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BUSINESS LEADERS AND CLIMATE CHANGE IN BARCELONA



Business Leaders and Climate Change in Barcelona

Master's Thesis in Political Ecology, Degrowth and Environmental Justice

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ABSTRACT

This research explores the ways in which some of the main business leaders in the Metropolitan Area of Barcelona perceive climate change. It analyses themes such as who should lead the changes, how it affects their business strategies and its personal lifestyle, and how they position themselves regarding competing economic-environmental relations paradigms. In-depth interviews were performed, and results were compared with information provided by local policy makers and advisors. The analysis shows that business leaders are very concerned about climate change. Nevertheless, this is often not transferred into strategic business changes. Therefore, there is a tension between their self-claimed alignment with the “green growth” paradigm and the policy makers/advisors that perceive “business as usual” practices. At the business level, business leaders want public administrations to lead on climate change and do not perceive degrowth as a realistic strategic option for their activity.



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ECONOMY-ENVIRONMENT PARADIGMS

In December 2019, the European Union announced a new policy programme, the European Green Deal (EGD). It aims to put climate policy at the centre of all EU policies (Dupont, Oberthür and von Homeyer, 2020). Additionally, in reaction to the economic crisis triggered by the Covid crisis, the EU introduced NextGenEU in May of 2020, a 750-billion-euro recovery plan. Despite some calls to the contrary, the EU made climate ambitions a central part of the economic recovery (Dupont, Oberthür and von Homeyer, 2020).

Therefore, one cannot view these EU policies as merely environmental policies. Underlying them is a specific paradigm that tries to reconcile tensions between the need for a prosperous environment and a growing economy (Ossewaarde & Ossewaarde-Lowtoot, 2020). It is in this light that we can understand the comments of the president of the EU Commission, Ursula von der Leyen, on the EGD (European Commission, 2019):

*The European Green Deal is not only about emissions. It is about boosting innovation. It is about quality food. It is about modern mobility. It will create new businesses and markets all across Europe. **The European Green Deal is our new growth strategy** (emphasis added).*

In the last decade, there have been three main policy paradigms in response to the economic and environmental crises: 'almost business as usual (BAU)', 'green growth', and 'all change' (Bina, 2013).

Almost BAU refers to stimulus packages whose primary aim is to minimise the impacts of a global economic crises and to boost economic growth. Greening is seen as an investment strategy and the paradigm remains strongly attached to economic growth as the main goal (Bina, 2013). Governments, in this view, should be willing to significantly intervene in the economy and direct investments to the eco-industry. Businesses are also encouraged to make green investments, but there is no comprehensive sustainability strategy. (Bina, 2013).

The second, and dominant paradigm, is green growth (Bina, 2013). The concept of green growth is not well defined (Kallis and Hickel, 2019) and is sometimes used interchangeably with the green economy (Bina, 2013). The European Green Deal largely conforms to this paradigm (Ossewaarde & Ossewaarde-Lowtoot, 2020).

The defining characteristics of green growth are the expansion of markets and accurate pricing of natural resources, a central role for technological innovation based on competitive markets and resource efficiency, and a decoupling of economic growth from resource use (Bina, 2013; Kallis and Hickel, 2019; Ossewaarde & Ossewaarde-Lowtoot, 2020).

In this view, environmental practices can create advantages to businesses, which in turn will be beneficial to the environment. Consequently, in the green growth paradigm, companies are expected to invest in resource efficiency and sustainable practices, products and services. The economy in general and businesses in particular are expected to grow (Bina, 2013; Ossewaarde & Ossewaarde-Lowtoot, 2020).

The third paradigm is 'all change', which focuses on well-being and happiness as a metric, rather than economic growth (Bina, 2013). An important proponent of this paradigm is the degrowth movement. According to degrowth, economic growth and sustainability are fundamentally irreconcilable (Kallis and Hickel, 2019). Proponents of degrowth advocate a radically different economic model, without economic competition and without profit as a primary business motive (Nesterova et al., 2020).

