LUISS

Department of Business and Management

Chair of Global Organization Design and HRM

The Role of Stakeholder Pressures in the Energy Transition

Thesis Supervisor
Prof. Luca Giustiniano

Thesis Co-Supervisor
Prof. Ioannis Kallinikos

Candidate
Alessandro Pucci
715321

Academic Year 2020/2021

Les yeux plus gros que le monde…

Table of Content:

Introduction

Big firms operating in multiple sectors are among the primary sources of greenhouse gas emissions responsible for climate change. This phenomenon has acquired increasing relevance in both private and public decision-makers' agendas. Regulatory measures are already present at every level, from local initiatives to improve water or air quality to international frameworks such as the Paris Agreement. The latter represents a milestone in the fight against climate change. For the first time, a bottom-up strategy foreseeing the active engagement of stakeholders has been added to the traditional top-down governance.

Despite the importance of binding measures at all levels, in my dissertation, I argue that several institutional pressures may play a determinant role in the energy transition. The latter is likely to represent a massive regime transition. Andrews-Speed (2015, p.217) defines it as *'a gradual process of societal change spanning the economy, technology, organizations, rules, systems, values and behaviours - essentially, a profound change in the way in which society operates'.* In order to fully understand this change occurring in multiple spheres at the same time, it is imperative to look at this phenomenon through the right theoretical lens.

By adopting an institutional approach, we can argue that companies will need to make additional commitments (on top of those required by regulators) in order to survive and eventually prosper in the future. This work has a dual objective. First, it wants to illustrate some of the most relevant stakeholder pressures perceived by companies in the energy transition framework. Second, it aims at pushing companies to be brave, visionary, and proactive in facing this process. Garcés-Ayerbe et al. (2012, p.191) intend environmental proactivity as *'a tendency to anticipate internal and external environmental protection requirements, voluntarily making changes rather than reacting to these requirements'.* Proactivity is a crucial feature to face an inevitable shift in paradigm not just for firms but also for humanity.

These pressures come from different categories of stakeholders, such as customers, investors, human resources, and competitors (which represent the main market actors in the arena), but also environmental NGOs, new global movements (like the #FridaysForFuture), and the media system. This latter group of actors exerts social pressures that make the organisational field in which companies operate even more complex.

The central concept behind this intuition is the so-called institutional theory. This theory brings two primary contributions. First, it suggests that behaviour is influenced by 'institutional logics' legitimised outside the organisation. Second, it sheds light on the fundamental role of language and discourse (Greenwood and Miller, 2010, p.85). Indeed, companies tend to adapt their behaviour to a vast range of stimuli coming from the external environment.

A concrete example is the tendency to imitate forerunners' successful behaviour. This case mainly concerns adopting sustainable business practices that increase companies' long-term resilience during the energy transition process. Ortiz-de-Mandojana and Bansal (2016, p.1617) define organisational resilience as *'the incremental capacity of an organization to anticipate and adjust to the environment'*. Taking into account the external environment is particularly relevant in situations characterised by high uncertainty and multiple pressures (such as those previously mentioned), as is the case for the energy transition.

Following this reasoning, companies thus need to be resilient, face present and future challenges successfully, without wasting the role they have conquered thanks to their traditional businesses and possibly improving their current position. Indeed, *'growth is most effectively managed when the knowledge and resources needed to make a transition are developed ahead of time, before the pressures of growth force a reactive response'* (Ortiz-de-Mandojana and Bansal, 2016, p.1620). The concept of ambidextrous organization introduced by O'Reilly and Tushman (1996, p.24) is suitable for explaining the companies' desirable attitudes while facing this inevitable transition.

Nevertheless, Bansal (2005, p.203) stresses that *'not all firms will agree on the full value of the innovation'*. If the three fundamental principles of sustainable development (environmental integrity, economic prosperity, and social equity) fit with firms' existing cultural norms and values, they will rapidly move in this direction. Otherwise, other companies will wait for less uncertainty in the field, and they will imitate forerunners in a second stage, *'facilitating the institutionalization of sustainable development'* (Bansal, 2005, p.203).

This dissertation wants to investigate the relationship between stakeholder pressures and companies' engagement vis-à-vis the energy transition by relying on this solid theoretical framework. In particular, firms' commitment is expected to be directly proportional to the degree of pressure undergone by the same companies. Previous studies, such as the research

conducted by Garrone et al. (2018) on the role of institutional pressures in the introduction of energy-efficiency innovations, have demonstrated it.

Likewise, the analysis undertaken by Pucheta-Martínez et al. (2020) confirms the essential role of stakeholder engagement in encouraging firms' environmental reporting. According to the authors, companies must enhance *'their ability to understand and react to legitimate stakeholder concerns'* if they want to survive (Pucheta-Martínez et al., 2020, p.1). However, it might be interesting to expand the theoretical reasoning and delve into the single categories of stakeholder pressures. This focus is the chief contribution of my research. The final results will provide the reader with some food for thought about why companies design and implement sustainability strategies at an accelerating pace to face the energy transition.

The first chapter will introduce the paradigmatic shift of perspective from individual and local action to coordinated institutional efforts to face climate change and the energy transition. This chapter will also illustrate the most important theoretical tools employed throughout the research. Chapters from two to four will address three primary categories of stakeholder pressures: regulatory, market, and social forces, respectively. Each chapter includes an introductory overview summarising the expected relevance of the related class of pressures and anticipating the following four subsections. Each subcategory (like European regulatory pressures, market pressures from investors, or social pressures from environmental NGOs) is then discussed in detail.

The final chapter is an on-field analysis regarding the impact of the previously described pressures on the design and implementation of sustainability strategies adopted by companies to face the energy transition. I collected data from a selected pool of Italian listed companies, and I elaborated some simple (but effective) indicators showing the relevance of each category and subcategory of stakeholder pressure. The final results represent the pillar of this dissertation since they confirm the significance of the twelve factors that I selected and discussed in the previous chapters.

I believe that this work can bring significant contributions to the debate around the energy transition. In addition to the fundamental role of a quicker and effective transition for the future of our planet, proactive companies can also enjoy extraordinary benefits. The latter should be seen not only in terms of image but also in terms of cost-efficiency and innovation. By being

fully aware of the opportunities behind this transition, firms will gain a renewed leadership both at a local and global level. Choices made during critical junctures, such as the one we are currently experiencing, are likely to shape much of the future development trajectories (Sjöstedt, 2015, p.24).

Hart (1995, p.997) argues that *'firms (either multinational or local) that are focused on generating short-term profits at the expense of the environment are therefore unlikely to establish long-term positions'*. This reasoning is paramount for the so-called 'markets of the future' (prevalently in the developing world), where success will depend upon firms' ability to develop sustainable technologies and products capable of improving the quality of life of communities in their entirety.

This dissertation wants to encourage companies to be more forward-looking. They should try to renounce some of their short-term benefits and proactively adapting their culture and values to affirm their position in a renewed global system that is expected to be full of opportunities. By anticipating the steps of a well-defined future path, they will successfully overcome the wave of the energy transition.

Chapter 1: Adopting an institutional framework for a deeper understanding of the energy transition

1.1: Overview

This chapter discusses the emergence of widespread awareness about environmental issues. It then evaluates the impact of this paradigmatic shift from a local to a global perspective in understanding dynamics related to climate change and the energy transition. The central idea is that global problems require global solutions. Notwithstanding the relevance of individual choices and local actions, this specific challenge calls for well-designed and coordinated institutional plans at multiple levels. A wide variety of actors can bring their contribution. For this reason, I choose the institutional approach as the best perspective to pinpoint the desirable role of each category of stakeholders involved in the energy transition and the fight against climate change.

After some emblematic failures, such as the Kyoto Protocol and the COP15 in Copenhagen, the 2015 Paris Agreement finally managed to provide a clear path toward ambitious objectives, especially greenhouse gas emissions reduction. Nonetheless, concrete actions are still insufficient to cope with these targets. Therefore, the top priority remains *'to move from declarations to implementation'* (Chan et al., 2016, p.246).

The first section of this chapter examines the limits of individual choices and local actions. These eco-friendly behaviours, albeit laudable, have scarce effectiveness if untied from a wide-ranging institutional view. The second section explores the paradigmatic shift of perspective fostering the design of common regulatory standards, which are required to harmonise specific measures to a wide variety of contexts. Nevertheless, these principles' mere application risks overlooking important dynamics related to climate justice and intergenerational equity. The third section illustrates the desirable synthesis between bottom-up stakeholders' engagement and top-down governance in this collective challenge to save the planet.

This synthesis requires including (among the others) environmental movements, companies, and experts in the decision-making process, simultaneously providing the civil society with

unequivocal political and scientific guidance. The media are also asked to play a prominent role by delivering transparent information about environmental issues. This chapter aims to indicate how to bridge the gap between the increasing (but still quite sterile) ecological awareness and the thorough engagement required to face one of the biggest challenges in the history of humanity.

Therefore, it should be intended as an introductory guide explaining the inclusive institutional perspective employed throughout the whole research. The core principle is that we need a coordinated action among multiple actors and across various sectors of our society. Coordination is imperative to succeed in our common goal, a smooth energy transition capable of guaranteeing sustainable development for all countries. In the following chapters, I will expose each category of stakeholder pressure in better detail. Also, I will assess their impact according to what some of the primary listed companies in Italy perceive when designing and implementing sustainability strategies.

1.2: The limits of individual choices and local actions

For a long time, concrete measures dealing with environmental issues have been overlooked by local, national, and international institutions. The general trend was to leave these problems (and the responsibility to find solutions) to citizens' sensitivity. The dominant neoliberal ideology, characterising the last two decades of the 20th century, undoubtedly fostered this path. Without entering into the complex debate concerning the multiple facets of neoliberalism, the latter is defined here as a doctrine relying on *'orthodox neoclassical economics and rational choice-based theories of human behaviour to advocate a tightly delimited role for the state in regulating economic activity'* (Venugopal, 2015, p.172).

It is nevertheless vital to understand the ideological framework's role in redistributing responsibilities from the state directly to the citizens (Walker, 2014, p.48). When accountability toward the environment is fully individualised, there is no space to 'think institutionally' and project long-term solutions (Maniates, 2001, p.33). This section starts by illustrating the significant limitations concerning the behavioural approach. It then proceeds with an analysis of the primary barriers to citizens' engagement. Finally, it suggests shifting the focus from the

local to the global level to enhance individual efforts' effectiveness in an institutional framework.

The ABC approach – (A) attitude, (B) behaviour, and (C) choice – has its roots in social psychology. Applied to environmental issues, it posits that *'responsibility for responding to climate change […] lie[s] with individuals whose behavioural choices will make the difference'* (Shove, 2010, p.1274). This principle offers an easy escape route for governments, thus avoiding challenging unsustainable practices rooted in citizens' daily lives. The political logic underpinning this mindset is usually related to mere short-term electoral constraints, representing the main obstacle for developing sound environmental policies.

Nevertheless, citizens are often incapable of going beyond the role of 'conscious' consumers, *'who would plant a tree, ride a bike or recycle a jar in the hope of saving the world'* (Maniates, 2001, p.42). These individual choices, albeit admirable, are not per se a panacea. They risk losing their effectiveness if not well coordinated with other stakeholders' efforts at local, national, and global levels. If we want to use an apt metaphor, these actions will merely represent a drop in the ocean. Furthermore, the lack of clearly defined objectives might eventually push several environmentally-friendly citizens to relax their efforts. It is especially true when other people's behaviour is not perceived as equally coherent.

The analysis proposed by Lorenzoni et al. (2007) regarding the barriers to environmental engagement perceived by the UK public is perfectly aligned with this reasoning. The point of departure of their research is the recognition of widespread awareness and concern about environmental issues. However, these feelings are often not enough to promote personal engagement (Lorenzoni et al., 2007, p.449). The authors distinguish between individual and social barriers. Individual barriers are mainly related to the difficulty in finding reliable information due to the lack (but more often to the overload) of data. Moreover, the confusion in linking environmental issues and potential solutions resulted particularly evident among participants. Instead, social barriers are connected to the perceived inaction of governments, other people, and companies (Lorenzoni et al., 2007, pp.451-453).

It might be helpful to start from the micro (individual) level of analysis to understand these obstacles, moving then gradually toward the macro (social) one. At a micro level, there is an imperative need for accessible and reliable information. Moreover, a better delineation of the

fil rouge linking environmental problems and the related solutions is required. Therefore, experts and policy-makers should largely agree on the importance of the matter while developing informative choral frameworks to solve citizens' fundamental doubts. Quite the contrary, in the past decades, we assisted in the politicisation (and polarisation) of the debate around climate change, especially in Western countries (Dunlap and McCright, 2011).

This trend, which I will examine in depth later in this chapter, is detrimental to citizens' engagement. It fans the flames of partisan divisions in a matter that does not admit hesitancy. Governments should instead incentivise and reward environmentally-friendly behaviours, starting from the very local level. This strategy would also represent the first step to abate some of the previously mentioned social barriers. At a macro level, the emergence of global environmental movements, such as the #FridaysForFuture, can reduce the 'drop in the ocean' feeling vis-à-vis other people's behaviour.

Nevertheless, to fully overcome social barriers perceived by the public, business actors' decisive engagement is of paramount importance. The negligence of the latter represents another critical limitation of the behavioural approach. Bansal and Roth (2000, p.724) highlight three driving vectors boosting corporate ecological responsiveness: legitimation, competitiveness, and social responsibility. These principles are strongly related to the external environment, respectively addressing pressures from regulators, market actors (such as customers, investors, human resources, and competitors), and public opinion.

These three categories of pressures (that I label here as the regulatory, market, and social pressures) will be the core of this work, and three specific chapters will be devoted to their discussion. Cadez et al. (2018, p.11) confirm the relevance of these forces in pushing companies to reduce greenhouse gas emissions. Firms are thus encouraged to proactively adapt their behaviour to deal with an assortment of factors. Referring to contexts presenting significant institutional complexity, Batista et al. (2016, p.407) highlight the inevitable tension between '*evidence-based practice normatively institutionalized and individualized considerations made in on the spot judgements'*.

According to the authors, complex situations necessarily require some sort of improvisation, intended here as an unplanned but intentional response to challenging events. Pina e Cunha et al. (2019, p.781) argue that rival logics may originate organisational tensions or contradictions,

in turn generating a 'sense of dissonance' and discomfort. However, the latter should be ridden and employed proactively as a source of innovation and positive change, allowing organisations to move forward. Gherardi et al. (2017, p.5) suggests *'imagining organizations in a paradoxical way – that is, as an entity and a process at the same time'*. This attitude is perfectly summarised by the idea of ambidextrous organisation introduced by O'Reilly and Tushman (1996, p.24). According to the authors, companies must carry on their traditional business, simultaneously developing innovative strategies to avoid being disrupted by events such as the energy transition.

In light of the above considerations, local actions performed both by single citizens and aggregations of individuals in the form of companies can undoubtedly play a prominent role in humanity's common path toward the energy transition. Nonetheless, due to this challenge's intrinsic nature, it is necessary to move from a local to a global, from an individual to a collective, and from a unilateral to a multilateral mindset. As highlighted by Shove (2010, p.1281), *'to go beyond the first three letters of the alphabet […], one key condition is to shift the focus away from individual choice and to be explicit about the extent to which state and other actors configure the fabric and the texture of daily life'*. By introducing the role of companies in our analysis, the transition toward the institutional approach is already taking place.

1.3: Toward a globalised view of environmental issues

The so-called 'new institutionalism' emerged as a reaction to the dominant behavioural paradigm in the 1960s and 1970s. It includes three different analytical approaches: historical, rational behaviour, and sociological institutionalism (Hall and Taylor, 1996, p.936). The latter is particularly relevant for this specific section. Sociological institutionalism describes the relationship between institutions and individual actions *'by associating institutions with "roles" to which prescriptive "norms of behaviour" were attached […], and in this way institutions are said to affect behaviour'* (Hall and Taylor, 1996, p.948). This theoretical approach perfectly applies to the attempt of inscribing individual engagement toward environmental issues within a global regulatory framework.

This section goes deeper into the shift from localised and fragmented ways of dealing with environmental problems to designing global solutions tackling climate change. In particular, the 2015 Paris Agreement represents a revolutionary advancement in these terms. Nonetheless, the multilateral approach often allows space for political frictions among the actors involved in negotiations, thus retarding (and sometimes compromising) the effective receipt and implementation of guidelines. Moreover, global standards risk overlooking climate justice and intergenerational equity dynamics.

Until the end of the 20th century, the dominant tendency of dealing with environmental problems on a local/national scale (instead of seeking multilateral cooperation) was not just due to the behavioural approach discussed in the first section. Indeed, people perceived the manifestation of extreme climatic events in specific places as merely related to local factors. An emblematic example was the astonishing air pollution level reached in London at the beginning of the 1950s. Legislators tackled the problem through the 1956 Clean Air Act. However, the UK parliament left significant power in the hands of local authorities, particularly for what concerned its enforcement (Clean Air Act, 1956, art. 29).

In the following decades, the increasing frequency and extension of dramatic events such as desertification, deforestation, or the ozone hole discovery pushed the scientific community to question whether a globalised approach would have dealt with these issues more effectively. In 1989, the IPCC (Intergovernmental Panel on Climate Change) released its first assessment report on climate change. Among the premises, particularly relevant is the willingness *'to increase support for national and international climate research activities, especially in developing countries [and] to facilitate international exchange of climate data'* (IPCC, 1989, p.XII).

The first concrete attempt to develop a choral framework to contrast climate change resulted in the 1997 Kyoto Protocol. The latter is considered a substantial failure because it excluded developing countries (including India and China) from binding targets. Moreover, some major global economies (such as the US and Canada) stepped back, respectively, by not ratifying and withdrawing from the agreement. Twelve years later, in Copenhagen, the COP15 failed again in its appointment with history. As John Vidal et al. (2009) wrote in The Guardian, the painfully negotiated accord recognised the need to keep temperature rises below 2C° by 2100. Still, it did not clarify any specific commitment to achieve this objective.

The widespread disappointment about the previous COP's outcomes did not foreclose the possibility of boosting international cooperation on climate issues during the COP21 held in Paris. In what way the 2015 Paris Agreement reverses the route, thus alimenting legitimate hopes for future improvements? Essentially, the top-down approach employed in Kyoto has been balanced by a bottom-up strategy that includes states, but also subnational and non-state entities in the decision-making process (Chan et al., 2016, p.242). In its simplicity, this perspective is revolutionary. Indeed, it recognises that a multiplicity of stakeholders is fundamental in determining collective outcomes, hence boosting more inclusive governance for the energy transition.

Nonetheless, this hybrid approach raises further doubts regarding the fragmentation of energy and climate governance. Moreover, there is also the risk of a 'privatisation of governance', with powerful non-state actors willing to impose their standards (Chan et al., 2016, p.239). The latter point is particularly relevant since previous occasions of non-state actors' involvement in environmental problems merely resulted in attempts to clean their image (Mert and Chan, 2012, p.24), a practice known as 'greenwashing'.

Hyatt and Berente (2017, pp.1213-1214) effectively explain the difference between substantive and symbolic environmental practices. The former strategies are characterised by a proactive commitment and the adoption of internal actions, eventually exceeding law' standards. Instead, the latter are mere tools to enhance firms' reputation through ceremonial activities oriented toward the external environment (especially the media system).

In light of the above considerations, this variegated multilateral framework allows space for frictions among the multiplicity of stakeholders involved, thus slowing down the implementation of concrete guidelines. These complications often stand upon the desire to promote national interests regardless of common exigencies. The decision taken by Trump's administration to withdraw the US from the Paris Agreement (judged not 'fair' for the American economy) is tangible proof of this attitude.

This choice generated great disappointment also within the US, where several states, cities, and big companies showed the willingness to respect the commitment anyway (Zhang et al., 2017, p.214). An emblematic example is represented by California, which (individually taken) would be the fifth economy of the planet. The Golden State engaged in the ambitious objective of

reaching net-zero emissions by 2045. Several other states, such as New York and cities (like Chicago), also joined this 'climate challenge' and started similar programs (Nespor, 2020, p.193).

At an international level, despite the relevant impact of such a dramatic decision, the desire to maintain (and even reinforcing) the institutional cooperation in this field appears solid. Moreover, the fresh election of Joe Biden re-opens the Paris Agreement's doors for the United States. As Fiona Harvey (2020) argues in The Guardian, Biden will find a profoundly divided nation also in this subject. However, if he will manage to overcome resistance coming primarily from the Republicans, the renewed American commitment toward the environment will have a positive multiplier effect on a global scale. The first confirmation of this trend comes from the Leaders' Summit on Climate organised by the US Administration on the 22nd of April 2021, in occasion of the Earth Day. During the global conference, held online due to the Covid-19 pandemic, several leaders expressed their satisfaction for having the US back on board in the fight against climate change.

The last reflections proposed in this section concern climate justice and intergenerational equity. Climate justice aims to illustrate the 'double inequality' regarding the distribution of risks and responsibilities between the Global North and the Global South. McCauley and Heffron (2018, p.4) highlight how developed countries are responsible for the major climate issues, albeit remaining less vulnerable vis-à-vis developing countries, which experience precisely the opposite trend. Intergenerational equity is instead based on the economic concept of discounting, that is, *'the technique by which economists and other policy analysts attempt to compare the immediate effects of policy changes […] with those occurring in the more distant future'* (Portney and Weyant, 2013, p.1).

