it is used for environmental and social purposes**. **Credibility is key** and, therefore, so is **good communication**. In the past, we failed to convey to the general audience the importance of carbon markets and explain how the money was used. This led, rightly or wrongly, to a certain level of suspicion around these instruments, undermining their role as corner stones of climate policies, as we'd like them to be.

About the **competitiveness**, we need to create a level playing field so that we are not damaged from unilateral choices, and at the same time use carbon markets to create a "carbon club" or in any case a cooperative group that goes ahead and tries to then bring all countries onboard in the fight against climate change.

A missed opportunity so far has been **a lack of cooperative spirit** among countries that share the same view. There's a group of countries that is at the frontier of the fight against climate change, and we have similar views, but we probably have missed opportunities in the extension of the markets, in what I call "**linking**". I know it's a delicate subject at a diplomatic level, but we need to give a clear signal and, as we've seen when Europe decided to go for a European carbon market, this signal works.

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Q.5

Why is it important that this topic enters the corporate narrative and what benefits can companies get out of it?

We saw that the **increase in the ETS price affects also the credit default swap**, and this tells us that investors perceive increasing risk in sectors that are covered or expected to be covered by the carbon price. Carbon price matters a lot not only to public opinion but obviously also to the corporate sector because of its potential benefits. One is obviously the **reputational effect** of being green, which, the literature tells, it's a money value for firms. Secondly, firms can operate in the market and the virtuous ones, those that manage to decarbonize faster, **can earn money by selling these allowances** later on. And with the increasing "stringency" of the climate policies, there are increasing gains for the most virtuous corporates. Voluntary carbon markets are also concerned, because those that voluntarily buy carbon credits will be able to use them in the future. So there's a **double economic return**: one from image and another from the future exchange of carbon credits. As I said, credibility is crucial if we want to reach climate neutrality by 2050, and so is to have a **public-private partnership**. **We need the corporate sector to be on board and I think carbon markets can be a useful way to be on board together**.

Source: Matteo Mazzarano and Simone Borghesi's elaborations on European Energy Exchange and Yahoo Finance data. In blue: gas prices- In red: oil prices. In green: carbon process.

Q.6

What is the role companies need to play and what advice would you give to the C-level?

I would suggest to focus on three courses of action: **training, communication and investment**. Training, because carbon markets are complicate and delicate instruments, and if top managers are not aware of their functioning they can't take advantage of their potential. **You need a good team** to work on this. Secondly, communication, for all the reasons we mentioned before. If you want to enter the market, either regulated or voluntary, you need to communicate to your shareholders and stakeholders. And finally, investment, because if you invest in clean technologies, in absorption capacity, or simply in mitigating techniques that reduce your emissions, you will have a return in your ability to be at the frontier and have what we economists call a **first mover advantage**. It is true that now everybody talks about environmental issues, everybody is going in that direction, so you may feel that the first mover advantage has disappeared. But that is not true, because the **competition** for clean technologies, the competition for clean solutions, **will get even more fierce** in the next two decades, because that's the time span we're talking about. If you don't act, you'll have to face – bad reputation aside – increasing costs. So, if I were a top manager, I would ensure that I have a **good team of researchers**, a good team of market operators for my company, a good communication strategy and good investments that put me at the frontier of the market.

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