These different policy paradigms are crucial to understand the approach of public administrations and businesses. Therefore, they are necessary to understand how business leaders view and respond to environmental crises in general, and climate change in particular.

In the next section, we review the role of business leaders on environmental issues in general, and climate change in particular. Following this, we describe Barcelona's economy to understand the key economic sectors the context in which the business leaders take their decisions. Afterwards, we review the climate policy framework in Barcelona to understand the political context. This is followed by the methodology, the empirical analysis and the results. We end the research with a discussion of the results and a final conclusion.

CLIMATE CHANGE AND THE ROLE OF BUSINESS LEADERSHIP

Climate change is one of the most important aspects of the environmental crises humanity is facing today. According to the Paris Agreement, countries are legally obligated to limit global warming to 'well below 2 degrees' ('The Paris Agreement', n.d.). Since corporations are the cornerstones of current economic activity and consumption, they have an important role to play in decreasing greenhouse gas emissions. The largest companies are some of the biggest economic actors and their revenue and greenhouse gas emissions are larger than some national economies (Wright and Nyberg, 2017).

Nevertheless, large companies have not only historically been a large source of emissions, some of them have also actively lobbied against climate regulations (Brulle, 2018; Wright and Nyberg, 2017). Clearly then, strong business action is needed now more than ever. The green growth paradigm requires that businesses incorporate sustainability in their core business.

While businesses are complex and corporate leaders alone do not decide the complete economic behaviour of the firm, we follow Godos-Díez, Fernández-Gago & Martínez-Campillo's (2010) assertion that *'there cannot be socially responsible corporations without socially responsible managers'* (p. 531). If important decision makers are not convinced of the need for different business practices, change is unlikely to happen. There will need to be a change in priorities, beyond the large importance given to short-term interests.

The little research that exists on this topic suggests that decision makers can make a difference in some cases. Sharma (2000) confirms found that business leaders' interpretation of environmental issues does have an impact on the environmental policies of their companies. The more they see them as a central concern to their company, the more they will see environmental policy as an opportunity, rather than a threat. They will also try to frame such concerns as a defensible business interests, and they will signal that the environment is a priority to internal and external stakeholders (Wright and Nyberg, 2017).

But to know how business leaders will respond to climate change, it has to be known how business leaders understand climate change. Nonetheless, research on this topic has also been rare. One PWC study surveyed more than a thousand CEO's around the world and posed a limited set of questions about climate change. The study found that 24% of the CEO's are extremely concerned about climate change. It also found that climate change

is increasingly seen as a business opportunity, although the number of CEO's that think this is still quite low (25% globally) (PWC, 2019).

Furthermore, the United Nations Global Compact developed a report on business leaders' view of sustainability. The report interviewed more than a thousand top executives. In contrast to the PWC report, it found that a large majority thought sustainability has a link to their business value. 40% of respondents say sustainability is increasing revenue growth. However, the respondents also admitted businesses and industries are not doing enough. Less than 50% incorporated sustainability in their operations. They also found that market constraints and a lack of incentives were barriers to sustainability, and more than half of the CEO's reported a tension between short-term gains and long-term strategic objectives (Gupta et al., 2019).

However, even these two reports don't try to uncover how business leaders understand climate change on a fundamental level. This is because research on individuals' conception on climate change tends to be explanatory or prescriptive (see for example: Pidgeon, 2012; Weber and Stern, 2011). It looks at factors explaining individual's attitudes to climate change and how to change individual's behaviours and ideas on the subject. Given the urgent nature of climate change, such approaches are clearly important.

Yet, in-depth researching of people's understanding of climate change is also valuable. It can provide clearer and more accurate information (Whitmarsh, 2008). This understanding, says Whitmarsh (2008), should not be only seen as knowing 'hard scientific facts' but also as *"understanding" in the fullest sense which includes how individuals apply scientific facts and principles to particular situations and express them in their understanding of the world* (p. 415).

This report aims to learn how business leaders in Barcelona understand climate change beyond a narrow scientific understanding. We study how business leaders perceive the climate change problem at the global, business, and personal level and analyse what they perceive as causes, impacts and responses.