A close-to-zero discount rate means that we value future generations equally to the present ones. Therefore, our investments and projects must also consider those living on this planet in the next two or three centuries. On the contrary, a higher discount rate highlights a progressive reduction of public interest toward future generations. This behaviour characterises those policy-makers willing to keep (or even push) short-sighted economic growth and development policies, with no consideration for the intrinsic limits of available natural resources (Nespor, 2020, pp.107-108).

Applied to climate issues, intergenerational equity is a highly divisive matter. Policy-makers need to deal with the high degree of uncertainty about the impact of present policies on future generations (Portney and Weyant, 2013, p.180). A trade-off between current costs and future benefits (and vice versa) is thus required. In conclusion, these dynamics might appear quite abstract at first glance. Nevertheless, they deserve space, mainly because the impact of climate change varies enormously across regions. This trend will result fully evident only in the future, making it progressively harder to link specific causes and actual consequences (Sovacool and Dworkin, 2015, p.436).

1.4: Stakeholders' engagement: the need for political and scientific guidance

The previous two sections illustrated the individual/local and the global dynamics that characterise the variegated framework addressing environmental issues and the energy transition through a prevalently cultural lens. Both levels of analysis are pivotal in this challenge, and both possess intrinsic strengths and weaknesses. This section provides a synthesis between bottom-up stakeholders' engagement and top-down political and scientific guidance. In a nutshell, the objective is to bridge the gap between declarations on paper and implementation on the ground. This synthesis requires, first of all, the active involvement of multiple stakeholders in the decision-making process at every level, but particularly at a global scale.

The path outlined by the Paris Agreement is excellent in these terms. Moreover, the new approach adopted for designing the 17 UN's Sustainable Development Goals (SDGs) certainly has great potential. Biermann et al. (2017, p.27) stress the importance of inclusion and comprehensiveness characterising the process. Unlike the previous Multilateral Development Goals elaborated by the UN Secretariat, the realisation of the SDGs saw at least 70 governments and multiple civil society agents coming from developing and developed countries.

Nevertheless, it is imperative to arrive at the civil society's very heart (and brain), fostering a thorough understanding of environmental problems among single citizens. This complex task is essentially in the hands of politicians and scientists. Moreover, the media should play a critical role, guaranteeing adequate and transparent information about climate issues. As

anticipated in the first section of this chapter, the initial step is to end the dangerous politicisation of the debate.

As Brian Rice, president of the California Professional Firefighters (CPF), wrote in his moving letter addressed to Donald Trump, *'natural disasters are not "red" or "blue" – they destroy regardless of party'*[1]. Referring again to the US, Dunlap and McCright (2011, p.156) highlight the cleavage between pro-environmental movements and institutions (traditionally closer to the Democratic party), and conservative think-tanks, industrial corporations, and a minority of sceptic scientists that are aligned with Republican policy-makers.

This political juxtaposition primarily reflects the economic interests of the parties involved. Indeed, the beating industrial heart of the country is located in historically Republican states. In contrast, the two coasts (predominantly 'blue' in the electoral maps) see the prevalence of advanced (and less polluting) sectors such as high-tech and finance. As a matter of principle, lobbying activities aimed at contrasting green policies might be seen as the legitim representation of industrial interests.

Nevertheless, in a subsequent study, Dunlap and McCright (2015) explain the murky mechanism underpinning the so-called denial countermovement. The latter aims at *'manufacturing uncertainty and controversy, […] substitut[ing] ideology for science and put[ting] our societal resilience at stake'* (Dunlap and McCright, 2015, p.300). Climate science's intrinsic complexity provides a fertile ground for the emergence of doubts, cleverly exploited and alimented (through conspicuous investments) by anti-environmentalists (Demeritt, 2006, p.460). However, it is the responsibility of the scientific and academic community (in cooperation with politicians) to defeat once and for all the 'junk science', reuniting all the citizens under the same (green) flag.

Finally, the media system deserves a separate discussion. According to Olausson (2009, p.423), *'[r]ecognizing the power of and struggle between various stakeholders and their influence on the process of framing a certain issue is vital and is a central component of the analysis of frames in their totality'.* Hence, it is of paramount importance to focus not just on the framing impact but also on the framing building. The latter process often reveals a strong alignment

[1] Source: http://www.cpf.org/go/cpf/news-and-events/news/cpf-president-brian-rice-responds-to-president-attack-on-ca-fire-response/ [Accessed on the 1st of April 2021]

between political élites and traditional media, thus impeding the emergence of an autonomous and fully transparent narrative about climate change (Olausson, 2009, p.433).

Nonetheless, timid signs of progress have been made, at least in the fight against the so-called fundamental scepticism vis-à-vis environmental issues. Due to the strengthening of scientific evidence in the field, discussions in the last years shifted from a priori scepticism to impact scepticism (Schmid-Petri et al., 2015, p.508). This little move certainly cannot be considered satisfactory.

However, the Internet can further increase global awareness about climate issues, thus relegating scepticism to an insignificant role. If correctly supported by an effective fact-checking system, citizens can gain direct access to multiple reliable sources. Traditional media, particularly journalists working on the domain, should provide this filter against fake news, guiding the public to develop an independent but solid opinion. In conclusion, to bridge the gap between this (otherwise sterile) awareness and the active engagement required to face the energy transition, good cooperation among citizens, companies, policy-makers, experts, and the media is imperative.

1.5: Concluding remarks

This chapter investigated the pivotal change of perspective from individual and local responsibility to a global institutional framework addressing environmental issues and the energy transition. This shift followed the increasing scientific evidence suggesting the correlation among extreme climatic events occurring worldwide. Environmentally-friendly behaviours, albeit laudable, risk being dissipated if they are not coordinated with the efforts accomplished, in the same direction, by other people, companies, and regulatory bodies at multiple levels.

By discussing the major barriers to individual engagement, we reached the (partial) conclusion that the institutional approach to designing a choral framework is the most effective way to tackle energy transition's intrinsic complexity. Nonetheless, this strategy allows room for the emergence of political frictions, fragmentation, and attempts to privatise the climate and energy governance.

The discussion of principles such as climate justice and intergenerational equity aims to recall the importance of reaching a balance between developed and developing countries' needs and between present and future generations' costs and benefits. Despite the inevitable difficulties in translating the Paris Agreement from the paper to the ground, its inclusive approach toward civil society represents a solid point of departure. The synthesis between bottom-up stakeholders' engagement and top-down political and scientific guidelines is the ultimate goal to win this challenge. And it is the guiding light for my research.

In conclusion, the most effective path to address global environmental issues and boosting the energy transition starts from (and finishes with) individual responsibility. This chapter's pivotal contribution is to outline how to include these admirable efforts into a coherent plan to save our planet. In the following three chapters, we will discuss in better detail the relevance of regulatory, market, and social pressures in the energy transition framework.

Chapter 2: Regulatory Pressures. Multiple levels, different relevance

2.1: Overview

Since the 1960s, intergovernmental agreements for environmental protection have expanded from few dozens to more than 1,100. At a national level, among the 200 countries belonging to the international community, 176 introduced general laws related to the environment. Eighty-eight of them have included in their Constitutions specific dispositions on that matter. Sixty countries have laws guaranteeing correct and transparent information on environmental issues, whereas more than 50 constituted ad hoc tribunals and environmental courts (Nespor, 2020, p.IX).

Notwithstanding the remarkable results generated by the proliferation of environmental protection regulatory frameworks at multiple levels, it is undeniable that this tendency has caused additional confusion for several stakeholders acting in the field. According to Chicco Testa, President of FISE Assoambiente[2], this lack of clarity is particularly detrimental for investors in our country, which would otherwise be ready 'to do their job'[3]. We will go deeper into investors' role in the energy transition, with a dedicated section in the next chapter.

This lack of clarity concerns the whole global energy economy in all its various aspects, from finance and trade to investment protection and security issues (Leal-Arcas and Filis, 2013, p.348). In their legal-institutional analysis, Leal-Arcas and Filis (2013) emphasise the inevitable conflict between states (and national interests) on the one hand and multiple forms of inter-state cooperation at a regional or even global level. Indeed, a great variety of institutions, forums, and treaties are currently dealing with energy-related issues. To name a few of them, the UN, the EU, the International Energy Agency (IEA), the G20, and the OPEC (Organization of the Petroleum Exporting Countries) undoubtedly exercise significant influence in the energy and environment fields.

[2] Assoambiente is the association representing, both at the national and European level, private firms delivering environmental services.
[3] Chicco Testa intervened at the virtual event 'Corporate Sustainability Hub' organised by Il Sole 24 Ore on the 31st of March 2021.

Nonetheless, an essential distinction concerns the 'normativity' of these entities (intended here as the degree of authority and decisional power characterising each institution). While the G20 and the OPEC, notwithstanding their relevance, are essentially discussion forums, both the UN and the EU provide for specific treaty-based legal relations, thus having a higher impact on the plethora of stakeholders directly or indirectly invested by their decisions.

The IEA is in-between these two arrays. Indeed, it sets up within the OECD framework, it creates legal obligations, but its real impact is heavily dependent on all the energy-relevant states (Leal-Arcas and Filis, 2013, pp.355-356). For what concerns energy security, states (albeit suffering constraints related to external dynamics, such as price and availability of energy commodities) are still the authorities adopting measures for the controlled territories and national economies (Leal-Arcas and Filis, 2013, pp.357-358).

This chapter investigates the relevance of regulatory pressures on firms' strategic decisions at four different levels: the local, the national, the European, and the international ones. Due to their legally binding character, regulatory pressures necessarily have a massive impact on companies. Nonetheless, evident discrepancies can arise among the four levels. Differences might be due to two main determinants, such as the scale at which single firms operate and their business nature. In the next section, we examine the role of local regulatory pressures in the form of NIMBY claims moved by local communities.

2.2: Local Regulatory Pressures: the impact of NIMBY claims

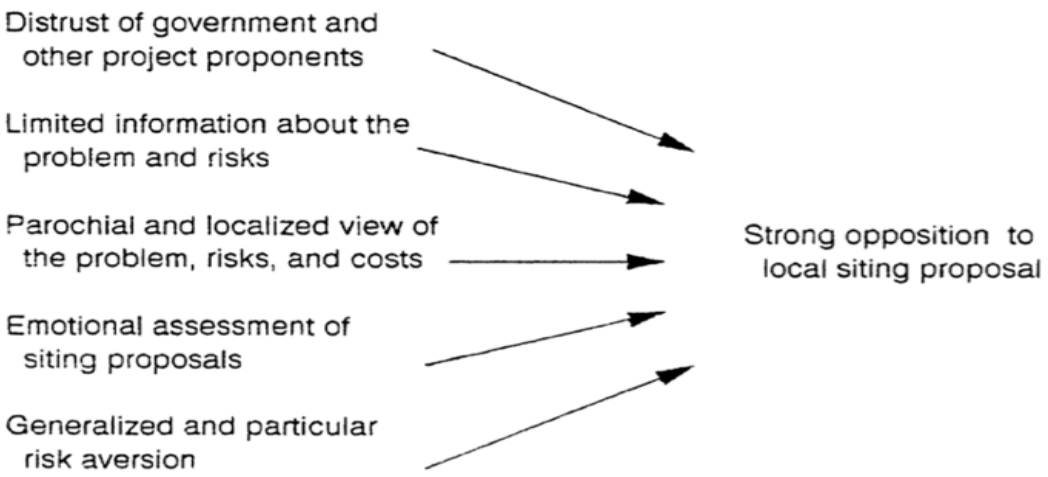
In Italy, local authorities such as municipalities and regions are not directly responsible for designing environment-related policies. Indeed, article 117 of the Italian Constitution provides a list of subjects in which the State has exclusive legislative power. Among these areas, the last comma explicitly mentions protecting the environment, the ecosystem, and the cultural heritage (Italian Constitution, art. 117, comma s). Nonetheless, local pressures from organized groups of citizens animated by different purposes (from a legitimate interest in environmental protection to local autonomies' defence, in contrast with the central government or private companies) may arise anyway in these fields.

These initiatives, which are traditionally grouped under the label of NIMBY (Not in My Back Yard) claims, have an extraordinary impact on the decisions made by local policymakers regarding the authorisation and the implementation of projects of varied nature. Kraft and Clary (1991, p.300) define NIMBY responses as *'intense, sometimes emotional, and often adamant local opposition[s] to siting proposals that residents believe will result in adverse impacts.'* Consequently, every firm gaining a contract to realise large infrastructures, such as bridges, roads, railways, airports, pipelines, or power plants (including those not directly contemplating CO_2 emissions, like wind and solar farms) must consider this kind of pressure.

Their primary characteristic (and the main source of concern for local communities) is the unfair distribution of costs and benefits. As Stefano Nespor (2015) explains in his article on AmbienteDiritto, several public infrastructures typically imply higher costs vis-à-vis the related benefits for those living in the area. In contrast, they generate just benefits (with no substantial risks) for occasional users or final customers at a national or regional level. Drawbacks often concern the environment, property value, or human health, whereas the main pros are better-linked territories, energy production, and occupation.

On the one hand, this point allows extending the reasoning about NIMBY responses, seeing them as genuine attempts by the public opinion to express relevant concerns, often ignored by merely technical evaluations of projects' feasibility. On the other hand, the literature on the topic has continually provided a highly negative judgement about NIMBY claims. They are described as a form of aprioristic and egoistic opposition to projects characterised by unequivocal national (or even international) relevance. Kraft and Clary (1991, p.302) effectively summarise the NIMBY construct with the following scheme:

FIGURE 1
THE NIMBY CONSTRUCT



[4]

Among these five drivers, distrust certainly deserves particular attention. Indeed, at first glance, we could argue that this feeling is univocal, in the sense that it characterises only those opposing public works and infrastructures. Nonetheless, in their analysis of the NIMBY syndrome, Smith and Marquez (2000, p.274) highlight that *'in disputes over local projects, neither side trusts the other and neither side trusts the other sides experts'.* Therefore, they conclude that it is fundamental for researchers to look at both sides to understand NIMBY disputes fully, trying to capture the reasons and interests of both supporters and opponents of every project.

Deeper moral considerations, albeit interesting to discuss, would exceed the purpose of this section. What is imperative to underline here is that NIMBY disputes have a massive impact on local policymakers (and therefore on companies) strategic decisions. Organised protests can protract realisation periods indefinitely, thus exponentially raising the related costs. The TAV (Turin-Lyon high-speed railway) and the TAP (Trans-Adriatic Pipeline) are two emblematic examples of this tendency. Besides, as highlighted by a top manager operating in the renewable energy sector that I interviewed for my research, these two cases testify that no significant discrepancies in NIMBY claims emerge between the North and the South of the country.

[4] Source: Kraft and Clary (1991, p.302)

Referring to the TAV project, Stefano Nespor (2015) underlines how local administrators' greater mediation and negotiation capacity would be fundamental to overcome the *impasse*. Also, transparency and clarity are critical attributes to respond to citizens' claims, which are always legitimised in a democratic state. Finally, the ability to manage compensations and remunerations effectively is probably the most urgent aspect. The latter allows for balancing needs and requests of those suffering significant risks and damages at a local level with the more extensive plethora of beneficiaries.

As for companies, the ultimate solution is to move toward a more inclusive decision-making process. By proactively engaging local communities since the very first steps of planning activities, firms will not only overcome one of the critical obstacles in the successful realization of their projects, but they will also benefit from an extraordinary, propulsive force. This point is particularly relevant for public works and infrastructures characterized by a highly localized environmental impact. An enthusiastic and participative local community will be the most fertile ground upon which companies can finally see their projects prospering. In the next section, we shift from the local to the national level, focusing on the fresh creation of the Ministry and the Interministerial Committee for the Ecological Transition.

2.3: National Regulatory Pressures: the newly established Ministry and Interministerial Committee for the Ecological Transition

Moving up to the national level, regulatory pressures become more homogeneous, in the sense that a specific Ministry is providing common standards on environmental matters. The Ministry for the Environment was constituted in 1986. It operates across multiple areas, such as the safeguard of biodiversity, ecosystems, and marine resources. It implements policies to contrast climate change and global warming, simultaneously boosting sustainable development, energy efficiency, circular economy, and guaranteeing the environmental evaluation of strategic infrastructures, with the related risks and opportunities. Moreover, it promotes the development of best environmental practices (particularly in schools), sustainable mobility initiatives, and urban regeneration programs according to sustainability criteria. Finally, it has a central role in coordinating environmental policies with other countries at a European and global level[5].

[5] Source: https://www.minambiente.it/pagina/competenze [Accessed on the 15th of March 2021]

All these subjects (and the related norms) impact both firms 'daily activities and long-term strategic plans. I want to provide a general overview of the role of national regulatory pressures and the direction taken by our country vis-à-vis the energy transition. Hence, I place the accent here on the Ministry for the Ecological Transition's new constitution. It is a substantial novelty both in terms of governance structure and agenda setting introduced by the government presided by Mario Draghi.

Indeed, as we can read directly from the official press release dated the 26th of February 2021: *'The new dicastery, together with the former Ministry of the Environment's competencies, will manage key functions for the ecological transition, especially in the energy sector*[6] *'.* The note specifies that these competencies derive from former Directions of the Ministry of Economic Development, a clear sign that the two objectives must proceed hand-in-hand.

Together with the new dicastery, an Interministerial Committee for the Ecological Transition has been formed to secure the coordination of national policies for the ecological transition and the related planning activities. The Interministerial Committee, chaired by the President of the Council Mario Draghi or, in his absence, by the Minister for the Ecological Transition Roberto Cingolani, also includes the following six Ministers:

- the Minister for the South and Territorial Cohesion Maria Rosaria Carfagna.
- the Minister of the Economy and Finance Daniele Franco.
- the Minister of Economic Development Giancarlo Giorgetti.
- the Minister of the Infrastructures and Sustainable Mobility Enrico Giovannini.
- the Minister of Culture Dario Franceschini.
- the Minister of Agriculture and Forestry Policy Stefano Patuanelli.

While it is still not practicable to assess concrete initiatives or results of neither the Ministry nor the Interministerial Committee, it is possible to argue that these institutions' establishment goes in the right direction. Indeed, I believe that the inclusive approach embodied by the Committee will be a crucial asset for the development of sound policies, especially (but not only) in the energy and environmental fields.

[6] Source: https://www.minambiente.it/comunicati/nasce-il-ministero-della-transizione-ecologica [Accessed on the 15th of March 2021], my translation from Italian.

Vannia Gava, Undersecretary of State at the Ministry for the Ecological Transition, has also confirmed this proactive attitude. She underlined that this must be a Ministry fully open to collaborating with all the actors involved in this transition[7]. In particular, by including the Minister for the South and Territorial Cohesion in the design and implementation of these policies, there will be the possibility to finally value southern Italy's enormous potential in renewables and new clean technologies, including hydrogen.

Experts have suggested this strategy on multiple occasions, such as during the webinars *'South, Outpost of Renewables and Hydrogen'* [8] and *'A design for sustainable mobility – the South in the national and European strategy'* [9] organised by the association Merita (in cooperation with Matching Energy Foundation). On the same wave-length is Snam's CEO, Marco Alverà. In his book about the potentially disruptive power of the hydrogen revolution, he openly promotes Hydrogen Valleys' creation in the South of Italy (Alverà, 2020, p.115).

Equally, positive feelings derive from culture, infrastructures, and sustainable mobility among the most relevant subjects on the table. Indeed, the energy transition will inevitably show its highest potential in transports and buildings, particularly for the development of electric mobility and enhancing energy efficiency standards in the construction field. Nonetheless, it is imperative even for less polluting (and hence often neglected) industries, such as those orbiting around culture, to exploit this occasion to bring the sustainability principle at the core of their activities.

In conclusion, national regulatory pressures promoting the energy transition are likely to represent a more decisive factor for the design and implementation of sustainability strategies by companies, regardless of their specific field and their dimension. The initiatives presented in this section seem destined to promote the energy transition, thus aligning our country and our companies with requirements coming from the EU and the international community and potentially overcoming them. We now move to illustrate the European regulatory framework and the related pressures.

