Climate change, Technology and Regulation, key drivers going forward

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Climate change: time to speed up

The conclusions of the GIEC and the latest COP are clear: climate change is following its perilous path and countries will not reach their climate targets set out in the Paris agreement. The current commitments and initiatives are insufficient. The progress is too slow and some countries are lowering their ambitions.

The solution cannot only be the naming and shaming of the most polluting issuers and sectors.

First of all, what is necessary is a **true energy transition policy** at the level of the international institutions as well as at the local level. Sweden and Denmark testify that a low carbon transition is also possible, by taxing carbon emissions whilst reducing global tax burden. The tax policy and strategy therefore integrates the real climate challenges.

These examples illustrate the **key role public authorities play for a real climate transition**. The different initiatives already implemented by the cities, provinces or other local authorities are also steps in the direction of a real environmental policy.

Furthermore, the alignment on a 2°C scenario has to be accelerated by a broader integration of more innovative and still controversial approaches, such as the capture and storage of carbon emissions. Technology and R&D are required to ensure countries to align around a 2°C trajectory.

Finally, the energy mix must be reconsidered. The renowned **International Energy Agency** has included, among the various energy scenarios, a climate scenario for the first time in its 2016 report. This is the formal acknowledgment of climate change affecting energy demand and supply.

As Mark Carney, President of BoE, already talked about the environment risks during its speech in September 2015, today we are seeing some prudent questions appearing on a possible integration of the climate scenarios within the monetary policies of central banks.

Thanks to its rapidly decreasing costs, the renewable energy has gained ground in today’s energy mix and on a 2020 horizon. Coal is becoming the black sheep for investors and it is not a feasible and credible fall-back solution in the case of intermittence of renewable electricity production. In fact, its high fixed costs and its risk of stranded assets lead coal to a slow but certain death.

All Countries could substantially close the 2°C gap with proven technologies

GHG emissions (Gt CO_2e)		China	US	India	Russia	Brazil	Germany	South Africa
2050 current policies		13.3	5.6	7.3	2.2	1.2	0.5	0.5
Gap to 2°C (100%)	Proven technology path	74%	74%	92%	74%	76%	67%	78%
	Full 2°C path	26%	26%	8%	26%	24%	33%	22%
2050 full 2°C path		3.7	1.3	3.8	0.5	0.5	0.06	0.1
Average annual gross investment (share of GDP)[1]	Proven technologies path	1.0%	1.0%	1.8%	2.2%	1.0%	1.1%	1.9%
	Full 2°C path	1.7%	1.5%	1.9%	6.1%	1.7%	1.5%	3.5%

Source: International Energy Agency; BCG analysis.
[1] The investments for the full 2°C path include the investments in the proven technology path.

Boston Consulting Group analysed the economic case for combating climate change. The analysis focuses on 7 major economies representing together more than 60% of the global emissions. The chart shows that countries could already close over 70% of the emissions gap between their current emissions path and their individual 2° targets by 2050 thanks to proven and accepted technologies. The chart shows as well the additional effort to provide to achieve a full 2° C path (over 20% additional reduction of emissions). BCG report analyzed as well the required investments in % of GDP to achieve these targets (from 1% to 2.2% of GDP respectively for China and Russia with the proven technologies path whilst a full alignment on 2°C will require an additional investment of 1.5% of GDP annually for the US and Germany up to 6.1% of annual GDP for Russia).

Climate change: at the heart of the social challenge of our demographic development

The urgency to act on climate change is also driven by the human urgency to ensure the right to food for the future. Indeed, the agricultural sector is in the vanguard of challenges in terms of demographic growth, climate change and food security. The right to food requires guaranteeing:

1. **Availability:** ensure the right to food for the increasing global population, regardless of environmental conditions.
2. **Access:** economic and physical access to food resources, in other words, affordable prices and physical access for everyone
3. **Food adequacy:** meeting food needs, adapted to specific individuals and providing a healthy diet.

Ensuring food security for 9bn people in 2050 within a climate change environment and extreme meteorological conditions is the first objective to achieve. It seems that the food quantity produced would easily address the planet's calories needs. We need to think more about **producing in a better way** instead of producing more. This leads to an increasing demand for high quality food in which technology plays a key role.

Public healthcare budgets are under constant pressure. This has resulted in a crackdown on usual suspects such as sugar, saturated fats or salt. The seek for a more balanced and healthy diet is therefore encouraged and leads to reliance on relevant food technology

The technological development: the answer to all the problems?

Ever since the First Industrial Revolution, **technology has been a controversial and dividing force** of the technological advancements. The introduction of weaving machinery gave rise to The Luddites, a group of English weavers in the 19th century who destroyed weaving machinery as a form of protest. They feared the time spent learning the skills of their craft would go to waste as machines replaced their role in the industry. "Luddite" has turned into a blanket term used to describe people who dislike or oppose new technology.

Other risks can be added to technological developments along with the fear of job destructions: the rise of cyberattacks or the risk of abuse of personal data.

However, technological advancements since the 1st Industrial Revolution have led to **important progresses** in various areas such as healthcare, production, automobile, security, etc. We can say that the advantages largely compensate the side effects.

The news shows us an increasing dehumanisation of our society, and pushes us to question the place of technology in our civilisation. On the one hand, technology calls into question some practices and puts at risk some jobs and activities. On the other hand, it brings solutions to today's key challenges and allows an improvement in different domains and functions.

Our approach is not the one of the Luddites, it is more a **constructive and positive approach** towards a technology at the service of humanity and not the reverse.

Regulation and disclosure: every cloud has a silver lining

In recent years, we have clearly witnessed **a real acceleration** of the regulatory framework concerning the sustainability and responsibility of financial and non-financial companies. Emphasised by the pressure of civil society and the different reforms of company governance codes across the globe, this acceleration is confirmed and the **structural trend towards sustainable and responsible investments** is undeniable.

The European Commission has clearly expressed its ambitions for a more sustainable finance. Supported by experts with diverse horizons and profiles, the Commission released its Action Plan last spring through which it aims to implement the obligation to take into account the **ESG challenges as a fiduciary duty** in the sustainability domain for all investors (1), to determine a sustainable activities taxonomy (2), and to optimise the alignment of the financial sector corporate culture with a long term view for the energetic transition (3).

Its Action Plan is explicit vis-à-vis its will to amend the major directives regulating the financial sector today such as MIFID II, IDD, IR or Solvency II. **The Action Plan** therefore represents **a paradigm shift** for all the actors within the financial sector and confirms that it will be reckless to underestimate the regulatory developments.

KEY TAKE AWAYS

- Climate – we need to speed up
- Climate change linked to human urgency to ensure the right to food for the future
- Constructive and positive approach towards technological developments
- Real acceleration of the regulatory framework
- Structural momentum for sustainable and responsible investments

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