ECONOMY OF BARCELONA

Barcelona Metropolitan Area (AMB) is one of the wealthiest areas in the whole of Spain. AMB has around 3,2 million inhabitants (IERMB, 2017), in addition to being attractive to foreign high-skilled workers. It is a hotspot for industry, tourism and services and the digital innovation sector. In this section, we'll look more closely into the economy of Barcelona Metropolitan Area and some of its important actors.

Catalonia and Spain

Barcelona is the capital and economic centre of Catalonia, which is an autonomous community in Spain. Catalonia is the richest autonomous community in Spain after Madrid, making up roughly 20% of its GDP. It also has a lower unemployment rate than the average in Spain (14,4% vs 10,7%) and produces 25% of Spain's exports ('Spain autonomous communities comparison: Spain vs Catalonia', 2020). In 2016, the GDP of the Barcelona Metropolitan Area was more than 50% of the whole GDP of Catalonia.

Governance

The Barcelona Metropolitan area is made up of 36 municipalities, of which Barcelona municipality is the most well-known. In 2011, the AMB was formed, which is the public administration of the Barcelona Metropolitan Area. All municipalities are represented in the AMB administration, though Barcelona municipality is most represented because of its high number of inhabitants ('AMB', 2020). Currently the president of the AMB is Ada Colau, who is also the mayor of Barcelona.

The AMB body has shared-but limited-competencies with local governments related to territorial and urban planning, mobility, housing, environment, economic development and social cohesion ('AMB', 2020).

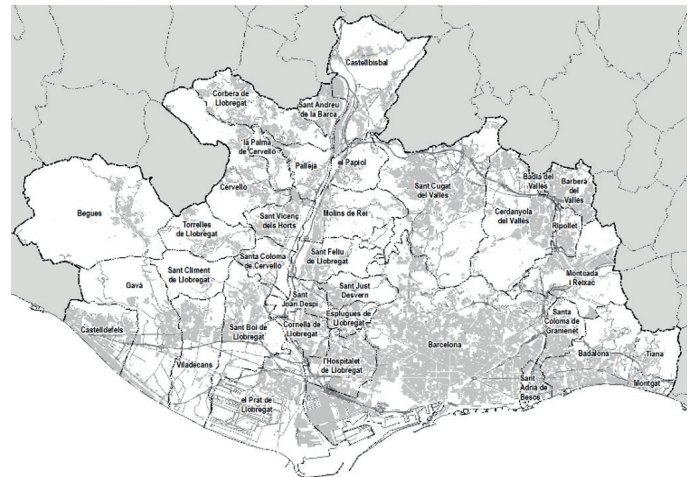


Figure 1: Source IERMB (2017)

Geography and Transport Infrastructure

Barcelona's central position in the Mediterranean and access to the sea plays an important role in its economic strategy. Its position enables it to thrive and facilitates access to markets, in particular the Southern European markets (such as France, Portugal and Italy), and the interior markets of Spain, including Catalonia (Barcelona Activa, 2018). The transportation of goods happens along two axes: the Mediterranean axis and the Ebre axis. Most of the goods are transported by road (93,2%), of which the A7 is among the most important ('Contact', 2020), while the train only transports 6,8%. ('Transport', 2020).

Furthermore, the port and airport are among the largest and busiest in Europe and were growing up until the Covid-19 crisis. The airport is the 7th largest in Europe in terms of passenger volume (50 million passengers in 2019), while the port ranked 9th in Europe, in terms of container throughput (AMB, 2019 Barcelona Activa, 2018; Notteboom, 2019). It is estimated that the port generates 9,2 billion euros for the Catalan economy and contributes to 5,2% of Catalan employment (ACN, 2018). The port also had more or less 4,5 million passengers in 2019, of which a large part came from tourist cruises (AMB, 2019).