[7] Undersecretary of State Vannia Gava also intervened at the virtual event 'Corporate Sustainability Hub' organised by Il Sole 24 Ore on the 31st of March 2021.
[8] It is possible to access the recorded version of the 10th of December 2020 live event here https://www.youtube.com/watch?v=Duv56sNSgy4
[9] It is possible to access the recorded version of the 16th of March 2021 live event here https://www.youtube.com/watch?v=JuBuBZtH1gU

2.4: European Regulatory Pressures: the green route toward a climate-neutral continent

Among the four categories of regulatory pressures analysed in this chapter, those exercised at a European level are undoubtedly the most articulated ones. Yet in 2007, European leaders established the 2020 Climate & Energy Package, a set of laws aimed at reaching three critical goals by 2020[10]:

- 20% cut in greenhouse gas emissions (from 1990 levels)
- 20% of EU energy from renewables
- 20% improvement in energy efficiency

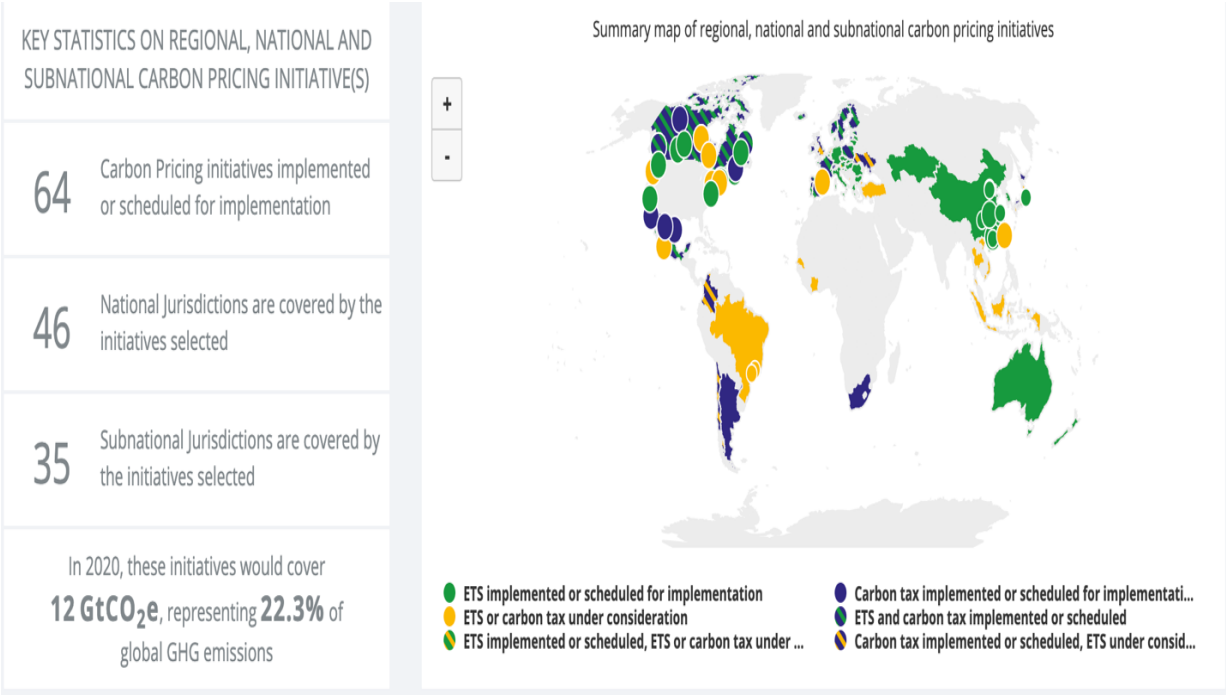
The several Member States reached (and even overcome) the first two targets. In contrast, dispositions in the Directive 2012/27/EU of the 25th of October 2012 on energy efficiency, albeit extraordinary detailed, did not bring to the expected results. Therefore, further engagement is required concerning energy efficiency and the overall consumption levels in the Old Continent.

Within the broader set of European regulatory pressures, it is possible to distinguish between two different categories: the purely legislative and market-based approaches. Both are aimed at internalising environmental externalities that are historically not considered in private actors' business strategies. However, they follow two opposite principles. Legislative instruments are based on the top-down imposition of legal bounds. This 'command and control' strategy is employed to limit the industrial emissions of specific substances, such as SO_2, NO_X, and PM. Instead, market instruments aim to promote a progressive change among market participants by introducing economic incentives. These solutions cover the emissions of polluting agents such as CO_2, PCFs, and N_2O. In this section, I will focus on the two primary market instruments aimed at reducing greenhouse gas emissions that are employed at a European level.

Besides the critical targets illustrated above, the EU Emission Trading System (ETS) has been established in 2005 to cut emissions by some of the most polluting sectors, such as aviation and power generation, with a significant impact on firms' business choices. This scheme represents an innovative solution, with possibilities for further improvements (for example, developing

[10] Source: https://ec.europa.eu/clima/policies/strategies/2020_en [Accessed on the 16th of March 2021]

synergies with other ETS). This idea was already set in 2007 by linking the EU ETS with its homologues in Norway, Iceland, and Liechtenstein, generating the first international agreement for emission trading. Moreover, in 2015 the EU ETS was linked to the Swiss ETS. Since then, several other ETS (although less developed) has been implemented or scheduled for implementation in different regions worldwide, thus testifying to the European example's success.



[11]

This map shows real-time signs of progress in terms of emission trading systems development at a global level. Among the most significant initiatives, implementing carbon pricing schemes in China and Australia, with possibilities for synergies with other South East Asia nations, represents a considerable advancement. The same reasoning is valid for subnational initiatives across Mexico, the US, and Canada, again with relevant possibilities for cooperation on the matter, especially in light of the solid historical bond among these three nations testified by NAFTA.

[11] Source: World Bank Carbon Pricing Dashboard https://carbonpricingdashboard.worldbank.org/ [Accessed on the 19th of March 2021]

Nevertheless, the ETS is not the only possible market instrument aimed at limiting carbon emissions. The most relevant alternative is a carbon tax, whereas we will not discuss more complex and less applied hybrid instruments. We now offer a brief comparison of these two solutions to evaluate their pros and cons. We will then illustrate the ambitious goals and strategies set up by the EU for the next decade.

Cap-and-trade schemes rely on the possibility to trade the 'right to pollute'. From a company's perspective, this can be seen as an intangible asset in the form of allowances released to a plurality of operators in a specific field or geographical area by the responsible regulator. Indeed, the latter sets a maximum level of emissions. Consequently, the equilibrium between demand and supply of these allowances determines a variable price for CO_2. The major pros are the guarantee of meeting reduction targets (due to the previously allowed maximum levels) and the double incentive to develop cleaner technologies (since abating emissions will enable companies to sell extra permits, thus gaining profits). Cons are related to the uncertainty of total costs (in turn linked to carbon pricing trends) and the complex bureaucratic implementation process.

Carbon taxes adopt the opposite approach instead. The objective is to reach the 'optimal' level of emissions by directly taxing operators in a given industry or geographical area, predominantly through the initial estimation of environmental damages. The primary strengths are the possibility to calculate precisely the total costs of these policies and the permanent incentive for polluting companies to lower their emissions. Weaknesses stand upon the uncertainty of real emissions abatement, the political acceptability of further taxes, and the complexity of finding the right level of taxation that (ideally) would need to be harmonized at the European or even global scale.

The latter issues are critical in explaining *'the gap between the sensible and the politically feasible'* highlighted by Helm and Hepburn (2009, p.384) in their discussion about these two market instruments. A well-structured and globally uniform carbon tax would be preferable to abate CO_2 emissions in the long-term with respect to emission trading schemes (Helm and Hepburn, 2009, pp.257-258). The same conclusion has been reached by Hájek et al. (2019, p.10) in their study on carbon taxes applied to the energy industry in five European countries. The current political (un)feasibility of this option is still the key obstacle to its implementation on a larger scale.

Nonetheless, the proposal of an EU Carbon Border Adjustment mechanism in 2021 is seen as the EU ETS's natural expansion. Considering the highly ambitious targets that the EU has in terms of decarbonisation, the CBA would represent a sort of protection for EU governments anxious about the 'carbon leakage' effect on their industries. The latter expression describes the well-known phenomenon of firms moving abroad to benefit from less strict environmental requirements. As Frédéric Simon (2021) reports on Euractiv, this risk has also been underlined by the European Commission climate chief Frans Timmermans. In this sense, the CBA would represent a tariff on imports from countries that do not have an equally severe carbon constraint on greenhouse gas emissions.

To be fully effective, the CBA should be designed and structured in compliance with WTO rules and with other international obligations. Moreover, money should be reinvested in programs to green the European economy, promoting circularity and abating waste. If the EU succeeds in this pioneering initiative, there will be a remarkably positive multiplier effect, with the EU example providing a global incentive to cut emissions. On the contrary, significant drawbacks stand upon possible retaliation from other economies and the deterioration of trade relations with them. To sum up, notwithstanding these risks, the European Union demonstrates the willingness to lead the world in the energy transition by carrying on this ambitious project.

Raising our eyes toward the 2030 horizon, we can immediately notice how, in practice, the EU has raised its standards regarding greenhouse gas emissions reduction. The 2030 Climate & Energy Framework provides an overall emissions reduction of at least -55% compared to 1990 levels. This step would be the first one to reach climate neutrality by 2050. The central pillars are the same as for the 2020 Package (this time with at least a 32% share for renewable energy and at least a 32.5% improvement in energy efficiency). Those standards will be implemented through three major pieces of legislation, namely the EU Emission Trading System, the Effort Sharing Regulation, and the Land Use, Land Use Change and Forestry Regulation (LULUCF). Moreover, detailed legislative proposals are expected by June 2021 to move those objectives from paper to the ground.

Following the path tracked in the previous two sections (and in the first chapter), I want to emphasise the institutional approach adopted in the EU governance system about energy and climate. Indeed, as we can read directly from the note on the EU website:

'Under the Regulation on the Governance of the Energy Union and Climate Action, the EU has adopted integrated rules to ensure planning, monitoring and reporting of progress towards its 2030 climate and energy targets and its international commitments under the Paris Agreement. Based on the better regulation principles, the governance process involves consultations with citizens and stakeholders [12]'.

Explicitly highlighting the relevance of consultations with citizens and stakeholders represents an excellent step forward vis-à-vis the 2020 Climate & Energy Package. Indeed, the latter was characterised (as it was the case for its homologues at an international level) by a predominantly top-down approach. With the 2015 Paris Agreement, not only were standards and expectations on the matter raised significantly, but also governance approaches were redesigned completely. This paradigmatic shift inevitably affects rules and activities at a regional level, such as the 2030 Climate & Energy Framework.

To sum up, the EU has highly ambitious plans regarding energy and climate, both for 2030 and 2050. The goal is to transform the Old Continent into a 100% carbon neutral region within 30 years. Pressures on multiple categories of stakeholders (primarily big firms) are enormous, essentially because there is no plan (nor planet) B. Nevertheless, by explicitly calling for an inclusive governance system, the EU also offers an extraordinary possibility to companies. They can renew their leadership in their own fields, simultaneously expanding their activities by exploiting opportunities for synergies and innovation provided by the green revolution already in act. In the next section, we investigate the fourth and final regulatory pressures level: the international one.

2.5: International Regulatory Pressures: the Paris Agreement and the revenge of multilateralism

This chapter's introductory overview already sketched the particularly variegated (to use a euphemism) normative framework on energy and climate at an international level. Major issues

[12] Source: https://ec.europa.eu/clima/policies/strategies/2030_en [Accessed on the 16th of March 2021]

concerning the juxtaposition of standards (or, on the contrary, the presence of regulatory holes) within the field are likely to remain unsolved in the short term. In the last few decades, we assisted in a general proliferation of regional and preferential agreements. Applied to the international trade domain, the India-born naturalised American economist Jagdish Bhagwati (1995, p.4) coined the apt metaphor of the 'Spaghetti Bowl'. This image indicates the growing confusion caused by the simultaneous presence of an excessive number of agreements, on the same subject, between countries within a specific region or across different continents. The energy and climate field does not represent an exception in these terms.

The first chapter illustrated some of the multilateral approach's significant risks (such as the fragmentation and privatisation of climate governance or the tendency to ignore climate justice and intergenerational equity). Those factors were primarily responsible for the historical failures of the Kyoto Protocol and the COP15 held in Copenhagen in 2009. However, we can argue that the imposition of a purely top-down model mainly failed for one reason. Notwithstanding the development of regulatory frameworks touching several economic, political, social, and juridical themes, States and governments often had different and conflictual positions (Nespor, 2020, p.203) that were not available to abandon. Not even for the urgent construction of a common future and the preservation of shared resources fundamental for our survival.

Nonetheless, it is now possible to provide a more optimistic outlook on the matter after the introduction of the 2015 Paris Agreement. The latter is a legally binding international treaty on climate change adopted by 196 Parties at the COP21. The principal objective is to limit global warming by keeping the rise of temperature well below 2°C (possibly even below 1.5°C) with respect to pre-industrial levels. Countries must peak their emissions in the next few years, thus achieving carbon neutrality around 2050[13]. In terms of the range of action, the Paris Agreement is a milestone in the fight against climate change. It brings all countries under the same flag, providing them with a common cause, regardless of their economic and social development differences.

As anticipated, it also revolutionises the traditional top-down approach employed in the Kyoto Protocol by introducing a bottom-up perspective that is fundamental to reach the sort of

[13] Source: https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement [Accessed on the 16th of March 2021]

capillarity required to implement the broad guidelines provided at a multilateral level. Operatively speaking, the Paris Agreement works through 5-year cycles, during which countries have to explicate their plans known as Nationally Determined Contributions (NDCs). Alongside their strategies for reducing emissions, countries must prove their increasing resilience in adapting to the climate changes already in act.

Notwithstanding the importance of ambitious and transparent NDCs (monitored through the Enhanced Transparency Framework starting in 2024 and then fed into the Global Stocktake to assess collective progress), the Paris Agreement's major novelty is the match between capillarity and a holistic view. Structuring a solid network to help those countries that need specific financial, technical, and capacity-building support to reach the expected targets goes in this direction. This strategy represents an act of solid revenge for multilateralism because it recognises the unequivocal need for all countries to move together, hand-in-hand, following the general principle of climate justice illustrated in the first chapter.

Which is the role of energy-intensive firms under the Paris Agreement? At first glance, we might consider this framework a substantial obstacle for their business objectives or the indirect punishment for their past and present conduct. Indeed, countries and supranational entities (such as the EU) willing to reduce their emissions quickly (in compliance with the Paris Agreement) would probably opt for resizing activities in the most polluting fields. This move would guarantee a faster response vis-à-vis a paradigmatic shift involving citizens as a whole. Educating people to develop sustainable behaviours daily, albeit fundamental, will require a longer time and incessant efforts by institutions at every level.

However, by going deeper into the companies' decision-making processes, it is perfectly evident that a strong potential for creating and preserving a competitive advantage characterises the proactive implementation of sustainability strategies. In the long-term, sustainability will even become a matter of survival in multiple sectors. Some of the most important firms at a global level (with a combined market capitalisation of over US$2.3 trillion) already understood this point and are thus adapting their behaviour consequently[14].

[14] Source: https://unfccc.int/news/87-major-companies-lead-the-way-towards-a-15degc-future-at-un-climate-action-summit [Accessed on the 16th of March 2021]

In conclusion, regulatory pressures (being them at the local, national, European, or international level) are just one side of the issue and perhaps the most unpleasant for companies. In any case, firms should try to anticipate these pressures, transforming obstacles into opportunities. According to Salvatore Pinto, President of AXPO[15] Italy, all the efforts made in terms of decarbonisation might bring to the development of technologies with enormous potential (also for other purposes) in the long-term, as was the case for the space race in the twentieth century[16]. This attitude will make companies resilient, helping them impose their green identity on global markets, now presenting increasing attention and respect toward sustainability issues. The next chapter will investigate the role of market pressures exercised by four major classes of stakeholders: customers, investors, human resources, and competitors.

[15] AXPO is a Swiss group operating in more than 30 countries, a leader in the production and commercialisation of renewable energy.
[16] Salvatore Pinto also intervened at the virtual event 'Corporate Sustainability Hub' organised by Il Sole 24 Ore on the 31st of March 2021.

Chapter 3: Market Pressures. It is not (just) a matter of money

3.1: Overview

Firms operating in multiple industries are perfectly aware of the imminent transition destined to transform not only their specific domain but human life in its entirety in the next decades. This process has already started, and sustainability strategies are consequently acquiring increasing relevance in their agenda. In particular, Raffaele Jerusalmi, Italian Stock Exchange's CEO, highlights how the increasing sensitivity toward the environment is not just detectable among major listed companies (the Italian rank number six at a global level regarding disclosure) but also among small and medium enterprises (SMEs). According to Jerusalmi, SME's sensitivity has undoubtedly to do with economic and financial opportunities, but it is also related to the youngest generation's role in pushing firms toward a sustainable paradigm change [17].

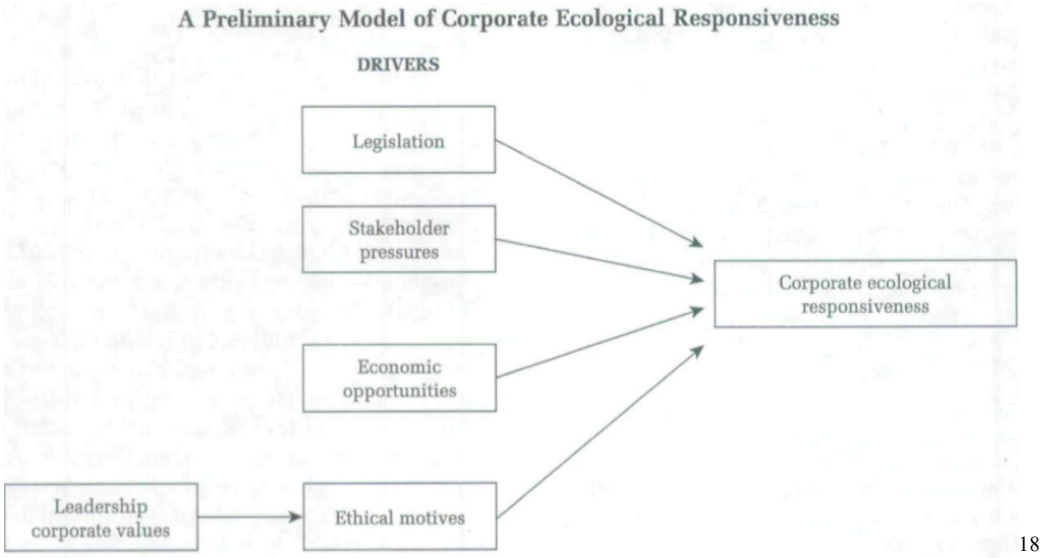
As discussed in the previous chapter, regulatory frameworks are present, and further developments are expected at every level. Moreover, pressures coming from traditional and social media, as well as from the civil society (through environmental NGOs and global movements such as the #FridaysForFuture) certainly play a significant role in boosting decarbonization strategies. We will discuss this category of pressures, which I label as social pressures, in the fourth chapter.

Notwithstanding the relevance of regulatory measures and social pressures, this chapter highlights the pivotal importance of market pressures in the energy transition. Indeed, firms must consider moves, requests, and expectations from customers, investors, human resources, and competitors (Cadez et al., 2018, p.3). These four categories of stakeholders and the related dynamics will be investigated through the institutional approach and primarily through the 'organizational field' lens. This introductory overview offers the theoretical background in which the main concepts employed throughout the chapter are examined. We will then shift to the role of the previously mentioned categories of market pressures.

[17] Raffaele Jerusalmi also intervened at the virtual event 'Corporate Sustainability Hub' organised by Il Sole 24 Ore on the 31st of March 2021.

The first element to understand market pressures in the energy transition is provided by DiMaggio and Powell (1983). The authors introduce the so-called 'organizational field' as a unit of analysis. By organizational field, they mean *'those organizations that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product customers, regulatory agencies, and other organizations that produce similar services or products'.* This approach's main advantage is that the focus is not merely placed on individual firms, but attention is devoted to *'the totality of relevant actors'* (DiMaggio and Powell, 1983, p.148). This perspective allows us to capture relevant details without renouncing a more general view of the issue.

Therefore, considering whatever business sector as a point of departure, it results immediately evident that several stakeholders play a crucial role in shaping the dynamics underpinning the energy transition. Of course, among the primary agents, there are big energy-intensive firms (which are responsible for a significant portion of GHG emissions and thus have to implement concrete strategies to decarbonise their activities as soon as possible). Cadez et al. (2018, p.1) correctly underline that, although these firms represent a prominent cause of the climate issue, they undoubtedly constitute a critical part of the solution too. Nonetheless, the institutional logic suggests applying a broader framework, taking into account a multiplicity of factors contributing to corporate ecological responsiveness. A simplified introductory scheme is offered by Bansal and Roth (2000, p.718):



[18]

[18] Source: Figure 1, Bansal and Roth (2000, p.718).

Among the four drivers indicated in this model, we will not discuss legislation and ethical motives (with the underlying leadership corporate values) here. Indeed, the first factor constituted the pillar of the previous chapter, whereas ethical motives will be treated in the fourth chapter when referring to different categories of social pressures. Instead, the accent is placed here on the link between stakeholder pressures and economic opportunities.

Market pressures should not be merely seen as obstacles. If correctly exploited (or even anticipated), they could represent excellent opportunities to innovate, simultaneously improving the core business and opening space for new ones. As Delmas and Toffel (2008, p.1033) argued in their work mapping organizational responses to environmental demands, *'adopting environmental management practices, regardless of their immediate performance implications, might be particularly effective in enhancing organizational legitimacy'*.