Dispersed Economic Activity and Knowledge

The metropolitan area has various economic centres, specialised in different sectors of the economy. Technology/knowledge-intensive industries and services are highly concentrated in the municipality of Barcelona and other traditional sub-centres located in the wider Barcelona regions (Muñiz & García-López, 2010), while industry has increasingly moved away to the periphery (Muñiz & García-López, 2010), partly due to the high price of land (Chica & Marmolejo, 2016).

Barcelona is very well positioned to have a strong start-up ecosystem, especially in the areas of technological innovation and the digital economy (Barcelona Activa, 2018). It is ranked the 4th most innovative city in Europe according to the 2019 Innovation Cities Index and is ranked as the 3rd most preferred city to launch a start-up according to the Start-up Heatmap Europe Report 2019 (Barcelona Activa, 2020).

Contributing factors to this ecosystem are Barcelona's highly educated population (almost 50% of the working population has a university degree) and Barcelona's excellent business schools and universities (it is the only city in Europe with two teaching institutions among the top ten business schools), in addition to other factors such as a high quality of life and the innovative and vibrant atmosphere (Barcelona Activa 2018, Barcelona Activa 2020).

GDP

As shown in Figure 2, the economy had been growing at a steady rate since the debt crisis in 2012, until the Covid-19 crisis. The growth rate in 2019 was 4%. The GDP per capita in 2019 was 41.546 euros (AMB, 2020). The impact of Covid is yet unknown, but the current projection (for Barcelona municipality) is a 10,5-12,5% shrinkage of GDP in 2020 (Oficina Municipal de Dades, 2020).

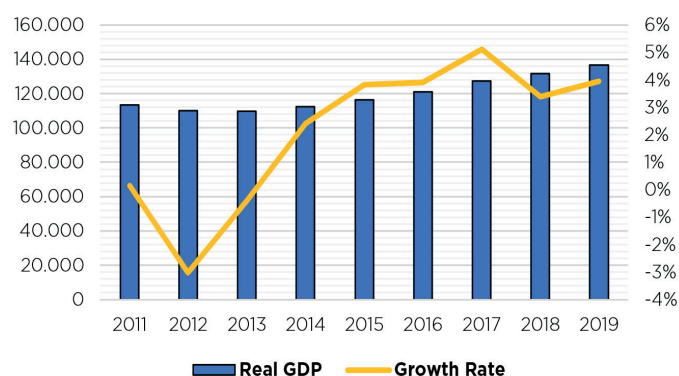


Figure 2: Real GDP in Millions of Euros and Annual Growth Rates. Gross GDP at AMB Market Prices, Base Year 2010. Data Retrieved from 'AMB' (2020)

Key Sectors

In 2019, the Gross Added Value (GVA) in the AMB stemmed largely from the Services (76,9%), followed by Public Administration, Education, Health and Social Services (15,1%), Professional, Scientific and Administrative Activities (12%), Real Estate (11,1%), Industry (10,3%) and Construction (4%) ('Valor Afegit Brut (VAB) de l'AMB per grans sectors', 2020).

Employment follows this dynamic, with 90,7% off the people employed in Services, followed by Industry (5,6%) and Construction (3,6%). The number of service workers has increased progressively ('Contractació laboral per grans sectors', 2020).

While the impact of the Covid crisis is uncertain, projections expect a large decrease in GVA for each sector. Construction is projected to decline by around 17%-19,4%, Industry by around 13,2% to 15,5%, and Services by 9,5%-11,5% (Oficina Municipal de Dades, 2020).

Tourism and International Congresses

Barcelona city attracts most of the tourist activity in the Metropolitan Area. Tourism has been estimated to be around 18% of the entire revenue of Barcelona city's commercial sector. As much as at least 26,000 people depend on sales made to tourists (Haupt, 2017), while many more are employed in interdependent sectors. The large touristic sector has also brought challenges with it, such as an increase in housing prices, which led the municipality to promote sustainable tourism (Tourism department manager's office for enterprise and tourism, 2017).

An important area of economic activity closely related to tourism is the hosting of international congresses. Barcelona hosted 195 international congresses in 2017, which was the most of any city in the world. Many of these happen in the Fira de Barcelona, a very large trade and exhibition centre. It hosts among others the Smart City Expo World Congress and the Mobile World Congress (Barcelona Activa, 2018), which are hugely important events, and also reflect Barcelona's positioning as a technological innovator.

The recent Covid-19 crisis has had a very severe impact on tourism and large events such as the congresses and expositions hosted in the Fira de Barcelona have been cancelled. The number of tourists decreased with 77,7 % in 2020, in comparison to 2019. ('Turistes i pernoctacions als hotels de Barcelona', n.d.).

Industry

Industry is still important to the Metropolitan Area of Barcelona (Barcelona Activa, 2018). The main industries are the chemical industry, food production and car manufacturing. However, the industry sector is in decline, with traditional industries such as textiles closing the factories ('Barcelona: Industry Studies', 2020). Only recently, Nissan closed down its plant in Barcelona, leading to the loss of at least 3000 jobs. Nissan's factory is one of the key car factories in Barcelona, and the decision to close left Spanish politicians very worried (Posaner & Gallardo, 2020).

Labour

Barcelona's labour and employment situation is volatile. In 2017, 1,628,055 contracts were signed in the AMB, the vast majority of which (1,400,860; 86% of the total) are temporary and a small part (227,195; 14% of the total) are indefinite. In the 4th quarter of 2019, again 86% of labour contracts was temporary, of which 42% have a duration of one month maximum. The high proportion of temporary work is a structural feature of the labour market. This makes the labour market vulnerable to economic downturns, with temporary contracts the first to decrease (AMB, 2019; IERMB, 2017). The unemployment level in the 4th quarter of 2019 in the Metropolitan Area of Barcelona was 10% (AMB, 2019), in 2020 and under impact of Covid, it was 10,5% ('Mercado de trabajo', n.d.).

The average salary is 29,039 euros a year. There is a 23% wage gap between men and women, as men earn more than women: 32,718 versus 25,726 euros. Between 2010 and 2018, real wages have decreased with 3%, despite a nominal wage increase (AMB, 2019). There are no recent data on poverty and inequality.

CLIMATE CHANGE POLICY IN BARCELONA

While a lot of decisions on climate change policies necessarily happens on international and national levels, local governments can have an important role to play as well. Local governments' proximity to citizens, flexibility and competences in climate policy areas means that they can have a significant impact (Galarraga, Gonzalez-Eguino and Markandya, 2011). As such, local governments have to draft, implement and coordinate climate policies in their region. These policies will be important to understand the role of businesses.

The two main climate policy frameworks in Barcelona are the 'Climate Plan 2018-2030', created by the Barcelona municipality, and the 'Plan Clima AMB', created by the Metropolitan Government.

The 'Climate Plan 2018-2030' has a range of areas in which it proposes a series of actions to decrease the impacts of climate change and transform the city to a sustainable future. The Climate plan aims to reduce greenhouse gas emissions by 40%, and to increase the green space in the city by 1,6 km². Barcelona also aims to decouple energy use from economic growth.

The climate plan has 5 different spheres of action: 'people first', 'starting at home', 'transforming communal spaces', 'climate economy' and 'building together'. People first focuses on providing key services to the citizens, and especially to the city's most vulnerable groups. Starting at home aims to increase the energy efficiency of private buildings, for example through subsidising renovations that increase insulation. Transforming communal spaces is the sphere of action that is concerned with improving the city's public spaces parks, infrastructure and efficiency. The climate economy is seen as an economy that uses resources efficiently, where citizens consume responsibly and recycle their waste to create a sustainable, fair and circular economy. Finally, the building together category aids communities with their collaborative projects that are in line with the climate goals.

The second document is the 'Plan Clima AMB', a report on climate and energy policy and objectives by 2030, written by the AMB. To reduce greenhouse gas emissions by 40% by 2030, which is a European target, the AMB will aim to decrease its emissions by 13,2% (the remaining 27,8% will be reduced by the municipalities).