The latter represents a critical feature for the companies' long-term survival and growth in light of the ongoing energy transition. Among the plethora of stakeholders actively involved in each sector, eco-sensitive customers, investors, human resources, and competitors, albeit lacking the coercive power in the hands of regulators, can undoubtedly affect firms' business choices. Therefore, each of these categories (and the related market pressures) deserves individual reasonings. We start by examining customers' transformation from mere consumers to prosumers, taking the power industry's vibrating environment as an example.

3.2: Customers: acquiring a proactive role. Beyond the individual conscience

In the first chapter, we highlighted the limits of individual choices and local actions when they are not coordinated with other stakeholders. We can easily apply this reasoning to customers in multiple domains. Indeed, the mere preference for sustainable goods and services, albeit representing an admirable sign of an individual green conscience development, is unlikely to be decisive in the energy transition process. Again, what is necessary is coordination among multiple factors in our society and an innovative approach toward this common challenge.

As in many other fields, even in the energy domain, innovating *'is not just inventing a new machine or a new procedure. It also means developing new approaches and business models,*

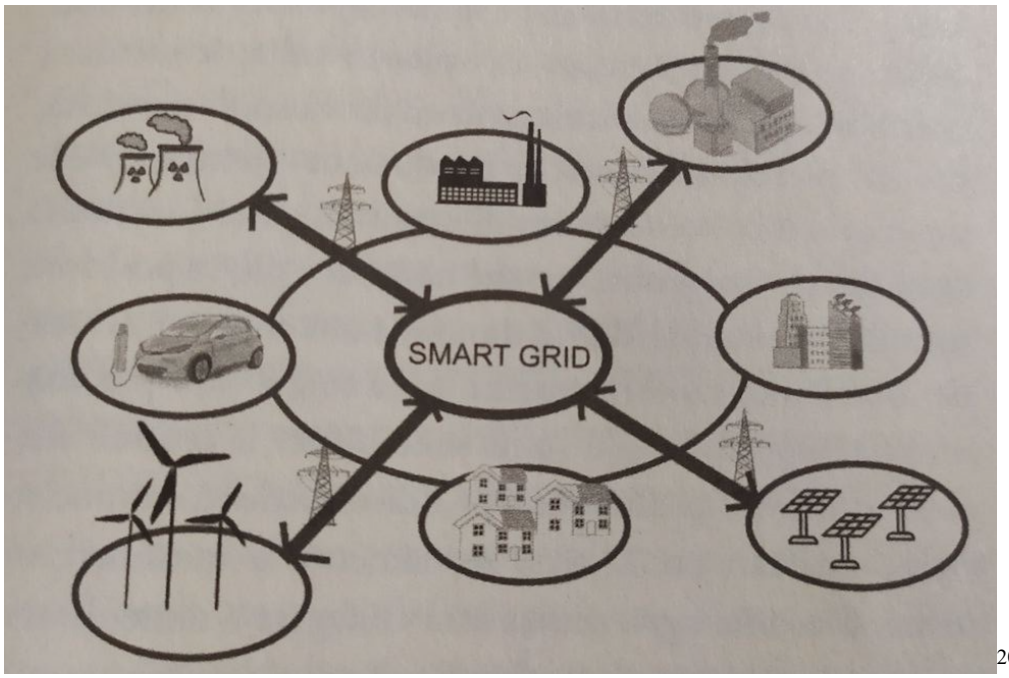
value chains, markets, and policies that will help new inventions become truth and spread on a global scale' (Gates, 2021, p.310)[19]. Only by developing strong (and sometimes even physical) networks among them and with other protagonists at a local and global level can customers play an increasingly proactive role, even in those industries where they traditionally looked at deep transformations from the outside.

The results of the study conducted by Gong et al. (2019, p.93) suggest that general *'public awareness [...] is an essential driver that motivates firms to develop their sustainability capability, and to disseminate sustainability to their supply chain partners via SSCM [sustainable supply chain management]'.* The power industry represents an emblematic example. Indeed, while this sector historically saw the prevalent participation of few energy-intensive industrial customers in trading negotiations, future scenarios will see the central role of the so-called domestic prosumers. The latter expression is a neologism that indicates citizens being simultaneously consumers and producers of a specific good or service, in this case, electricity.

The capillary development of activities such as energy storage, energy saving, distributed generation, and electric mobility will revolutionise the paradigm based on the domestic consumers' relatively passive role, allowing space for a proactive attitude to affect companies' strategies. Future is here, and we are already assisting in the shift from the traditional to the smart grid in the power sector.

In his book promoting exciting ideas and technologies for a more liveable planet, Valerio Rossi Albertini (2020) dedicates an entire chapter to illustrating a more flexible and intelligent power grid: the 'smart grid'. He effectively summarises the main benefits of adopting a system that is similar to the Internet operative structure. Advantages are incredibly evident in energy security (avoiding localised and general blackouts) and flexibility. Indeed, the smart grid can immediately satisfy real-time demand and supply, with a better adaptation to sudden irregularities in the electricity flow.

[19] My translation from Italian.



[20]

This picture illustrates a simplified scheme of a smart grid. The organisational shift of perspective from the traditional grid (unidirectional and similar to a river) to the smart grid (bidirectional and hive-shaped) is easily recognisable. Nonetheless, it is fascinating to highlight Rossi Albertini's final reasoning on the smart grid representing a new declination of democracy: the energy democracy (Rossi Albertini, 2020, pp.140-141). Indeed, widely distributed energy generation means monopolies and oligopolies' impossibility to excessively prosper in the field, sometimes damaging final customers. It also allows a new form of active citizenship, where prosumers utilise public infrastructures while providing the same services to the rest of the population. This solution enables to generate economic benefits for all those willing to participate in smart grid development.

The progressive emergence of a green conscience among customers in multiple fields, albeit laudable, is probably not enough to change some well-rooted domestic habits in terms of power consumption. As we already noted at the beginning of this section, customers traditionally played a passive role in this domain. A first step to incentivise companies to provide a higher share of electricity from renewable sources might be the so-called 'green pricing' programs.

[20] Source: Figure 22. Reticular scheme of a smart grid. Rossi Albertini (2020, p.135)

To cover the additional costs for clean energy, customers pay, on average, one or two cents per KWh, between nine and eighteen dollars per month for the average American family. Nonetheless, those programs are not directly eliminating emissions. They are just a signal for power companies that a market for green energy exists (Gates, 2021, p.346). Real market pressures in the form of economic incentives (immediately appreciable by the new, rising class of prosumers actively engaged in the system) are far more effective tools to boost the energy transition.

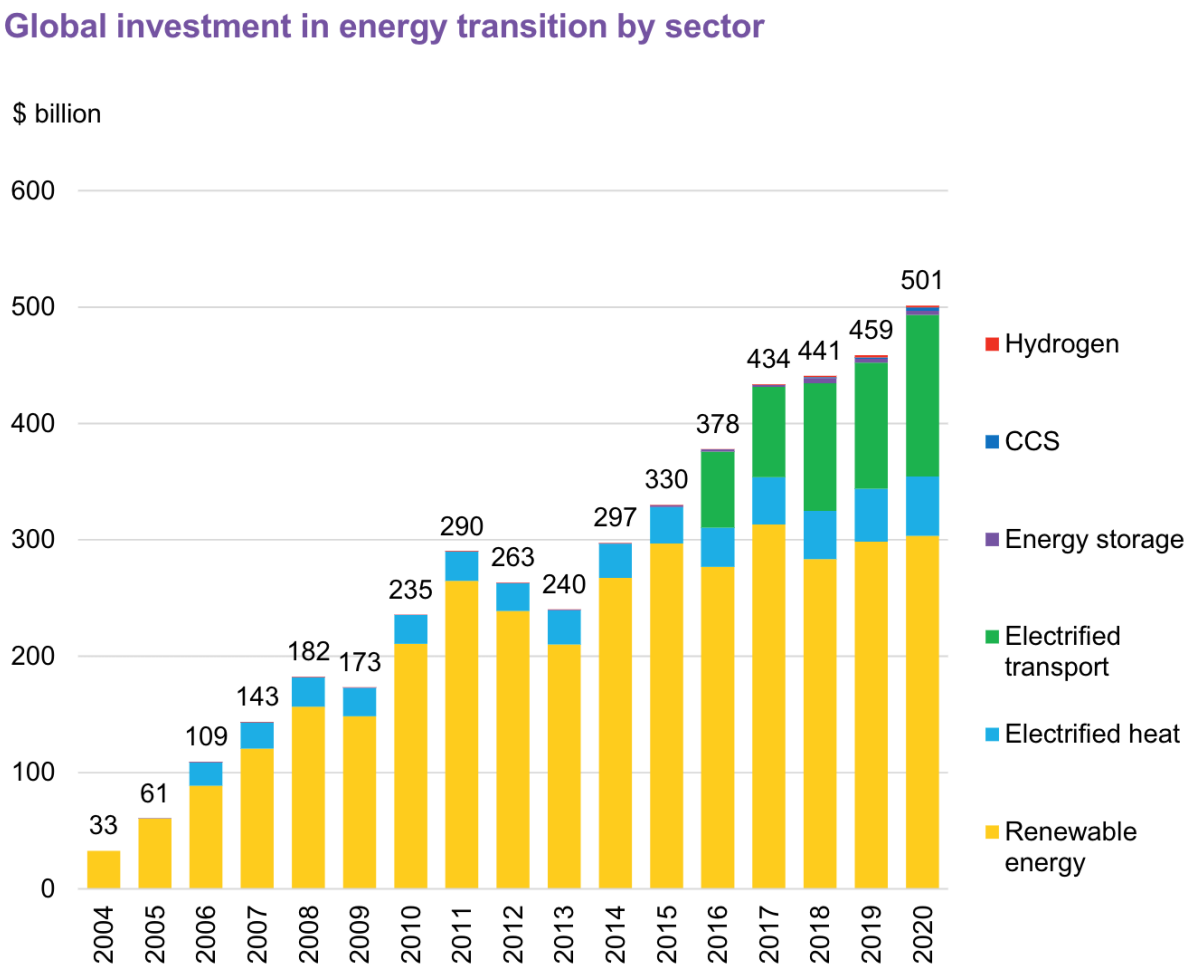
Initially, these pressures mainly involve the same customers. Still, they will later have an inevitable impact on firms' business choices in the power industry (particularly those concerning the further development of small wind and solar plants). Governmental policies and conspicuous investments are finally necessary to achieve a significant transformation within the industry (Gates, 2021, p.346). To sum up, it is not (just) a matter of money, but sometimes money can literally move mountains. Therefore, in the next section, we examine big investors' role in accelerating the energy transition.

3.3: Investors: the green fuel for the energy transition

Investors play a central role in every country, within every industry, for every company. Notwithstanding the risk of being considered excessively materialistic, we can affirm that, even in the design and implementation of sustainability strategies, money flows can easily shape firms' decision-making process. In the past, the fossil fuel industry represented one of the most intriguing opportunities for both institutional and retail investors, with possibilities to gain enormous profits. Now, investors should choose to withdraw investments in polluting companies and industries progressively, moving money toward innovative and eco-friendly solutions that are more likely to prosper in the future.

The following chart, taken from the 2021 BloombergNEF's report on the energy transition investment trends, shows that in 2020 more than $500 billion have been devoted to technologies aimed at decarbonising our planet. Despite Covid-19, this amount of money represents an absolute record, beating the 2019 level by 9%. More in detail, governments, companies, and private citizens invested more than 300$ billion in new renewable energy capacity, around 140$

billion on electric vehicles (with the related infrastructures), and more than 50$ billion in energy-efficient heat pumps.



Source: BloombergNEF. Note: start-years differ by sector.

[21]

These three fields represent the primary fronts to boost the energy transition. Nevertheless, many other solutions are advancing in the last few years. The latter include green hydrogen, electro-fuels, advanced biofuels, low-carbon concrete and steel production, carbon capture and storage (CCS), and several other technologies that deserve at least to be taken into account in the ongoing decarbonisation process (Gates, 2021, p.312). Some big individual investors (who are among the wealthiest people worldwide) have already decided to devolve part of their

[21] Source: https://www.bnef.com/insights/25307/view [Accessed on the 10th of May 2021]

wealth to some of these green bets. With their investments, they are contributing to the success of disruptive innovations boosting the energy transition.

This call to arms is extraordinarily evident in the launch of the Bezos Earth Fund and in the willingness of Blackrock's CEO Larry Fink to coordinate global initiatives in this direction (Alverà, 2020, p.49). In his recent book about climate change, the American business magnate and philanthropist Bill Gates (2021) also underlines, on several occasions (and with funny anecdotes), how investors like himself and Warren Buffett are catching multiple possibilities for green investments all over the world. The reasons behind these money movements are partially (but not only) ethical. These investments are often characterised by a high possibility to grow.

However, significant risks and uncertainties arise about future profits concerning the timing and actual return on investments. Indeed, companies working to develop cutting-edge technologies in the energy field are not always sure about their lab experiments' concrete market applicability. For example, agricultural wastes employed for biofuels may show a higher degree of humidity, thus generating less energy than expected. It is also necessary to help clients get used to new technologies, reduce costs and risks for early users, develop solid value chains, and test new business models (Gates, 2021, p.317).

Enel's CEO Francesco Starace has also highlighted this point during the last Italian Energy Summit organised by Il Sole 24 Ore. According to Starace, there is a strong demand for green investments among a large plethora of institutional and retail investors. Nonetheless, a synergic relationship between technologies, politics, and markets is paramount to face the energy transition. The objective is to drive these technologies (and the vanguard start-up companies trying to develop them) toward the market maturity phase, overcoming the 'Death Valley' represented by the trial phase (Gates, 2021, pp.302-303). Notwithstanding the risks, big companies and governments should have a pioneering role. They need to prioritise the purchase of clean products, thus contributing to reducing costs and uncertainties for later comers.

According to Bill Gates (2021, p.171), it is also imperative to develop public policies creating a higher demand for green goods and services. It is more likely that businesspeople and investment funds will shift their financial resources toward sustainable solutions. For the isomorphic process that we will discuss later, even their competitors will do the same. Hence,

a sort of collective faith toward a greener future will emerge. At that point, green investments will still be perceived as more remunerative in the long-term (vis-à-vis traditional investments) but also progressively less risky to operate.

This necessary shift of perspective should now be evident because the energy transition is not an eventuality anymore but a sound certainty. Cooperation between the public and the private sector has to be reinforced, with a more courageous government leadership on research and development in the energy domain being the fundamental pillar for collective advancements (Gates, 2021, pp.313-314).

What about companies not strictly operating in the energy and environmental domain? According to Francesco Starace, if a company proactively chooses to implement several UN Sustainable Development Goals, it acquires a greener image, and it becomes highly appealing on financial markets. Consequently, the firm will also be capable of gaining financing at lower rates, essentially because it is perceived as more dynamic and resilient[22]. Therefore, a virtuous circle will start, with positive impacts for many stakeholders, including the company' shareholders. The economic logic emerging from this reasoning is crystal clear.

Nonetheless, companies must engage seriously in eco-friendly activities and decarbonization processes. According to Giovanni Sandri, Country Head of Blackrock Italy, it is pivotal for companies willing to attract investors to articulate, developing, and communicating their sustainability strategies transparently. Their plans have to conduct to carbon neutrality by 2050, simultaneously refusing the so-called greenwashing practices[23]. Indeed, if discovered by the community of investors or by other classes of stakeholders, mere *façade* initiatives would severely turn against the same firms (Mert and Chan, 2012, p.24).

To sum up, green finance will play a central role in boosting the energy transition. But unfortunately, money is not enough. This complex challenge requires excellent coordination and synergic pushes in the same direction from all the stakeholders involved, including those operating within single companies. In the next section, we examine the possibility of improving

[22] These statements are part of the intervention made by Francesco Starace during the Italian Energy Summit, organized by Il Sole 24 Ore on the 29th and the 30th of September 2020.
[23] Giovanni Sandri also intervened at the virtual event 'Corporate Sustainability Hub' organised by Il Sole 24 Ore on the 31st of March 2021.

a company's reputation in the eyes of employees (particularly young talents) by implementing corporate sustainable business practices.

3.4: Human Resources: attracting and retaining talents through CSB practices

The role of human resources, albeit more subtle, is another driving factor that must be considered when discussing market pressures. Environmental responsiveness, which we can include in the broader ESG (environmental, social, and governance) framework, might represent a magnet for talents operating at all levels within the industry. This feature is related to the positive reputation that the whole firm gains vis-à-vis competitors by implementing eco-friendly practices and a proactive behaviour toward the energy transition.

This reasoning is confirmed by the analysis conducted by Magbool et al. (2016). The authors found pieces of evidence that *'organizations with high CSB [corporate sustainable business] practices are perceived to be more attractive than organizations with lower CSB practices, and that job applicants' intentions to join and accept a job offer are positively associated with an organization's CSB practices'* (Magbool et al., 2016, pp.553-554). Considering the Italian energy sector as an example, the appeal of a company like Snam is boosted by innovative programs, such as the SnamTec project.

Snam sees the energy transition as a great opportunity. During the Italian Energy Summit, Snam's CEO Marco Alverà highlighted the importance of the SnamTec project in building the Tomorrow's Energy Company. Through the SnamTec project, the firm proactively faces the future, intending to affirm its position in a renewed global energy system. More in detail, the 1.4 billion euros plan will boost sustainability and innovation in the core business, while developing green activities destined to have a central role in the company's future. This strategy perfectly fits with O'Reilly and Tushman's ambidextrous behaviour highlighted in the first chapter. Almost one-third of the investments included in the 2023 plan will be made in sustainable mobility, energy efficiency, biomethane, and hydrogen[24].

[24] These statements are part of the intervention made by Marco Alverà during the Italian Energy Summit, organized by Il Sole 24 Ore on the 29th and the 30th of September 2020.

These initiatives represent clear signals that the company firmly believes (and invests) in sustainability and innovation, providing old and new employees with constantly new challenges, thus increasing their daily motivation. Indeed, works conducted by Shen and Jiuhua Zhu (2011, p.3031) and Tilleman (2012, p.430) highlight the role of social responsibility and sustainability practices in enhancing organizational commitment. The latter can be defined as *'the relative strength of an individual's identification with and involvement in a particular organization'* (Mowday et al., 1979, p.226). The natural tendency by employees in making additional efforts testifies the intrinsic importance of individual identification that allows them 'covering the extra mile' to support colleagues and customers (Tilleman, 2012, p.419).

Therefore, a firm's environmental sustainability generates a virtuous circle that produces better results toward the vast plethora of external and internal actors involved. This tendency is confirmed by the study conducted by Guerci et al. (2016) on the mediating role of green HRM practices. In particular, the authors found pieces of evidence about the positive impact that green training and involvement, green performance management and compensation have on firms' environmental performances (Guerci et al., 2016, p.281).

On the same line is Silvia Morera, Partner at PWC Italy. Morera encourages companies to quit the dominant logic that sees sustainability as a mere cost and not an excellent opportunity to gain a competitive advantage. In particular, she underlines how the energy transition is a fantastic sliding door for employees' upskilling and reskilling. Those are fundamental activities for companies to make human resources ready to face new challenges related to sustainability and digitalization[25].

A polarly opposite approach, characterised by a strenuous resistance to change and progress, would instead constitute a strong deterrent in these terms. This issue will be particularly relevant for young talents that would be reluctant to bind for a long time their professional path with a company that they perceive as destined to be disrupted. In the final section of this chapter, we examine another source of concern (and pressure to improve) for firms in their path toward a green survival and later prosperity: competitors' strategies and advancements in environmental sustainability.

[25] Silvia Morera also intervened at the virtual event 'Corporate Sustainability Hub' organised by Il Sole 24 Ore on the 31st of March 2021.

3.5: Competitors: standing on the shoulders of (successful) giants

Pressures coming from competitors are also relevant for the development of sustainability strategies by companies in every business. Following the institutional logic, firms tend to imitate forerunners' behaviour (a process called isomorphism). This tendency is especially marked in environments characterized by high uncertainty and multiple pressures, as it is currently happening in light of the ongoing energy transition. This case concerns the desirable adoption of sustainable business practices, green technologies, and innovations. Indeed, talking about environmental sustainability targets, Colwell and Joshi (2013, p.75) underline how '*in the absence of clear evidence of superiority of one technology over another, organizations will often examine one another and select the technology that their successful peers have'*.

It is possible to distinguish between two different isomorphisms: the competitive and the institutional ones (DiMaggio and Powell, 1983, p.150). Notwithstanding the importance of traditional dynamics related to competition, such as the efficient use of resources and the need to reach and satisfy customers, a broader picture is only accessible through the lens of institutional isomorphism. As highlighted by Howard Aldrich (1979, p.265), competition among organizations belonging to the same field includes the desire to acquire political power and institutional legitimacy, as well as social and economic fitness.

Notwithstanding equal pressures that organisations belonging to the same field may perceive and the common objectives regarding environmental sustainability they may have, it is evident that some firms are successful in adopting pragmatic changes, whereas others are not. The 'orthodox' institutional theory is often silent about possible reasons underpinning this discrepancy in terms of results. On the contrary, Colwell and Joshi (2013, p.78) highlight the role of top management commitment in enhancing corporate ecological responsiveness. According to the authors, intra-organisational dynamics of this kind complete the framework, thus explaining the differences among several competitors in fostering organisational change and sustainable actions.