The Plan Clima focuses largely on energy (non-transport related) and transport. Regarding energy, they aim to have at least 30% of energy consumption originating from renewables, and a 30% increase in energy efficiency (in comparison with a business as usual projection). Some of the technological improvements they count on are electric vehicles, more energy efficient machines and electronic distribution systems. AMB also intends to have internal procedures to follow-up on results and actions, and interchange them between actors, and to make sectoral goals (AMB, 2018).

These two reports make it clear that the approach to climate policies in Barcelona fits into the green growth discourse. Especially in the Plan Clima of the AMB, the focus is on technology, the creation of new markets and resource efficiency. Even though Barcelona municipality discusses the need for a different economic model, the climate plan remains rooted in the green growth paradigm.



METHODOLOGY

In this section we describe the type of interview conducted in the research, its design and contents and the results analysis.

Interview Type

This study follows a constructivist perspective. That means that the study recognizes that knowledge of natural phenomena is socially constructed (Patton, 2002). This approach enables the charting of the various ways in which participants understand climate change (Shepardson, et al. 2010).

For this purpose, we use semi-structured interviews. Semi-structured interviews cover a general set of questions but leave some flexibility in the order of the questions, and the amount and variety of follow-up questions. It thus permits flexibility while allowing the researcher to cover the questions he/she was interested in ('Social Research Glossary', 2020). Usually, the interviewer has an interview guide with questions of interest written down on them to keep the interview relevant (Jamshed, 2014)

The semi-structured interview has the advantage of staying close to the topic of interest, which decreases the noise and filtering the interviewer has to do and can decrease selection bias. However, it still allows for sufficient flexibility by allowing participants to express themselves beyond the narrow conception of the researcher. The questionnaire of this research can be found in Annex 1.

Interview Corpus

We interviewed two different groups of respondents: business leaders on the one hand, and policy makers and advisors on the other. The goal of the interviews with the business leaders was to uncover their understanding and meaning of climate change. The goal of the interviews with the policy makers/advisors was to receive more information about the behaviour of companies and triangulate some of the findings from the interviews with business leaders.

The approach was to interview business leaders active in each of Barcelona's main economic sectors, such as the port and the airport, the congress sector, the tourist sector, traditional industry, and knowledge-intensive industries, as well as leaders of interest groups. Unfortunately, during the preparation of the empirical part of the research, the Covid-19 crisis broke out. This severely impacted the interview process.

First, access to possible respondents was reduced. Physical proximity is important to gain access to respondents, especially in high-status circles. Second, online interviews are not as attractive to people as in-person interviews. At least one possible respondent declined to be interviewed once it was clear the interview would be conducted online. Finally, the Covid-19 crisis has severely impacted some businesses and sectors. Many business leaders were occupied with adapting to these impacts. As such, interviews on climate change were likely not a priority.

Another barrier may have been the language. Possible respondents may have been deterred from participating in interviews in English. However, when requested, the option to conduct the interview with a translator was provided. One of the eight final interviews has been conducted with a translator (English-Spanish).

Ultimately, we achieved to conduct 5 semi-structured interviews with local business leaders and 3 with policy makers/advisors. Alex Goñi (President Pimec Comerç, that represents SME's), Constantí Serrallonga (General Manager of the Fira De Barcelona), Francisco Doblas-Reyes (Director of the Earth Sciences Department at the Barcelona Supercomputing Centre), Jordi Torrent (Strategic Director of Barcelona Port) and Mateu Hernández (CEO of Barcelona Global, an organisation promoting Barcelona internationally) are the business leaders we interviewed. Albert Arias (Tourism Expert), Anna Català (Environmental Scientist), Oriol Estela (General Coordinator of PEMB) are the policy makers/advisors¹. The respondents were identified and contacted with the help of local experts. The interview period took around three months, from the end of August until the end of November. The interviews had a duration of around 40 minutes on average.

Respondents were asked at the outset of the interview whether they consented to the interview being recorded, and the results being public. The recording only served for transcription purposes and to analyse the results. The option to provide confidential answers was provided. Therefore, this research will not provide the full recordings nor transcripts. However, quotes will be used to illustrate the findings of the interview.

¹ Additional information on the respondent profiles can be found in Annex 2.

Questionnaire Design

The goal of interviewing the business leaders is to uncover their understanding and meaning of climate change. The literature tries to unveil understandings of climate change in different ways. Shepardson et al. (2010) created an 'assessment instrument' encompassing five items: interpreting scientific evidence, examining the conceived relation between carbon dioxide and global warming, asking about the impacts of climate change, understanding the greenhouse effect and understanding the impact of human activity.

Whitmarsh (2008), in her research, started with an open-ended question on how people understand climate change as a whole. She followed this up with asking about the causes and impacts of climate change, and a range of questions on people's attitudes and concerns regarding climate change.

Finally, Reynolds et al. (2010) focused on four main categories: basic facts and definitions surrounding climate processes, causes of climate change, impacts of climate change and the effectiveness of different responses.

For the purposes of this research, we will synthesise the approaches of Whitmarsh (2008) and Reynolds et al. (2010). We start with an open-ended question on how people understand climate change as a whole. Afterwards, we focus on people's view on causes, impacts and responses to climate change. Additionally, we relate these categories to different scales, since climate change operates at multiple scales, from the personal to the global (Capstick, 2013). As people's identities are also connected to multiple scales and social roles (Devine-Wright, 2013), it is only by making these scales explicit that we will get a full picture of a person's understanding of climate change. Our interview will ask participants about the global level, the local level, and the personal level.

The business leaders all received the same set of questions, with small differences to make them applicable to the specific respondent in question. The questionnaire can be found in Annex 1.

The goal of the interviews with the policy makers/advisors was to receive more information about the expected and actual behaviour of companies. To do so, we asked about whether businesses are following the green growth paradigm and what kind of policies they have enacted. We also enquired about the climate policies of the public administrations to gain a better overall picture of their priorities.

Interview Analysis

The data analysis involves a content analysis of respondents' replies in the interviews. The nature of the analysis is inductive, rather than deductive. This means that the interviewer decides, based on the research question or theoretical framework, which information provided by the interviewees is considered. Following this consideration, themes are deducted from the content of the replies, rather than a pre-conceived set of themes or categories (Mayring, 2000; Shepardson, et al. 2010).

We used NVivo software to perform the data analysis. Interviews were transcribed based on the video recording soon after the interview was conducted. A first round of coding identified various themes, that were placed into several categories. A second assessment refined the categories and the coding to ensure accuracy and consistency and increase validity.

The coding scheme differs for the two groups of people we interviewed, namely the policy makers/advisors and the business leaders. The coding scheme in annex 3.1 illustrates which topics were discussed with the policy makers/advisors. Coding schemes do not pertain to the relative importance of each topic, it only shows which topics were covered. Every circle represents a topic that was covered during the interview. When arrows follow from a circle, the following circle signifies more concretely what was covered.

RESULTS

In this section we review the results of the interviews. We first discuss the interviews with the business leaders, and then with the policy makers/advisors.

Business Leaders

INTERVIEW TOPICS

We start by looking at individual respondents and which themes they most often covered, by plotting the percentage coverage for each code. This is the number of characters in a particular code in proportion to the total number of characters of that individual's text or interview. For example, if code 'Economy' has 8% coverage, it means that 8% of all the characters from the interview, were coded as 'Economy'. Thus, 8% of the interview was about the economy as a cause of climate change. We selected the five most covered topics per respondent, because of the wide variety of topics.