The concepts of adaptive capacity, defined as *'the ability to respond to challenges posed by changes in [the] environment'*, and absorptive capacity, that *'identify the value of new ideas or technologies, [introducing] them into the organisation and [using] them to produce new products or services'* (Andrew-Speed, 2016, p.218) are crucial tools for companies to surf this

wave successfully. The energy transition will inevitably shuffle some papers within the entire world of business. Winners and losers of this historical challenge will finally emerge, according to their ability to be self-reinforcing vis-à-vis various radical changes happening in a relatively short time (Andrew-Speed, 2016, p.220).

In light of the above considerations, it is particularly evident that market pressures coming from customers, investors, human resources, and competitors substantially shape firms' environmental strategy focus and, consequently, their concrete actions to reduce their carbon footprint. Nonetheless, Cadez et al. (2018, p.11) underline how these features are not only relevant to understand purely economic matters, but they have a crucial role also for policymakers. Indeed, market dynamics are behind the implementation of the two primary instruments to contrast carbon emissions that we analysed in the previous chapter when we discussed regulatory pressures at a European level: Emission Trading Systems (ETS) and carbon taxes.

In conclusion, the link between market dynamics and regulatory standards is an emblematic example of how institutional logic is in part already employed in the energy and environment domain. Nonetheless, to use the effective metaphor proposed by Salvatore Pinto, president of AXPO Italy, it is necessary to move across multiple levels, playing several piano keys simultaneously, not just one at a time [26]. In the next chapter, we introduce another fundamental category of pressures to complete our institutional framework: social pressures exercised by environmental NGOs, emerging global movements such as the #FridayForFuture, and the media system.

[26] This statement is part of the intervention made by Salvatore Pinto at the virtual event 'Corporate Sustainability Hub' organised by Il Sole 24 Ore on the 31st of March 2021.

Chapter 4: Social Pressures. Ethical motives and partisan interests in protecting the planet

4.1: Overview

This chapter investigates the role of social pressures in enhancing the energy transition. Social forces in this field simultaneously act on three main fronts: they affect policymaking at different levels, move citizens' conscience through information campaigns, and leverage firms' sustainability strategies. For example, Berrone et al. (2013, p.894) underline ENGOs' positive role in monitoring firms, pushing them to develop green inventions and innovations proactively. The presence of ENGOs activities close to companies' facilities (especially the most polluting ones) inevitably increases the pressure perceived by the same companies.

Also, thought-provoking is their point of reflection about ENGOs as potential *'sources of inspiration for novel solutions and new value-creating strategies'*, thanks to their knowledge and expertise in the environmental field (Berrone et al., 2013, p.895). We will evaluate in better detail their impact (and the role of the other regulatory, market, and social pressures) on an Italian listed companies' sample in the next chapter. As it happened with the four market pressures analysed in the previous chapter, here we will limit our discussion to some of the most relevant stakeholders addressing environmental issues at multiple levels.

In particular, I chose to focus on Environmental Non-Governmental Organisations (labelled as ENGOs in the literature), the #FridaysForFuture (the most relevant among the new spontaneous movements acting in the field), and on the storytelling about environmental and sustainability issues carried out by traditional media (taking Il Sole 24 Ore as a case study) and through social networks (Facebook, Instagram, Twitter, and LinkedIn).

These stakeholders and these platforms provide a 360° overview on both single themes (such as wildlife protection or deforestation in a given country) and broader issues addressed in global forums, such as climate change or the technologies to promote the energy transition. As we highlighted at the beginning of this research, public opinion should rely on experts' data provided through multiple channels, including traditional and social media. Then, according to

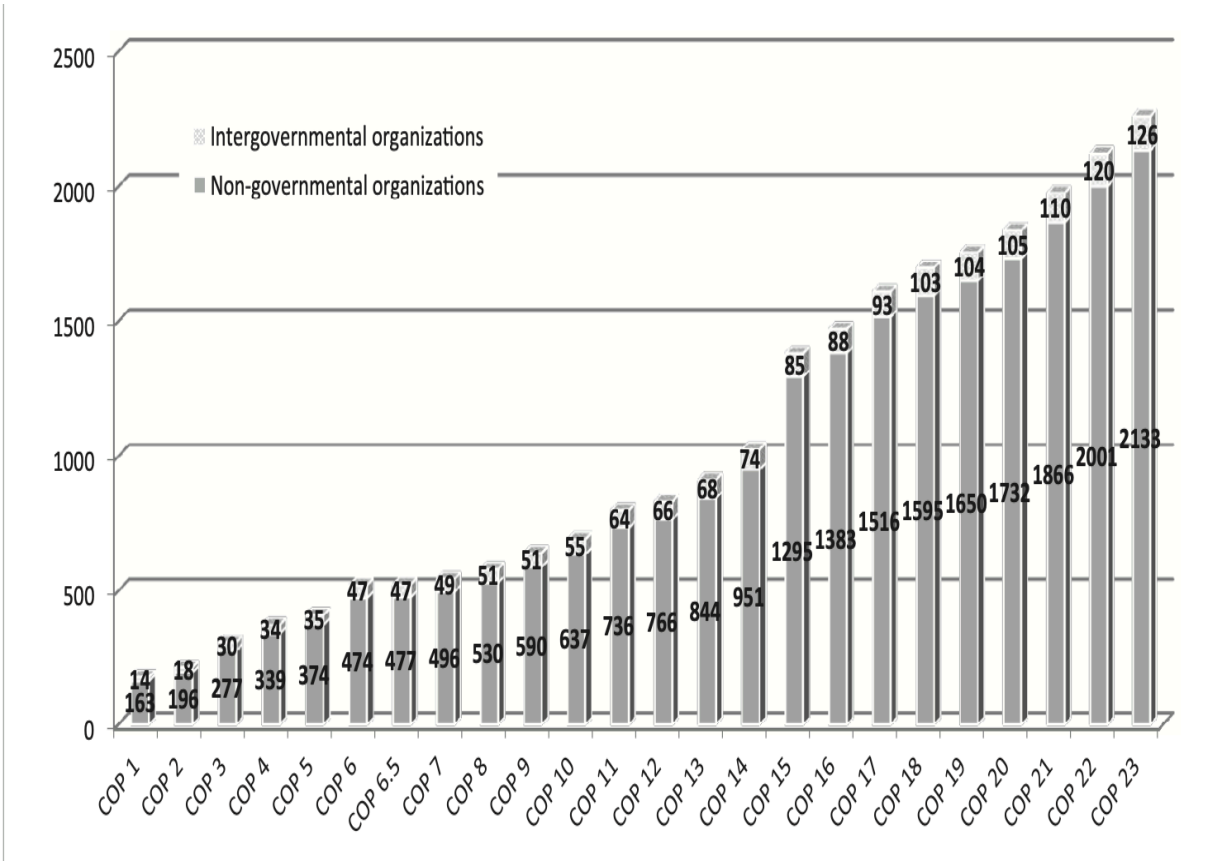
their sensitivity, citizens might choose to directly engage (or support indirectly) specific initiatives conducted by small or big, local or global, spontaneous or well-structured organisations.

Ethical motives undoubtedly play a decisive role in boosting stakeholders' engagement on environmental issues. Nonetheless, it is fundamental to recognise that legitimate partisan interests may arise in this field as well. More in detail, the agenda set by many ENGOs partly reflects the priorities of their major contributors, which include states, companies, and individual philanthropists. We can apply the same reasoning to traditional media's ownership structure. Different considerations (with the related pros and cons) emerge instead for spontaneous movements (such as the #FridaysForFuture) and social media. The following section offers an overview of the role historically and currently played by ENGOs. It then questions their future relevance vis-à-vis other categories of social pressures in enhancing the energy transition.

4.2: ENGOs: the past, present, and future (?) protagonists of global environmentalism

Over the last few decades, Environmental Non-Governmental Organisations (ENGOs) became increasingly relevant in global environmental politics. Parallelly with the rising awareness that unilateral actions were not fully effective in addressing complex issues such as climate change, ENGOs started to play a leading role, particularly in multilateral environmental agreements. Over time, ENGOs quickly overcame governmental delegations, both in terms of number and range of participation.

Nasiritousi (2019, p.330) indicates the UN Conference on the Human Environment, held in Stockholm in 1972, as ENGOs' turning point. Indeed, they had been included as experts since the preparatory phase, with the opportunity to shape the meeting agenda. Moreover, dozens of countries involved ENGOs' members in their delegations, thus testifying their relevance nationally and internationally. Finally, Stockholm parallelly hosted the Environment Forum, an open discussion that provided ENGOs with the possibility to express their opinions and concerns even more freely. From that moment on, the number of ENGOs admitted to global environmental forums skyrocketed.



[27]

This chart shows the cumulative admission of observer organisations from UNFCCC Conference of Parties (COP) 1 in 1994 to COP 23 in 2017. The number of non-governmental organisations jumped from just 163 to 2138 in about twenty years, with more than two thousand new actors involved in the top conference on climate change globally. The 'participatory wave' characterising many other global forums is undoubtedly responsible for this exponential growth trend.

Nonetheless, Nasiritousi (2019, p.334) argues that the multidisciplinary nature of discussions around climate change (which include themes such as health, food security, finance, and energy) is also critical. Indeed, several stakeholders belonging to multiple fields mobilised their resources and expertise, trying to shape (and possibly to govern) the deep transformation process already in act.

[27] Source: Figure 23.1, Nasiritousi (2019, p.335).

This point is particularly relevant to understand the role of ENGOs. Notwithstanding their shared willingness to protect our planet from the primary environmental challenges characterising the twenty-first century, it is evident that *'NGOs do not all pull in the same direction'* (Nasiritousi, 2019, p.340). Indeed, they all have legitimate partisan interests and priorities, often conflicting with those of other actors.

By adopting an institutional perspective, we can notice that even ENGOs require (exactly as companies) both a compelling purpose (a true *raison d'être* to share with the external environment in which they operate) and a robust internal organisation. The latter is pivotal to design and implement pioneering initiatives capable of breaching the inertia, often characterising discussions and concrete actions on environmental themes.

In their scheme that we reported in the previous chapter, Bansal and Roth (2000, p.718) highlighted the relevance of leadership corporate values promoting the emergence of ethical motives for companies to act sustainably. In her article about pro-environmental strategies applied to ENGOs, Laurent Mermet (2018, p.1147) underlines how even these entities' real-life action *'depends not only on principles, goals and political stances, but also on human resources, financial means, organisational tools and routines, and coordination'*.

Therefore, to foresee ENGOs' trajectory in terms of future relevance, it is not sufficient to observe their past and present condition or look just at their (sometimes) abstract ideas and claims. Instead, it is of paramount importance to raise more material questions, for example, about the access that a single ENGO may or may not have to officials and researchers in public and private organisations, as well as their possibility to establish alliances with other ENGOs sharing the same purpose (Mermet, 2018, p.1158).

According to Jasanoff (1997, p.580), ENGOs do not fit into simple taxonomies, the only structural element they share being their (formal) independence from states. However, it is immediately evident that smaller ENGOs must pursue possible alliances with particular insistence to acquire greater relevance within global forums. Therefore, the process of *'institutionalisation in the networks of influence that surround formal politics and government'* is pivotal for them (Rootes, 2013, p.702). On the contrary, prominent and renowned ENGOs, such as Greenpeace, have developed a truly global outlook, with the possibility to exert direct

pressures on decision-makers in both developed and developing countries through multiple, simultaneous initiatives.

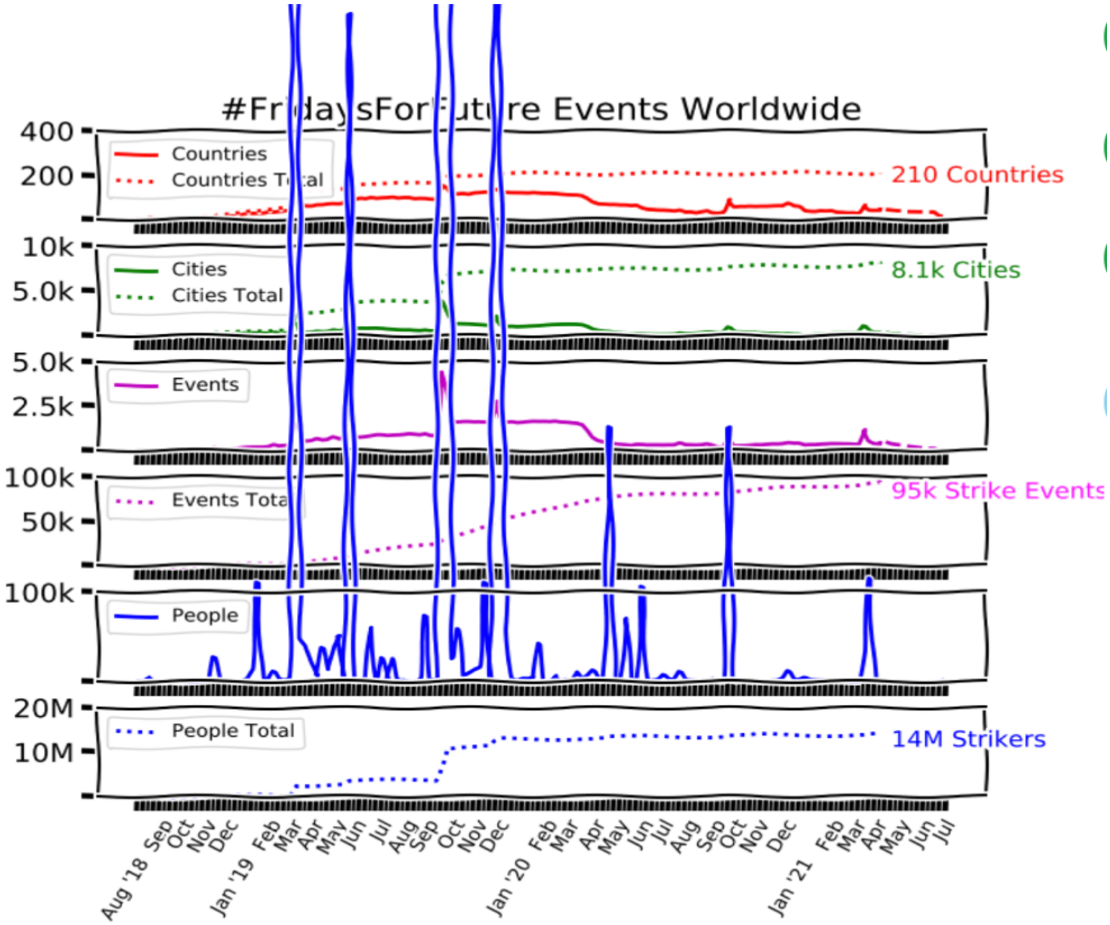
Notwithstanding its cosmopolitan claims, we can notice that even Greenpeace presents an intrinsic bias in many of the operations it conducts. In particular, Kellow (2000, p.5) argues that Greenpeace's agenda forcibly reflects a northern European perspective. According to the author, national interests are paradoxically more evident in the most global environmental challenge with which Greenpeace deals: climate change. Through the analysis of financial data in Greenpeace's Annual Reports, Kellow derives specific conclusions not just about states' support and priorities but also for what concerns Greenpeace's internal decision-making process. Indeed, the latter is inevitably *'determined by fundraising performance and performance of campaigns'* (Kellow, 2000, p.7).

With these considerations in mind, we certainly do not want to put Greenpeace or other ENGOs in a bad light. The objective of this reasoning is merely to highlight that even some of the primary stakeholders exercising social pressures in the global environmental arena are, in turn, subject to relevant forces. States, companies, or individual philanthropists financing ENGOs' activities have their own interests and priorities. The most important thing is to be fully aware of them when evaluating ENGOs and other stakeholders' activities.

In conclusion, ENGOs deserve the prestigious position that they have acquired in environmental forums worldwide. Moreover, they play a propulsive role in the energy transition, as in many other environmental issues, both locally and globally. Nevertheless, in such a liquid society, they must avoid at all costs the ossification of both their internal organisations and their external branches. If ENGOs want to keep their leading role also in the future, accountability and transparency are pivotal. These are vital features to maintain (and possibly to raise) not just public awareness about environmental issues but also genuine trust in their activity, thus boosting their effectiveness. In the next section, we discuss the rise of the most iconic and fresh environmental movement: the #FridaysForFuture.

4.3: #FridaysForFuture: Generation Z is not silent anymore

'#FridaysForFuture is a movement that began in August 2018, after 15-year-old Greta Thunberg and other young activists sat in front of the Swedish parliament every school day for three weeks, to protest against the lack of action on the climate crisis. She posted what she was doing on Instagram and Twitter and it soon went viral [28]'. From that moment on, in less than three years, the movement submerged with its enthusiasm and determination over 8.100 cities in all continents, involving more than 14 million people.



[29]

This chart shows the astonishing growth of the #FridaysForFuture on a global scale, and it testifies the power of the movement. The power of simplicity. The power of a generation that

[28] Source: https://fridaysforfuture.org/ [Accessed on the 8th of April 2021].
[29] Source: https://fridaysforfuture.org/what-we-do/strike-statistics/ [Accessed on the 8th of April 2021].

is not 'silent' anymore. Generation Z, which includes people born from the mid-to-late 1990s to those born around 2010, is traditionally described as politically progressive, tolerant toward diversity, shrewd in goods consumption, and digital native. However, this latter attribute is often criticised as potentially contributing to a passive attitude toward the most relevant social and political issues. The pervasive role of technology in our daily lives would lead to developing a more individualised mindset, retaining young people from feeling an integral part of a community. Therefore, Generation Z is sometimes labelled as the new 'silent generation', the original one grouping those born from the mid-1920s to the mid-1940s, in a period characterised by war and economic depression.

The #FridaysForFuture dismantles these prejudices, showing Generation Z's excellent capacity to use technology to make the world a better place. As they report on their official website, *'the goal of the movement is to put moral pressure on policymakers, to make them listen to the scientists, and then to take forceful action to limit global warming* [30]*'*. Notwithstanding this movement's spontaneous nature, it is striking to notice how they immediately understood the imperative need to address their claims directly to the primary power centres. Although they do not exclude the relevance of individual contributions *('everyone is welcome, everyone is needed, no one is too small to make a difference* [31]*')*, they candidly recognise having no capacity or specific competencies to evaluate permanent solutions to the climate crisis.

Hence, their primary contribution to the energy transition and the fight against climate change stands upon the unprecedented capacity to raise public awareness on the matter. Consider how these issues were relegated to the margins of the public and private agenda less than ten years ago and how rapidly they became central since the emergence of the #FridaysForFuture. There is no doubt that the movement guided by Greta Thunberg has been decisive to awaken the green conscience of millions of people all over the world.

Stefano Nespor (2020, p.194) explicitly links the #FridaysForFuture effect with the November 2018 Eurobarometer results. The Eurobarometer is the European Parliament instrument for collecting data about some of the most significant public interest themes. Few months after the movement's birth, 93% of European citizens recognised that climate change is strictly linked with human activities. Moreover, 85% of them were convinced that concrete policies against

[30] Source: https://fridaysforfuture.org/what-we-do/who-we-are/ [Accessed on the 8th of April 2021].
[31] Source: https://fridaysforfuture.org/what-we-do/who-we-are/ [Accessed on the 8th of April 2021].

climate change might generate a virtuous circle of sustainable development and new jobs in the Old Continent.

In the US, guided by Donald Trump since 2017, the green seed of this youth revolution certainly did not find ground as fertile as the European one. Nonetheless, as Giovanna Pancheri (2021, p.197) narrates in her book about the hottest issues that occurred during the four-year mandate of the American tycoon, Greta Thunberg (together with Alexandria Ocasio-Cortez) represented the real *'environmentalist pain in Trump's neck*[32]*'*. Living in the US since 2016, Giovanna Pancheri admitted not to have perceived the real power of this movement at the beginning. This Swedish teenager's (apparently) fragile figure did not seem strong enough to deal with the most powerful men on the planet (Pancheri, 2021, pp.197-198). However, as Madeleine Carlisle (2019) wrote in the Time, when at the end of the Battery Park march in New York City, in front of as many as 300.000 estimated participants, she screamed: *'this is an emergency! Our house is on fire!'*, her huge moral calibre emerged crystal clear to everybody.

In conclusion, an entire generation showing peerless enthusiasm and dogged determination in striking for climate cannot be considered a mere passing cloud. Covid-19 undoubtedly slowed (but it did not stop) the green tsunami of the #FridaysForFuture. Despite being born and raised spontaneously, this movement has the considerable responsibility of keeping fighting for a better future for our planet. Instead, the imperative duty to listen to them is on adults, especially those taking political and economic decisions that will be decisive for the energy transition's success. Rossi Albertini (2020, p.209) emblematically ends his book by criticising his own generation for having been so inert toward this critical challenge and simultaneously placing his faith on Generation Z. A generation that is not silent anymore. In the next section, we discuss the traditional media's role in the narration of environmental and sustainability issues, taking Il Sole 24 Ore as a positive example.

[32] My translation from Italian.

4.4: Traditional Media: Il Sole 24 Ore. Shedding light on the energy transition.

Il Sole 24 Ore is the primary economic and financial newspaper in Italy. It is part of the *Gruppo 24 Ore,* a listed editorial group owned by Confindustria (the Italian manufacturing and service companies' leading association, representing over 150,000 firms employing more than 5 million people). It is traditionally considered a reliable tool for investors, entrepreneurs, and professionals in many fields, including energy and the environment. In this section, I decided to focus on the propulsive role that this newspaper and some of its prominent journalists play in shedding light on the energy transition.

In particular, the *24 Ore Eventi* section is responsible for the organisation of several webinars and virtual events reuniting specialists from private companies, public institutions, the media, and the academic world. Notwithstanding the ongoing Covid-19 pandemic, which is understandably monopolising everyone's attention for more than one year now, these events are reaching a growing portion of the public opinion, including both experts and those animated by simple curiosity. I participated in several virtual events (such as the Italian Energy Summit held in September 2020 and the Corporate Sustainability Hub, which took place on the 31st of March 2021), providing me with inestimable food for thought for writing my dissertation. Nonetheless, I believe that these activities' extraordinary benefits go well beyond my individual experience as a university student deeply interested in the energy and environment fields.

Despite its traditional role as a specialistic newspaper, often far from being the point of reference for the generic public, Il Sole 24 Ore immediately embraced its crucial responsibility of coordinating stakeholders' efforts toward the energy transition in our country. By organising and managing events and roundtables on SME's digitalisation, green finance, renewable energy, hydrogen or electric mobility, journalists such as Jacopo Giliberto and Celestina Dominelli play a dual role. They offer unique occasions for specialists in these fields to share their expertise with the public, simultaneously allowing them to design and build a shared and sustainable path toward decarbonisation.

As I anticipated in this chapter's introductory overview, it is fundamental to be aware of traditional media's ownership structure (and the related partisan interests at stake). In the case of Il Sole 24 Ore, these events also represent fundamental occasions for companies affiliated

with Confindustria to promote their brand and image. Indeed, together with the discussion of dynamics concerning the energy transition, these webinars usually allow conspicuous times for major firms' CEOs to illustrate their long-term green strategies and their daily initiatives to enhance environmental sustainability within the company.

Nonetheless, in my opinion, this is perfectly legitimate, especially in light of the significant stakeholder pressures that these companies are constantly suffering. Moreover, we should not forget that, apart from laudable ethical motives regarding the implementation of sustainability strategies, companies must always take into account the financial and reputational aspects of their business. Hence, I would argue that the promotion of companies' green activities through traditional media should not be considered as a mere greenwashing practice, but, on the contrary, it should be seen as firms' willingness to anticipate institutional pressures.

In conclusion, Il Sole 24 Ore is the emblematic example of how the media system should embrace (and then coordinate the efforts toward) the energy transition. In an era dominated by the Internet and social networks, traditional media such as TVs, radios, and newspapers are far from being dead. They still have considerable responsibility in linking all the main pieces of our society, providing them with a stimulating arena in which confrontation is not just possible but also fruitful. In the next section, we discuss a different way of communicating sustainability by analysing social media's role through a SWOT matrix.

4.5: Social Media: Strengths, Weaknesses, Opportunities, and Threats of bi-directional communication

Communication represents a crucial asset for firms, regardless of their field or dimension. Communicating daily activities and long-term plans effectively is fundamental to capture stakeholders' attention, guaranteeing survival (and eventually prosperity) to the company. It is peculiarly the case for firms' active engagement in the energy transition and sustainability initiatives (such as the annual reports on that matter), which have become essential elements of every strategic plan. For this reason, a vast range of internal divisions (such as corporate social responsibility, marketing, communication, human resources, and investor relations) play a vital role in chorally promoting an image of the company as green as possible.

As we anticipated previously, firms have a vast range of tools and occasions to advertise their green initiatives (both the substantial and the symbolic ones) through traditional media. Hyatt and Berente (2017, p.1220) correctly underline that *'substantive and symbolic environmental strategies are not mutually exclusive. An organization may have a substantive, proactive environmental strategy and still want to be recognized for it'.* Indeed, even all the information directly provided through official websites, company reports, and other types of publications undoubtedly have the dual objective of informing (and trying to persuade) stakeholders about the green qualities of single initiatives.

Nonetheless, this way of communicating, albeit still fully effective, is essentially unidirectional. Instead, social media force companies to adapt their contents and style to a substantial difference vis-à-vis traditional communication: bi-directionality. The latter is an essential feature of communication through social platforms, presenting strengths, weaknesses, opportunities, and threats for companies. Hence, the most effective way to analyse this last category of social pressure is through a SWOT matrix's visual representation.

STRENGHTS	OPPORTUNITIES
1. **Diversification** of **content** and communication **style** according to the platform (Facebook, Instagram, Twitter, LinkedIn); 2. **Algorithms** allow to reach specific **targets** within the broader users population; 3. Significantly **lower costs** for basic sponsorship activities vis-à-vis traditional media.	1. Possibility to reach **millions** of **users immediately** after the publication of a content; 2. Updating and **improving** services by exploiting users' **constructive feedbacks** (spontaneous **crowdsourcing**); 3. Successful initiatives can gain exponential **visibility** thanks to **likes**, **suggestions**, **posts sharing**, **retweets**.
SWOT ANALYSIS	
1. More **superficial engagement** vis-à-vis traditional media users; 2. Need to **constantly publish** contents to avoid losing mediatic relevance vis-à-vis competitors; 3. **Additional costs** for professional figures (**SMMs**), content creation, and more pervasive sponsorship activities.	1. Greater risk of **misunderstandings** with the public, due to the **condensation** of **complex information** in just few words; 2. Computational difficulties in handling **huge** quantities of **information**; 3. Users' **negative feedbacks** (including non legitimate ones) can gain enormous **mediatic relevance**;
WEAKNESSES	THREATHS

33

[33] Source: a personal elaboration.

In the first place, social networks allow excellent flexibility regarding content creation and communication styles. In particular, it is possible to communicate sustainability values and strategies in different ways according to the platform employed and the audience we want to engage. For example, LinkedIn is definitely more adequate to involve professionals working in the field. In contrast, Twitter is excellent for delivering short messages to a broader audience, referring to the official website for further details. Finally, Facebook and Instagram allow the publication of more 'captivating' content, such as inspirational videos or pictures related to the company's history and identity.

In the second place, there are both pros and cons regarding financial costs. On the one hand, social media might require less economic resources for basic sponsorship activities vis-à-vis traditional media. On the other hand, it is necessary to foresee additional expenses for social media managers and other professional figures creating high-quality digital content. Another weakness of communicating sustainability through social media stands upon these profiles' intrinsic need to be updated every day, multiple times a day, to avoid losing mediatic relevance vis-à-vis competitors. While this is not a problem for other activities (such as marketing campaigns), sustainability requires a greater sensibility (and thus additional time and care) to be communicated effectively. Therefore, the risk is to generate low-quality content in the medium and long term, which might not capture social media users' more superficial attention vis-à-vis traditional media's audience.

In the third place, the opportunity to reach millions of users (belonging to multiple of the aforementioned classes of stakeholders) immediately is an invaluable resource. Moreover, successful ideas and initiatives can gain exponential visibility thanks to social media's ad hoc functions, such as likes, suggestions, post sharing, and retweets. These are the iconic features of bi-directional communication. Apart from mediatic relevance, companies need to understand the value of users' constructive feedback to update and improve services or adapt their contents or communicative style according to their reactions. We could even consider this aspect a form of spontaneous crowdsourcing for companies and an asset to value with conviction.

Finally, threats are represented mainly by previous opportunities' drawbacks and weaknesses potential degenerations. The first risk is defined by the imperative need to condensate complex information in just a few words or even images. This tendency might generate misunderstandings with the audience. Besides, the vast quantity and variety of data and

information, both published and received, can add significant computational difficulties within the company, thus increasing the possibility of errors. Social media users can be particularly demanding and sometimes even merciless toward mistakes and inefficiencies. Therefore, the most relevant threat for companies communicating not just sustainability initiatives but every kind of strategy through social media is the enormous and instantaneous mediatic relevance that users' negative feedbacks (including non-legitimate ones) can eventually gain.

In light of the above considerations, social media represent excellent echo chambers for companies to communicate their green identity and sustainability initiatives. Regardless of their field and dimension, they all must pursue effective communication strategies employing these tools. The latter inevitably requires adequate resources (both human and financial). From ENGOs to the new social movements, passing through the whole media system, social forces constitute a complex and variegated class of stakeholder pressures, with significant pitfalls for companies. Nonetheless, if correctly addressed, they undoubtedly boost firms' reputation in the eyes of a vast plethora of actors, guaranteeing their present survival and future prosperity.

In conclusion, as the Head of Corporate Sustainability of one of the primary Italian fashion firms argues, *'a company strategically oriented toward sustainability is fully aware of this feature's intrinsic relevance and the need to communicate it effectively. Therefore, despite obstacles and pressures, truly green firms cannot do without it. It would be like asking why hedge funds pursue profits. It is part of their own essence* [34] *'*. Therefore, in the next chapter, we investigate the concrete relevance of every class of stakeholder pressures presented so far in the design and implementation of sustainability strategies by some of the primary Italian listed companies belonging to several industries.

[34] This intervention is part of the conversation that I had with the Head of Corporate Sustainability of one of the primary Italian fashion firms regarding stakeholder pressures pushing companies to design and implement sustainability strategies.

Chapter 5: Investigating the relevance of stakeholder pressures on firms' sustainability strategies: an on-field analysis

5.1: Overview

The previous three chapters offered a detailed overview of twelve among the primary stakeholder pressures detectable in the energy transition process. They have been grouped into three broader categories: regulatory pressures, market pressures, and social pressures. Although they certainly are not the only forces acting in this field, I selected these factors according to the following principles:

Regarding regulatory pressures, the geographical dimension was the primary determinant. We covered all the relevant regulatory pressures affecting companies' strategies, regardless their size and business scale, starting from the local scale and moving upward by including the national, European, and international levels. Since the firms' sample includes just Italian firms, I focused on themes (such as NIMBY claims and the new Ministry for the Ecological Transition) concerning that specific reality for the local and national levels.

Then, I selected four major categories of stakeholders (customers, investors, human resources, and competitors) for what concerns market pressures. These are likely to be the most important actors, both internally and externally, affecting companies' strategic decisions in the sustainability area. It could have been possible to include other categories (such as domestic or international suppliers) or splitting the existing ones into multiple dimensions (for example retail vis-à-vis institutional investors). Garcés-Ayerbe et al. (2012, p.192) collected in the following table some of the primary environmental stakeholders' classifications that scholars in the field have proposed.

Fineman and Clarke (1996)	Henriques and Sadorsky (1999)	Buysse and Verbeke (2003)	Murillo-Luna *et al.* (2008)	Darnall *et al.* (2010)
Regulatory stakeholders Local or national governments	*Regulatory stakeholders* Governments, trade associations, informal networks, competitors	*Regulatory stakeholders* National (and regional) governments, local public agencies	*Regulatory stakeholders* Environmental legislation, administration control	*Primary stakeholders* Value chain participants (commercial buyers, household consumers, suppliers)
Internal stakeholders Chief executive officers, environmental managers, public relations managers, production, marketing and legal personnel	*Organizational stakeholders* Customers, suppliers, employees, shareholders	*External primary stakeholders* Domestic and international customers, domestic and international suppliers	*Corporate government stakeholders* Managers, shareholders/ owners	Internal stakeholders (management and non-management employees)
Stakeholders with indirect interest Financial shareholders, customers, suppliers, the media (radio, television, newspapers, trade and popular magazines)	*Community stakeholders* Community groups, environmental organizations, other potential lobbies	*Internal primary stakeholders* Employees, shareholders, financial institutions	*Internal economic stakeholders* Employees, labor unions	*Secondary stakeholders* Societal stakeholders (environmental and community organizations, labour unions, industry associations).
Stakeholders whose manifest mission is to care for the planet National or local green pressure groups, high-profile individual champions in society	*The media*	*Secondary stakeholders* Domestic and international rivals, international agreements, non-governmental organizations, the media	*External economic stakeholders* Customers, suppliers, financial institutions, insurance companies, competitors	Environmental regulators (governments)
			Social external stakeholders The media, citizens/ communities, ecologist organizations	

35

Nevertheless, this research does not aim to provide an exhaustive outlook of all the possible categories of stakeholder pressures in the energy transition process. More realistically, the objective is to describe some of these major forces, simultaneously investigating their tangible impact in the design and implementation of sustainability strategies by Italian listed companies belonging to different sectors.

As for social pressures, chapter four aimed at providing an overview of the role of both physical actors (such as environmental NGOs and new social movements, through the discussion of the #FridaysForFuture case) and the media system. The latter was split into two branches: traditional and social media. Indeed, these two categories follow completely different communicative logic. Therefore, it is interesting to investigate their relevance both in absolute terms and with respect to the other.

To sum up, the objective of the previous chapters was to provide an accurate description of the conspicuous potential that these twelve factors have in enhancing the energy transition. More

[35] Source: Table I, Environmental Stakeholders. Garcés-Ayerbe et al. (2012, p.192).

in detail, by applying the institutional theory as a general framework, we argue that companies belonging to a specific organisational field are subjected (to different extents) to these forces. The central intuition is that firms should seek to adapt their behaviour proactively to survive and prosper in the long-term, taking into account the choral (but sometimes contrasting) requests coming from the most relevant stakeholders presented above.

Nonetheless, to assess the exact impact these pressures have on companies, we shall move from theory to practice. This conclusive chapter proposes an empirical research conducted on some of the major Italian companies operating in different industries. The following sections will map my path toward the interesting results that I collected, which constitute the backbone of the whole dissertation.

1- I will illustrate the theoretical reasoning and the initial hypotheses made before the 'operative phases'.
2- I will describe the research methods employed throughout the data collection and data analysis processes.
3- I will present the numeric results of this research, which offers excellent insights about the role of stakeholder pressures in the energy transition.
4- Finally, I will provide some food for thoughts on these results, opening reflections for further developments, and approaching my general conclusions.

5.2: Theoretical Reasoning and Hypotheses

In a preliminary phase, I checked the Methods, Data Analysis, and Discussion of Results sections of several scientific papers that aim to conduct similar analyses. Then, by always bearing in mind the primarily descriptive purpose of this research, I opted for simple theoretical reasoning to draft a few linear but robust hypotheses. Indeed, it is not necessary here to carry on overcomplicated analyses by employing complex statistical instruments, clarity being my main objective.

Therefore, I focused on selecting the right research question, the proper categories of pressures (according to the criteria presented before), the most adequate companies, and the correct rating scale instead of seeking bizarre correlations. Simplicity in this analysis does not stand for the

inability to go deeper. Quite the contrary, we intend to provide a crystal-clear overview of stakeholder pressures' impact on companies' sustainability strategies. The first step is to identify a straightforward research question that allows formulating reasonable introductory hypotheses:

How much the selected categories of stakeholder pressures impact the design and implementation of companies' sustainability strategies?

In terms of hypotheses, I identified five main lines of reasoning:

- Overall, I expect a higher contribution of market pressures vis-à-vis regulatory and social pressures (H1).
- I expect investors are playing a major role among the four categories of market pressures (H2).
- Due to the scale at which many of these companies operate, I expect the European regulatory framework to be more relevant than the other three levels (H3).
- I expect environmental NGOs still prevailing on spontaneous social movements such as the #FridaysForFuture (H4).
- Finally, I expect traditional media to still prevail on social media (H5).

5.3: Methods

Once I structured my research questions and hypotheses, I selected from the Milan stock exchange[36] all the 125 companies belonging to nine different industries with the following distribution:

- Utilities (13).
- Oil & Gas (6).
- Chemicals (5).

[36] Source: https://www.borsaitaliana.it/borsa/azioni/settori.html?lang=en

- Construction & Materials (12).
- Industrial Goods & Services (42).
- Food and Beverage (9).
- Automobiles and Parts (9).
- Personal and Household Goods (23).
- Health Care (6).

Then, I collected their email addresses and phone numbers. When it was explicitly indicated on companies' websites, I opted for direct contact by email or through LinkedIn with their Heads of Sustainability or other Executives in the same area. In many other cases, however, firms provided just their headquarters' contact details. This fact added significant difficulties, protracting the time required to collect data and reducing the possibility to reach those in charge of sustainability strategies. In order to increase the likelihood of achieving a sufficiently high response rate, I kept the questionnaire as brief and straightforward as possible.

After a short introduction about myself and the purpose of this research, I shortly described the major categories of stakeholder pressures investigated, asking to evaluate their relevance for the design and implementation of sustainability strategies by companies. I opted for a seven-levels Likert scale from -3 (absolute irrelevance) to +3 (absolute relevance). Due to the potentially sensitive nature of these pieces of information, I guaranteed complete anonymity both to companies and individuals in charge of responding to the questionnaire. Indeed, data will be just presented on an aggregated form in this research, without the possibility to link single responses with the related firms.

The following one is the translated version of the questionnaire that I submitted to 125 companies belonging to nine different industries:

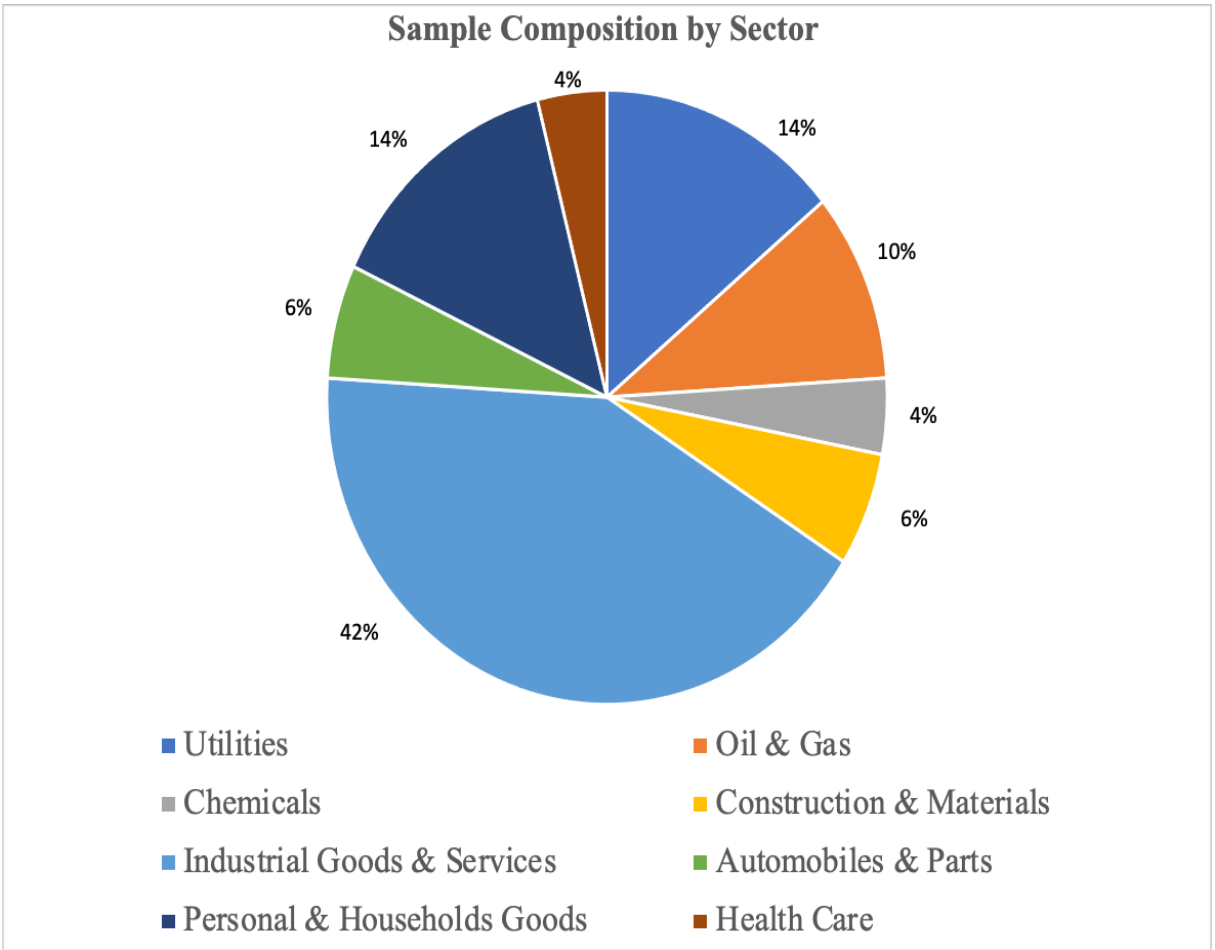
How do you evaluate the relevance of the following factors in the design and implementation of sustainability strategies in your company?

Highlight just one response for each line. Extremes (-3) and (+3) indicate absolute irrelevance and absolute relevance, respectively.

General Categories	Subcategories	Relevance IRRELEVANT → RELEVANT						
Normative Pressure (scale)	*Local*	-3	-2	-1	0	1	2	3
	National	-3	-2	-1	0	1	2	3
	European	-3	-2	-1	0	1	2	3
	International	-3	-2	-1	0	1	2	3
Market Pressures	*Customers*	-3	-2	-1	0	1	2	3
	Investors	-3	-2	-1	0	1	2	3
	Human Resources	-3	-2	-1	0	1	2	3
	Competitors	-3	-2	-1	0	1	2	3
Social Pressures	*Environmental NGOs*	-3	-2	-1	0	1	2	3
	New Social Movements (ex. #FridaysForFuture)	-3	-2	-1	0	1	2	3
	Traditional Media	-3	-2	-1	0	1	2	3
	Social Media	-3	-2	-1	0	1	2	3

At the end of the data collection process, I obtained 50 responses from companies belonging to eight different fields, reaching an overall satisfactory 40% response rate. No replies came from the Food & Beverage industry. Hence, I had to exclude it from my analysis. Here there is the updated framework with the sample composition by sector:

- Utilities (7 companies), rate of response: 54%
- Oil & Gas (5 companies), rate of response: 83%
- Chemicals (2 companies), rate of response: 40%
- Construction & Materials (3 companies), rate of response: 25%
- Industrial Goods & Services (21 companies), rate of response: 50%
- Automobiles and Parts (3 companies), rate of response: 33%
- Personal and Household Goods (7 companies), rate of response: 30%
- Health Care (2 companies), rate of response: 33%



[37]

Then, I collected all the replies in an Excel database. I calculated the average values for each of the twelve indicators taken individually and the three aggregated classes (regulatory, market,

[37] Chart 1. Source: a personal elaboration.

and social pressures). Other indicators (such as sectoral values) did not confirm their relevance, especially in light of the low number of responses in some fields, like Chemicals and Health Care. I will elaborate more on their deliberate exclusion in the final part of this chapter. In the following section, I will present the numeric results that are already sufficiently explicit, leaving additional comments to the conclusive paragraph.

5.4: Results

The following tables illustrate the individual responses provided by single firms (renamed F1, F2, F3…F50 to maintain anonymity). They are listed by sectors, while abbreviations refer to the twelve subcategories of stakeholder pressures in the exact order in which they have been presented both in the questionnaire and throughout my research.

Notation:

- **L. RPs:** Local Regulatory Pressures
- **N. RPs:** National Regulatory Pressures
- **E. RPs:** European Regulatory Pressures
- **I. RPs:** International Regulatory Pressures
- **Cu MPs**: Customers Market Pressures
- **In. MPs:** Investors Market Pressures
- **HR MPs:** Human Resources Market Pressures
- **Co. MPs:** Competitors Market Pressures
- **NGOs SPs:** Environmental NGOs Social Pressures
- **S. Mov SPs:** New Social Movements (#FridaysForFuture) Social Pressures
- **Tr. M. SPs:** Traditional Media Social Pressures
- **S. Med. SPs:** Social Media Social Pressures

Firms	Field	L. RPs	N. RPs	E. RPs	I. RPs	Cu. MPs	In.MPs	HR MPs	Co. MPs	NGOs SPs	S. Mov. SPs	Tr. M. SPs	S. Med. SPs
#F1	Utilities	3	3	2	1	2	3	1	1	0	0	0	1
#F2	Utilities	3	0	3	2	0	3	-2	1	-3	-2	1	1
#F3	Utilities	2	3	3	2	3	2	0	1	2	2	1	1
#F4	Utilities	2	2	2	2	1	3	1	1	1	0	1	2
#F5	Utilities	2	2	3	1	-2	3	0	-1	-2	1	1	1
#F6	Utilities	2	3	3	3	2	2	2	2	2	2	2	3
#F7	Utilities	3	3	3	2	0	2	1	0	1	-1	1	2
#F8	Oil & Gas	3	3	3	3	2	3	2	2	2	1	1	1
#F9	Oil & Gas	1	2	3	3	3	-1	-3	3	-1	-3	1	1
#F10	Oil & Gas	3	3	3	3	2	2	1	-1	1	-1	1	-1
#F11	Oil & Gas	2	3	3	1	1	3	2	1	2	2	2	2
#F12	Oil & Gas	2	-1	1	-2	2	1	-1	1	-3	-3	1	0

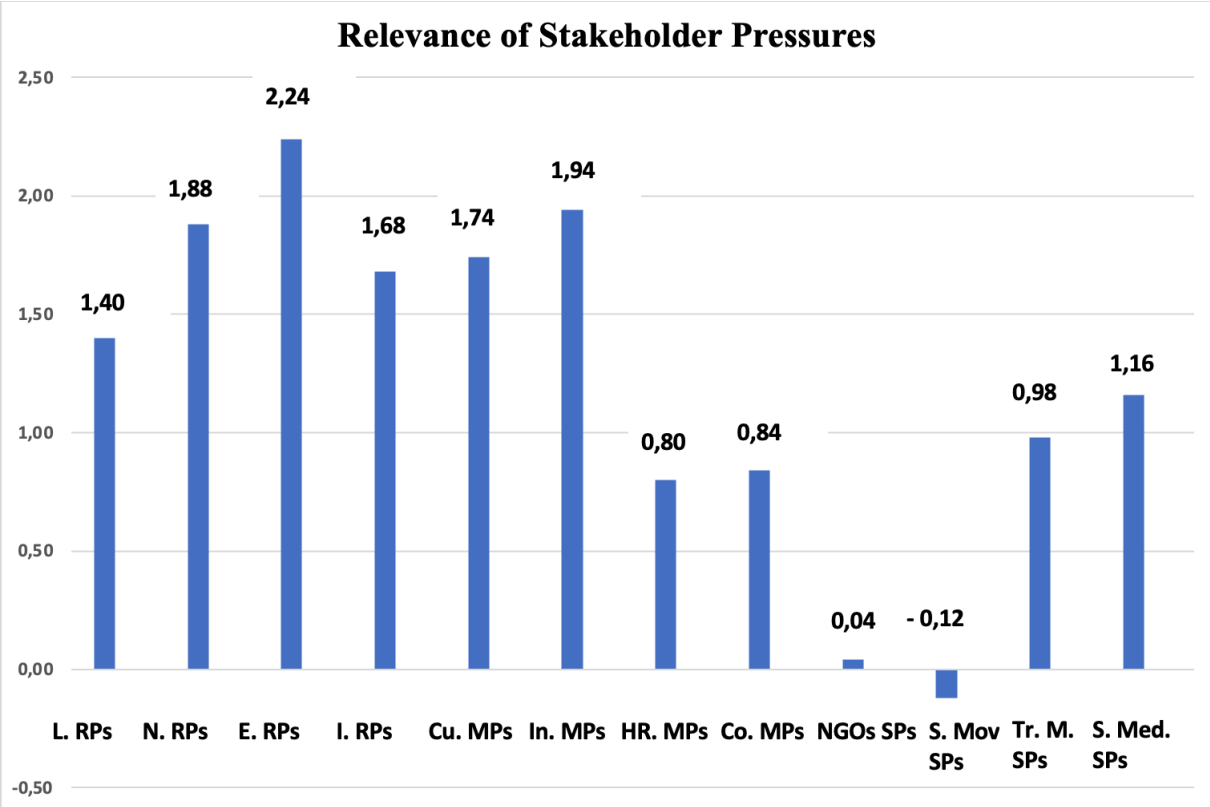
#F13	Chemicals	2	0	1	2	2	1	1	0	2	2	1	2
#F14	Chemicals	2	2	1	1	3	3	-1	-1	-1	0	2	2
#F15	Construction and Materials	-2	1	3	1	2	1	1	2	1	-3	-2	-2
#F16	Construction and Materials	2	1	0	0	2	2	2	-1	-3	-3	-3	-3
#F17	Construction and Materials	3	3	3	2	3	3	1	2	0	0	1	1
#F18	Industrial Goods and Services	1	2	3	3	2	3	0	1	-2	-1	2	2
#F19	Industrial Goods and Services	3	3	3	3	1	3	1	2	1	1	3	2
#F20	Industrial Goods and Services	2	3	2	2	2	3	2	1	1	1	2	2
#F21	Industrial Goods and Services	2	2	0	0	1	-3	1	-3	-3	-3	1	1
#F22	Industrial Goods and Services	1	2	2	1	1	2	2	1	1	1	1	2
#F23	Industrial Goods and Services	2	2	2	3	2	2	0	2	0	0	1	0
#F24	Industrial Goods and Services	1	1	1	1	2	1	0	1	-1	-2	0	0

#F25	Industrial Goods and Services	1	1	2	2	2	2	1	1	-3	-3	2	2
#F26	Industrial Goods and Services	3	3	3	3	3	3	2	3	1	1	1	2
#F27	Industrial Goods and Services	0	2	0	0	1	1	2	3	0	1	3	3
#F28	Industrial Goods and Services	-3	1	3	0	1	3	1	-3	-3	-1	2	3
#F29	Industrial Goods and Services	2	3	3	3	2	1	2	1	0	0	1	1
#F30	Industrial Goods and Services	1	2	3	3	2	2	2	3	1	2	2	3
#F31	Industrial Goods and Services	3	3	3	2	2	3	1	2	1	0	2	2
#F32	Industrial Goods and Services	-3	1	3	3	2	2	0	-1	0	0	1	1
#F33	Industrial Goods and Services	0	3	2	-3	3	1	1	1	1	1	1	1
#F34	Industrial Goods and Services	1	1	2	2	2	3	1	2	2	1	1	1
#F35	Industrial Goods and Services	0	0	3	2	3	1	-1	0	0	-1	0	-1
#F36	Industrial Goods and Services	-2	-2	-2	-1	-1	2	2	-3	-3	-3	-3	-3
#F37	Industrial Goods and Services	3	3	3	2	2	3	1	2	1	0	3	3

#F38	Industrial Goods and Services	2	3	3	2	3	2	2	3	0	0	1	2
#F39	Automobiles and Parts	1	2	2	2	1	2	1	1	0	2	1	2
#F40	Automobiles and Parts	2	2	3	2	2	2	0	1	1	1	1	1
#F41	Automobiles and Parts	0	1	2	-1	0	-3	-1	0	0	-1	-1	0
#F42	Personal and Household Goods	2	2	2	2	2	2	0	1	0	0	0	0
#F43	Personal and Household Goods	3	3	2	2	3	3	1	1	1	0	1	2
#F44	Personal and Household Goods	-1	1	2	2	1	1	1	1	-2	-2	0	1
#F45	Personal and Household Goods	1	1	2	2	3	3	0	1	2	2	3	3
#F46	Personal and Household Goods	1	1	1	1	2	1	1	2	1	1	1	1
#F47	Personal and Household Goods	1	1	3	3	2	2	0	-1	-1	-2	0	0
#F48	Personal and Household Goods	2	3	3	3	2	2	2	2	1	1	1	1
#F49	Health Care	1	2	3	3	2	3	2	0	1	1	1	2
#F50	Health Care	2	3	3	3	1	3	2	1	2	2	2	2

38

[38] Source: a personal elaboration



[39]

This chart shows the relevance of each of the twelve indicators taken individually, whereas the following indicators summarise the overall relevance of the three broader categories:

- Regulatory Pressures: 1.80
- Market Pressures: 1.33
- Social Pressures: 0.52

5.5: Discussion and concluding remarks

This final section aims to offer some reflections, starting from discussing the results presented above. Numbers confirm the good quality of the theoretical reasoning, particularly concerning the choice of the twelve different factors. Indeed, eleven out of twelve indicators show values above 0 (corresponding to the neutrality level in terms of relevance). Five of them scores above 1.5, suggesting a significantly high relevance for companies' design and implementation of

[39] Chart 2. Source: a personal elaboration.

sustainability strategies. Only one indicator (social pressures carried out by new social movements) has a slightly negative value (- 0.12).

Regarding the validity of the five hypotheses introduced at the beginning of this chapter, the picture is blurred. I report them here for simplicity:

- Overall, I expect a higher contribution of market pressures vis-à-vis regulatory and social pressures (H1).
- I expect investors are playing a major role among the four categories of market pressures (H2).
- Due to the scale at which many of these companies operate, I expect the European regulatory framework to be more relevant than the other three levels (H3).
- I expect environmental NGOs still prevailing on spontaneous social movements such as the #FridaysForFuture (H4).
- Finally, I expect traditional media to still prevail on social media (H5).

The first hypothesis is not confirmed since market pressures overall (1.33) rank higher than social pressures (0.52) but lower than regulatory pressures (1.80). Instead, the second hypothesis is confirmed since investors (1.94) are the most relevant class of stakeholders among the four investigated in the market framework. The third hypothesis is also fully confirmed. Indeed, those exerted at a European level (2.24) are not just the most relevant among the regulatory pressures, but they are also the most significant overall. The last two hypotheses showed a small margin of error, since environmental NGOs (0.04) basically have the same relevance of the new social movements (-0.12), and social media (1.16) have just a tiny "advantage" vis-à-vis traditional media (0.98).

Before concluding, I would like to add a few comments on these results, opening to the possibility for further developments regarding future research on the role of stakeholder pressures in the energy transition. Firstly, regulatory pressures clearly guide the actions of companies in terms of sustainability strategies. Regardless of the scale or the industry at which firms operate, legal frameworks always play a prominent role. Nonetheless, it could be interesting to enlarge this analysis by adding companies based in other EU countries. European

and international pressures are likely to be the same, whereas local and national ones might have different relevance in those contexts.

Secondly, I believe that many companies indicated a relatively low score to market pressures exerted by competitors due to a sort of 'pride bias'. Indeed, several studies employing the institutional approach as a theoretical lens demonstrate that successful competitors are among the most relevant actors when it comes to innovation. The energy transition (and sustainability strategies required to deal with it) should not represent an exception.

Thirdly, another fundamental element that would allow to carry on further developments in this research domain would be a larger sample. Indeed, by increasing both the number of firms belonging to the examined industries and the number of fields, it will be possible to conduct a cross-sectoral analysis. Unfortunately, it was not meaningful to do it here due to the low number of participants from some industries, such as Chemicals, Health Care, Construction & Materials, and Automobiles & Parts.

Furthermore, the prolonged Covid-19 pandemic inevitably reshuffles some papers, particularly among the four subcategories of social pressures. More in detail, the volume of information circulating through social media in the last year exploded, and the storytelling of the energy transition does not represent an exception. This trend characterised by the overtaking of social media vis-à-vis traditional communication channels was already in act for a long time. However, the recent acceleration must be taken into account when comparing the relevance of the two categories.

Finally, it can be argued that both environmental NGOs and new social movements such as the #FridaysForFuture (being physical actors) would have had significantly higher scores in the pre-pandemic framework. The Eurobarometer data provided in the previous chapter confirm this intuition. In particular, the movement guided by Greta Thunberg was living its brightest period just a few months before the Covid-19 outbreak. To conclude, my wish is that the #FridaysForFuture will have the occasion to prosper again as soon as possible, bringing their fundamental contribution to the global debate on the energy transition, as they actually did in the last Leaders' Summit on Climate hosted by the US Administration on the 22nd of April 2021.

Conclusion:

This work offered a detailed (albeit not exhaustive) overview of some prominent stakeholder pressures perceived by companies in the energy transition framework. Adopting the institutional lens allowed us to pay attention to the small details (starting from individuals and local initiatives) without losing the focus on the global dimension. This shift of perspective has been illustrated in the first chapter, which paved the road to the adoption of the institutional theory. The ultimate sense of this logic is that all the examined factors contribute to boosting the energy transition. Hence, individual analyses of their constitutive aspects are imperative. Nonetheless, to fully grasp their role and relevance, it is fundamental to set a choral framework in which confrontation is possible.

This aspect was essentially the purpose of the three core chapters where we discussed the role of regulatory, market, and social pressures. As I anticipated, the objective was not to provide an exhaustive list of stakeholder pressures. Instead, I selected twelve factors, and I tried to give precise insights about how and why I think they were relevant for the energy transition. The conclusive chapter crowned my analytical efforts by illustrating the survey results on fifty Italian listed companies from eight different industries. The selected categories of stakeholder pressures scored relatively high in general. Two of them (European Regulatory Pressures and Market Pressures exerted by Investors) demonstrated to be particularly significant for companies. These results indicate the route that firms should follow to be the protagonists in the energy transition.

Although we are approaching the end of this journey, I believe that this work can represent the departure point for further reflections on the energy transition. The latter is a unique opportunity to conjugate business administration and sustainable development. In particular, I believe that energy management is a critical function in these terms. Thus, I want to conclude with some personal reflections on the present and future role of energy management, a fascinating field in which I hope to bring my professional contribution one day.

'Energy management represents the noblest soul, the brightest face of the entire energy sector'. I will never forget these words, simple but straightforward, pronounced by my Economics and Management of Energy Business professor, Simone Mori, during a recent meeting. On that

occasion, we discussed the opportunity to enrich my personal and professional path with a Master in Energy Management. That sentence, pronounced with absolute frankness and conviction by someone who is dealing with energy (with capital E) for more than thirty years, represented further proof of the goodness of my choice. Moreover, it occurred in a crucial moment, at a critical juncture for my life.

Thus, it was an additional confirmation that humbleness and ambition, dedication and talent, planning and courage to dare, when they meet, they can generate marvellous fruits. Energy management, to me, is precisely this. Energy management represents the meeting point, the perfect combination between the manager's rational side (where efficiency and attention to the details necessarily prevail) and the most visionary one, where creativity, intuition, and an outstanding sensitivity dominate. Sensitivity toward the environment, of course, but also toward people.

Considerations related to climate justice and intergenerational equity, which we illustrated in this thesis, cannot be relegated at the margins of the energy manager's agenda. Short-sightedness in terms of ideas and the ability to analyse and understand the world in its entirety, with its numerous nuances, is a luxury that is not affordable for those covering these positions. Indeed, the world of energy is constantly mutating, and a new mental paradigm is required.

People like me, who dream to guide this sector in its sustainable development path, based on environmental integrity, economic prosperity, and social equity principles, cannot avoid looking in the mirror. To enter, eyes in the eyes, within their own image reflected, asking themselves two fundamental questions. The first: do I have the right fibre? Am I ready to get in the game, sharpening my technical and managerial skills to be prepared for a similar professional challenge? The second: do I have the necessary human virtues, like the aptitude for listening to other people, the integrity, and the transparency to make the right decisions not just for my future company and myself, but for the 'global village' in its entirety?

Therefore, energy management is an extraordinarily complicated activity. Perhaps that is why it is such a fascinating one for a young man like me, with eyes bigger than the world where I am still learning to swim. Like all the other managerial functions, energy management must fit into corporate organigrams, logics, and daily activities. The operative context is fundamental. Keeping the feet well anchored to the ground, being constantly receptive toward internal and

external stimuli is the essence of such a variegated business, especially in this phase of historical transition toward a carbon-neutral economy.

Nonetheless, such a vast challenge, like the energy transition, requires the ability to raise the eyes, sharp the sight, look over the clouds and uncertainties of the present. It is necessary to anticipate, in a proactive way, what will happen. To be resilient and forward-looking and transmit this footprint to the entire organisation, the people belonging to it, and those orbiting around it. It is not just mere survival, and it is not only an ethical issue. Understanding the energy transition means catching an extraordinary opportunity to advance together as a society, creating value in a firm but kind and respectful way.

To manage processes means to elaborate a massive quantity of inputs of different nature and complexity, offering at the same time a rapid, synthetic and incisive output. The world of energy relies on information. During my internship in the Energy and Climate Policies Unit at Enel, I am becoming increasingly aware of how fundamental it is to guarantee a constant and accurate flow of information from the base to the apex of the organisation. Pushed by the stream of enthusiasm and reinforced by teamwork, data, reports, and policy outlooks rapidly swim upward. They will reach those in charge of indicating the direction to advance with courage toward a greener and greener future.

In conclusion, it is rewarding to see how my daily work on themes like climate change, sustainable development, and the energy transition is then valorised by managers having great attention to the details and an excellent overall view of these problems at the same time. The small wheel that allows the whole gear to move is thus way more than a simple metaphor. It is a concrete and tangible reality, as it is crystal clear, to me, the path that I need to follow to ensure that the green, ever more intense, of the energy sector meets my (as much bright as possible) future.

Bibliography:

- Aldrich, H. (1979). *Organizations and Environments*. Englewood Cliffs, NJ: Prentice-Hall.
- Alverà, M. (2020). *Rivoluzione idrogeno. La piccola molecola che può salvare il mondo*. Milano: Mondadori.
- Andrew-Speed, P. (2016). Applying institutional theory to the low-carbon energy transition. *Energy Research & Social Science, 13,* 216-225.
- Bhagwati, J. (1995). US Trade Policy: The Infatuation with FTAs. *Discussion Paper Series Columbia University, 726*, *1-20.*
- Bansal, P. (2005). Evolving Sustainably: A Longitudinal Study of Corporate Sustainable Development. *Strategic Management Journal, 26(3),* 197-218.
- Bansal P, Roth K. (2000). Why companies go green: a model of ecological responsiveness. *Academy of Management Journal, 43,* 717–736.
- Batista, M., Clegg, S., Pina e Cunha, M., Giustiniano, L., Rego, A. (2016). Improvising Prescription: Evidence from the Emergency Room. *British Journal of Management, 27, 406-425.*
- Berrone, P., Fosfuri, A., Gelabert, L., Gomez-Mejia, L. R. (2013). Necessity as the mother of 'green' inventions: institutional pressures and environmental innovations. *Strategic Management Journal, 34*(8), 891-909.
- Biermann, F., Kanie, N., Kim, R. E. (2017). Global governance by goal-setting: the novel approach of the UN Sustainable Development Goals. *Current Opinion in Environmental Sustainability*, *26*, 26-31.
- BloombergNEF (2021). Energy Transition Investment Trends, 19th of January 2021, https://www.bnef.com/insights/25307/view
- Cadez, S., Czerny, A., Letmathe, P. (2018). Stakeholder pressures and corporate climate change mitigation strategies. *Business Strategies and the Environment, 28*, 1-14.
- Carlisle, M. (2019). This is an emergency. Our house is on fire. Greta Thunberg addresses New York's climate strike. *Time,* 20th of September 2019, <https://time.com/5682318/nyc-global-climate-strike/>

- Chan, S., Brandi, C., Bauer, S. (2016). Aligning Transnational Climate Action with International Climate Governance: The Road from Paris. *Review of European Community & International Environmental Law*, *25(2),* 238-247.
- Clean Air Act (1956). <https://www.legislation.gov.uk/ukpga/Eliz2/4-5/52/enacted>
- Colwell, S. R., Joshi, A. W. (2013). Corporate Ecological Responsiveness: antecedents' effects of institutional pressure and top management commitment and their impact on organizational performance. *Business Strategies and the Environment, 22,* 73-91.
- Delmas, M. A., Toffel, M. W. (2008). Organizational Responses to Environmental Demands: Opening the Black Box. *Strategic Management Journal, 29*(10), 1027-1055.
- Demeritt, D. (2006). Science studies, climate change, and the prospects for constructivist critique. *Economy and Society, 35 (3),* 453-479.
- DiMaggio, P. J., Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American sociological review*, 147-160.
- Dunlap, R. E., McCright, A. M. (2011). The politicization of climate change and polarization in the American public's views of global warming, 2001–2010. *Sociological Quarterly, 52*, 155–194.
- Dunlap, R. E., McCright, A.M. (2015). Challenging Climate Change: The Denial Countermovement, in Dunlap, R. E., and Brulle, R. J. (eds) *Climate Change and Society: Sociological Perspectives.* Oxford Scholarship Online, 300-333.
- Garcés-Ayerbe, C., Rivera-Torres, P., Murillo-Luna, J. L. (2012). Stakeholder pressure and environmental proactivity: Moderating effect of competitive advantage expectations. *Management Decision, 50*(2), 189-206.
- Garrone, P., Grilli, L., Mrkajic, B. (2018). The role of institutional pressures in the introduction of energy-efficiency innovations. *Business Strategy and the Environment, 27*(8), 1245-1257.
- Gates, B. (2021). *Clima. Come evitare un disastro. Le soluzioni di oggi, le sfide di domani.* Milano: la nave di Teseo.
- Gherardi, S., Jensen, K., Nerland, M. (2017). Shadow organizing: a metaphor to explore organizing as intra-relating. *Qualitative Research in Organizations and Management: An International Journal,* 12(1), 2-17.

- Gong, M., Gao, Y., Koh, L., Sutcliffe, C., Cullen, J. (2019). The Role of Customer Awareness in Promoting Firm Sustainability and Sustainable Supply Chain Management. *International Journal of Production Economics, 217,* 88-96.
- Guerci, M., Longoni, A., Luzzini, D. (2016). Translating stakeholder pressures into environmental performance - the mediating role of green HRM practices. *International Journal of Human Resource Management, 27*(2), 262-289.
- Greenwood, R., Miller, D. (2010). Tackling design anew: getting back to the heart of organizational theory. *Academy of Management Perspectives, 24(4),* 78-88.
- Hájek, M., Zimmermannová, J., Helman, K., Rozenský, L. (2019). Analysis of Carbon Tax Efficiency in Energy Industries of Selected EU Countries, *Energy Policy, 134,* 1-11.
- Hall, P. A., Taylor, R. C. R. (1996). Political science and the three institutionalisms. *Political Stud*, *44*, 936–957.
- Hart, S. (1995). A natural-resource-based view of the firm. *Academy of Management Review, 20,* 986–1014.
- Harvey, F. (2020). Joe Biden could bring Paris climate goals 'within striking distance. *The Guardian*, 8th of November 2020, <https://www.theguardian.com/us-news/2020/nov/08/joe-biden-paris-climate-goals-0-1c>
- Helm, D., Hepburn, C. (2009) *The Economics and Politics of Climate Change*. Oxford: Oxford University Press.
- Hyatt, D. G., Berente, N. (2017). Substantive or Symbolic Environmental Strategies? Effects of External and Internal Normative Stakeholder Pressures. *Business Strategy and the Environment*, 26(8), 1212-1234.
- Intergovernmental Panel on Climate Change (1989). Climate Change: the IPCC Scientific Assessment <https://www.ipcc.ch/site/assets/uploads/2018/03/ipcc_far_wg_I_full_report.pdf>
- Italian Constitution, https://www.cortecostituzionale.it/documenti/download/pdf/Costituzione_dellaRepubblica_italiana.pdf
- Jasanoff, S. (1997). NGOs and the environment: from knowledge to action. *Third World Quarterly, 18(3),* 579-594.
- Kellow, A. (2000). Norms, interests and environment NGOs: The limits of cosmopolitanism. *Environmental Politics, 9(3),* 1-22.

- Kraft, M. E., Clary, B. B., (1991). Citizen Participation and the Nimby Syndrome: Public Response to Radioactive Waste Disposal. *The Western political quarterly*, 44(2), 299–328.
- Leal-Arcas, R., Filis, A. (2013). The fragmented governance of the global energy economy: a legal-institutional analysis, *Journal of World Energy Law and Business*, 6(4), 348-403.
- Lorenzoni, I., Nicholson-Cole, S., Whitmarsh, L. (2007). Barriers perceived to engaging with climate change among the UK public and their policy implications. *Global Environmental Change, 17*, 445-459.
- Magbool, M., Amran, A., Nejati, M., Jayaraman, K. (2016) 'Corporate sustainable business practices and talent attraction', *Sustainability accounting, management and policy journal, 7(4),* 539–559.
- Maniates, M.F. (2001). Individualization: Plant a Tree, Buy a Bike, Save the World?. *Global Environmental Politics, 1(3),* 31-52.
- McCauley, D., Heffron, R. (2018). Just transition: integrating climate, energy and environmental justice. *Energy Policy*, *199*, 1–7.
- Mermet, L. (2018). Pro-environmental strategies in search of an actor: a strategic environmental management perspective on environmental NGOs. *Environmental Politics, 27(6),* 1146-1165.
- Mert, A., Chan, S. (2012). The Politics of Partnerships for Sustainable Development, in Pattberg, P. et al. (eds.). *Public–Private Partnerships for Sustainable Development: Emergence, Influence and Legitimacy*. Cheltenham: Edward Elgar, 21-43.
- Mowday, R. T., Steers, R. M., Porter, L. W. (1979). The Measurement of Organizational Commitment. *Journal of Vocational Behavior, 14,* 224-247.
- Nasiritousi, N. (2019). NGOs and the Environment, in Davies, T. (eds) *Routledge Handbook of NGOs and International Relations*. London: Routledge, 329-342.
- Nespor, S. (2015). Alta velocità e effetto NIMBY. *AmbienteDiritto,* 24*th* of May 2015, <https://www.ambientediritto.it/dottrina/alta-velocita-e-effetto-nimby/>
- Nespor, S. (2020). La scoperta dell'ambiente. Una rivoluzione culturale. Roma: Editori Laterza.
- O'Reilly III, C. A., Tushman, M. L. (1996). Ambidextrous organizations: managing evolutionary and revolutionary change. *California Management Review, 38(4),* 8-28.

- Ortiz-de-Mandojana, N., Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal, 37,* 1615-1631.
- Olausson, U. (2009). Global warming-global responsibility? Media frames of collective action and scientific certainty. *Public understanding of science*, *18*, 421-436.
- Pancheri, G. (2021). *Rinascita Americana. La nazione di Donald Trump e la sfida di Joe Biden.* Milano: SEM.
- Pina e Cunha, M., Giustiniano, L, Rego, A., Clegg, S. (2019). "Heaven or Las Vegas": Competing institutional logics and individual experience. *European management review, 16(3),* 781–798.
- Portney, P. R., Weyant, J. P. (2013). *Discounting and Intergenerational Equity*. Abingdon-on-Thames: Taylor and Francis.
- Pucheta-Martínez, M. C., Bel-Oms, I., Rodrigues, L. L. (2020). Does stakeholder engagement encourage environmental reporting? The mediating role of firm performance. *Business Strategy and the Environment, 29*(8), 1-13.
- Rootes, C. (2013). Mobilising for the environment: parties, NGOs, and movements. *Environmental Politics, 22(5),* 701-705.
- Rossi Albertini, V. (2020). *Un pianeta abitabile. Come salvare il mondo cambiando il nostro modo di viverlo.* Milano: Longanesi.
- Schmid-Petri, H., Adam, S., Schmucki, I., Häussler, T. (2015). A changing climate of skepticism: The factors shaping climate change coverage in the US press. *Public Understanding of Science*, *26(4),* 498-513.
- Shen, J., Jiuhua Zhu, C. (2011) Effects of socially responsible human resource management on employee organizational commitment. *The International Journal of Human Resource Management 22(15),* 3020-3035.
- Shove, E. (2010). Beyond the ABC: Climate change policy and theories of social change. *Environment and Planning A*, *42(6),* 1273-1285.
- Simon, F. (2021). EU carbon border levy shaping up as 'notional ETS'. *Euractiv,* 25th of January 2021 (updated the 15th of February 2021), <https://www.euractiv.com/section/energy-environment/news/eu-carbon-border-levy-shaping-up-as-notional-ets/>
- Sjöstedt, M. (2015). Resilience revisited: taking institutional theory seriously. *Ecology and Society, 20(4),* 23-30.

- Smith, E., Marquez, M. (2000). The Other Side of the NIMBY Syndrome. *Society & natural resources*, 13(3), 273–280.
- Sovacool, B., Dworkin, M. H. (2015). Energy justice: conceptual insights and practical applications. *Applied Energy*, *142*, 435–444.
- Tilleman, S. (2012). Is Employee Organizational Commitment Related to Firm Environmental Sustainability? *Journal of Small Business and Entrepreneurship, 25*(4), 417-431.
- Venugopal, R. (2015). Neoliberalism as concept. *Economy and Society*, *44(2),* 165-187.
- Vidal, J., Stratton, A., Goldenberg, S. (2009). Low targets, goals dropped: Copenhagen ends in failure. *The Guardian*, 19th of December 2009 <https://www.theguardian.com/environment /2009/dec/18/copenhagen-deal>
- Walker, G. P. (2014). Beyond individual responsibility: social practice, capabilities and the right to environmentally sustainable ways of living', in Strengers, Y. and Maller, C. (eds) *Social practices, intervention and sustainability: beyond behaviour change*. London: Routledge, 45-59.
- Zhang, Y., Chao, Q., Zheng, Q., Huang, L. (2017). The withdrawal of the US from the Paris agreement and its impact on global climate change covenants in advances. *Climate Change Research*, *8(4),* 213–219.

Summary:

This thesis employs an institutional perspective to evaluate the role of stakeholder pressures in the energy transition process. The latter is likely to represent one of the most significant challenges in the history of humanity. Indeed, the one already in act is not just an economic or technological change. The energy transition implies a paradigmatic shift of perspective that embraces politics, civil society, the world of business, but also the media, the academic community, and many other spheres of human life. Therefore, the best way to catch all the possible nuances regarding the energy transition is the institutional theory, which focuses on the interactions among single elements belonging to a given organisational field rather than on a specific actor.

Indeed, companies have to adapt their behaviour to a vast range of stimuli coming from the external environment. This dissertation focused on three fundamental categories of stakeholder pressures: the regulatory, market, and social ones. Apart from the crucial role that they play in this process, it is vital to grasp how companies react (or should react) not just to survive, but also to prosper in the future.

For this reason, some relevant concepts such as those of ambidextrous behaviour, organisational resilience, and environmental proactivity are proposed throughout the whole dissertation to indicate the desirable path to follow in this process. Since institutional logic is not an immediate one to embrace for the reader, I decided to devote an entire chapter to the change of perspective required to deal with the energy transition effectively.

Therefore, the first chapter illustrates the importance of shifting from a behavioural paradigm (where the focus is merely placed on individual and local actions) to an institutional one. The latter offers the possibility to understand the global picture on climate change and environmental issues in many ways:

1- it allows shedding light on multiple geographical levels at a time, thus grasping the relevance of concepts such as climate justice.

2- the institutional theory stresses the importance of various actors' individual contributions in shaping the overall phenomenon (in this case, the energy transition). This aspect was fundamental for how I intended to structure my thesis.
3- by analysing the whole framework, it has been easier to link causes and consequences and propose effective global solutions for this intrinsically global problem.

The body of this work is instead constituted by three chapters, which go deeper into the role of regulatory, market, and social pressures, respectively. Regarding regulatory pressures, I wanted to evaluate their relevance at four different geographical levels: the local, the national, the European, and the international ones. As for local pressures, I focused on the role of NIMBY claims, which historically represented a pain in the neck for companies willing to invest in complex infrastructures. The TAV and TAP projects in our country are emblematic examples in these terms. In that section, I also illustrated how fundamental it is to conciliate citizens' concerns with the local administration and private corporations' interests, to generate value for the whole area, not just for occasional users coming from elsewhere.

Moving upward to the national level, I discussed the new establishment of the Minister and Interministerial Committee for the Ecological Transition in the government guided by Mario Draghi. In my opinion, this represents the right path to follow to advance in some critical sectors, such as sustainable mobility, infrastructures, but also the unrepeatable occasion for valuing the South as a potential vehicle for the development of hydrogen and renewables. Italy must seek to exploit the historical opportunity represented by the Recovery Fund to boost its path toward a greener and digitalised model of society.

In terms of European regulatory pressures, I exposed in detail how the EU is tackling climate change. In particular, I confronted its past 20-20-20 strategy with the current (and more ambitious) objectives for 2030 and 2050. Moreover, I discussed the two primary market instruments to tackle greenhouse gas emissions: the EU Emission Trading System and the Carbon Border Adjustment Mechanism. These are undoubtedly the two hottest topics in the EU climate policy framework right now. Further developments are expected in the next two months, and pressures coming from European institutions on companies operating in the most polluting sectors are likely to rise significantly.

The final level in terms of regulatory pressures was the international one. In this section, I focused on the role of the Paris Agreement. The latter represents a milestone in the fight against climate change. Indeed, after some emblematic failures, such as the Kyoto Protocol or the COP15 in Copenhagen, the Paris Agreement managed to conjugate top-down governance with bottom-up contributions. In particular, involving non-state actors is a decisive step to reach the ambitious target of keeping global temperature rise well below 2°C (and possibly even below 1.5°C) by the end of the century.

Moving to the third chapter on market pressures, I decided to explore the role of four main classes of stakeholders: customers, investors, human resources, and competitors. This chapter, as the whole dissertation, did not aim to be exhaustive. It just wanted to offer an overview of the influence these actors may play in the design and implementation of sustainability strategies by companies. Starting with customers, I described the fundamental change of perspective occurring in the power sector, where thanks to the introduction of smarts grids, they are acquiring an increasingly proactive role. The image of a rising 'energy democracy' provided by Rossi Albertini (in juxtaposition with monopolies and oligopolies characterising this field in the past) is particularly effective to illustrate the trend already in act.

Investors were probably the most intriguing category to explore. Thanks to many illuminating points of reflection offered by Bill Gates in his recent book on climate change, I connected the dots regarding climate finance's increasing relevance in the energy transition. It is not just a matter of money but also an issue of perspective and possibilities. The objective is to unite public and private investments in green technologies, thus generating a virtuous circle that (according to the concept of institutional isomorphism) will also engage later comers in the field. According to Bill Gates, it is fundamental to invest in breakthrough innovations, even if some of them are destined to fail along the way.

The section on human resources was probably more subtle and less immediate to understand. However, the reasoning behind its inclusion in this work is pretty simple and straightforward. I do believe (and multiple studies confirm this feeling) that companies seriously engaging in green activities are far more attractive for young talents. In particular, as was the case for investors, they will be perceived as more solid and resilient in the long term. Therefore, they are likely to be the first choice for the most exceptional talents willing to start a career in a given field, such as the energy sector.

To complete the reasoning on market pressures, I discussed the role of competitors in the design and implementation of sustainability strategy. To use an apt metaphor, standing on the shoulders of (successful) giants is pivotal for companies to survive the wave of the energy transition. The institutional theory is particularly effective in explaining companies' behaviour vis-à-vis the introduction of disruptive innovations by other firms in the same domain. As anticipated, institutional isomorphism is the tendency to follow effective strategies in order to survive and prosper in the future.

The fourth chapter investigated the relevance of four categories of stakeholders: environmental NGOs, the most iconic social movement (the #FridaysForFuture), traditional and social media, with particular reference to the storytelling on sustainability strategies and the energy transition conducted by (and through) these channels. Environmental NGOs traditionally played a crucial role in pushing companies and institutions to act in favour of the energy transition. Nonetheless, it is relevant to ask whether they will maintain the same relevance in the future. Without discussing the positive contribution brought in environmental fora, we need to take into account that even these actors have strategies and priorities strictly linked with those of their countries of origin.

The primary actors that, albeit having the same objectives in principle, have a different strategy in practice, are the new social movements. Indeed, they mainly emerged spontaneously, exploiting the connecting power of the Internet and rapidly spreading across the globe. These movements have the unequivocal merit of placing climate and the environment back at the heart (and brain) of millions of people's daily lives. The most successful is undoubtedly the one guided by Greta Thunberg that reached astonishing popularity across the planet. The #FridaysForFuture immediately recognised not having the adequate competencies to solve the climate crisis. Nonetheless, they are demonstrating to have the suitable fibre to push those in charge of doing that.

Regarding the media system, I decided to concentrate on the role of the primary Italian financial newspaper – Il Sole 24 Ore – in shedding light on the energy transition. The propulsive role that this newspaper and some of its prominent journalists play in this theme is crucial for two reasons. First, it allows an increasingly vast audience to understand the key dynamics of such a complex challenge that does not concern just experts but also ordinary citizens' daily lives. Secondly, their events are the perfect occasions for actors operating in the field, such as

managers, representatives of institutions, and scholars, to share views, reflect on common issues, and find practical solutions.

Finally, social media represent excellent tools to communicate sustainability. Nevertheless, companies must be aware of some of the main features of bi-directional communication. Indeed, if not correctly employed, these channels might reverse against their users, thus becoming obstacles in their path toward a greener reputation. To offer a broader picture of this topic, I analysed social media's strengths, weaknesses, opportunities, and threats through a SWOT matrix, providing suggestions on when and how to use each specific platform.

The fifth chapter is an on-field analysis conducted on fifty Italian listed companies belonging to eight different sectors: Utilities, Oil & Gas, Chemicals, Construction & Materials, Industrial Goods & Services, Automobiles and Parts, Personal and Household Goods, and Health Care. The objective is to evaluate the relevance of the three broad classes of stakeholder pressures (regulatory, market, and social ones) and the twelve subcategories presented above in the design and implementation of sustainability strategies.

I advanced five key hypotheses on the weight of these factors, and I structured a questionnaire that I submitted to those in charge of sustainability strategies within these companies. The final results essentially confirmed the theoretical reasoning followed throughout my dissertation. In particular, it emerged that regulatory pressures are the most relevant category overall, and among them, those exerted at a European level ranked first. Moreover, market pressures advanced by investors were also remarkable, whereas social pressures conducted by environmental NGOs and new social movements obtained the lowest scores overall.

One of the most surprising results came from the relatively low score gained by market pressures exerted by competitors. Indeed, according to the academic literature of the field, the latter are the primary vectors of innovation for companies. Perhaps, a sort of 'pride bias' emerged from companies in my sample, that despite the anonymity of results, generally attributed lower importance to competitors with respect to other categories.

In terms of practical relevance, I believe that this work can offer significant contributions on multiple fronts:

1- it shed light on a crucial phenomenon encompassing various spheres of human life and likely monopolising public and private agenda in the next decades.
2- it investigates in detail the role of some of the primary stakeholders that are more active in this process.
3- It conjugates the excellent theoretical instruments of the institutional theory with a personal touch deriving from my academic and professional path.
4- the overall discussion is validated by the empirical results obtained by collecting data on sustainability strategies from the protagonists of the energy transition: companies in some of the most polluting fields.

I want to conclude this summary by recalling the importance of a proactive attitude toward the energy transition. The latter is the meeting point between business administration and sustainable development. The whole dissertation wants to encourage companies to be more forward-looking in these terms. As I pointed out in the introduction, they should try to renounce some of their short-term benefits and proactively adapting their culture and values to affirm their position in a renewed global system that is expected to be full of opportunities. By anticipating the steps of a well-defined future path, they will successfully overcome the wave of the energy transition.