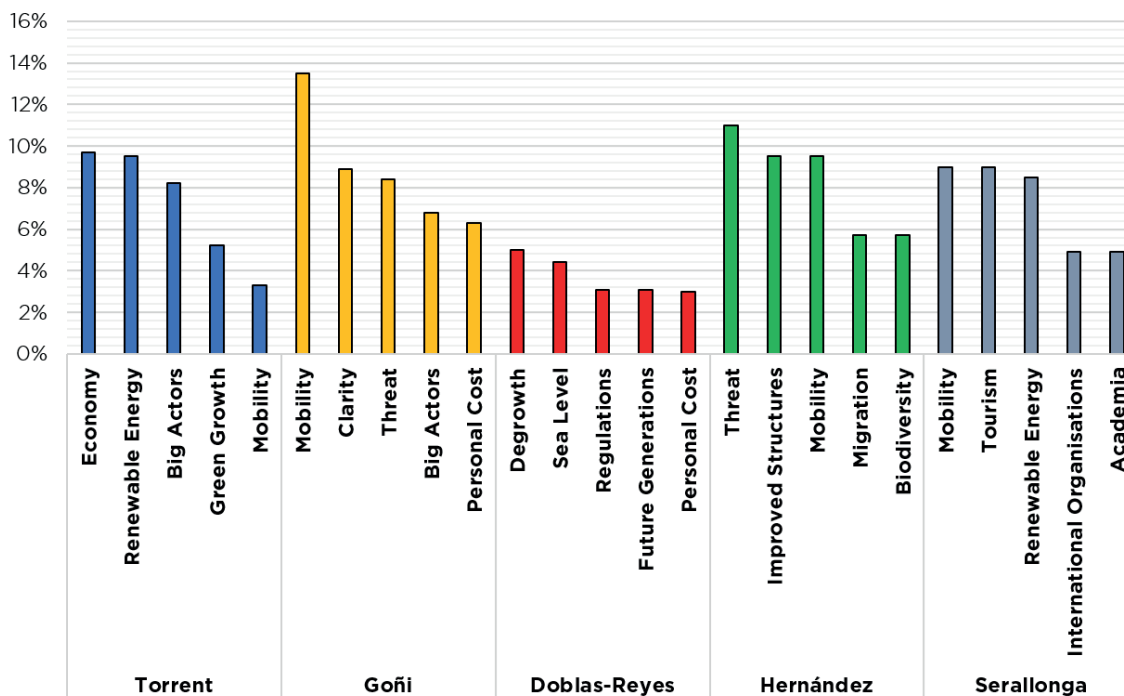


Figure 3: Percentage Coverage of Business Leaders Interviews

We see in figure 5 that Jordi Torrent talked a lot about the causes of climate change, this being big actors and the economy. He also discussed renewable energy in the context of how the Port of Barcelona is electrifying its operations.

Alex Goñi, on the other hand, talked mostly about mobility, in the context of Barcelona policy; the need for clarity from public administrations and how climate change is a threat to small and medium enterprises, as well as fish vendors.

Additionally, we see that Doblas-Reyes covered degrowth as a paradigm for businesses and a rising sea level as an impact of climate change the most. This was followed by the identifying big actors as a cause of climate change and establishing that climate change comes at a personal cost to him.

Hernández talked frequently of how climate change is a threat to Barcelona Global, how individuals need better structures (for example better public transport) to live sustainably and how mobility is important for Barcelona. He also identified migration and biodiversity loss as some of the consequences of climate change.

Finally, we discern that Serrallonga discussed mobility and tourism in Barcelona. He also talked about the Fira de Barcelona and how it receives its energy from renewable sources. Serrallonga also identified international organisations and academia as actors who can help with the fight against climate change.

INTERVIEW RESPONSES

In this section, we review the interview responses of the business leaders. Since all the respondents received the same questions, we sort the responses by interview topics, rather than by every respondent individually. This means we largely structure the responses based on the coding scheme. We start by mentioning the several definitions that were mentioned, followed by the perceived causes, impacts and possible responses.

Definition:

Climate change was described in three different ways by respondents. Three out of five respondents (Hernández, Doblas-Reyes and Serrallonga) defined it as a consequence of human activity:

'Well, climate change is, let's say, a reality that, unfortunately is happening due to human behaviour. After many years, especially after the industrial revolution, that's been changing the atmosphere and is beginning to affect the planet in a special way that may really affect how life is in the planet.' – Hernández

Jordi Torrent defined climate change as a very strong concern, especially for the next generations, while Alex Goñi defined climate change in terms of the information that people receive about it in their local context.

'Personally, I'm pretty much concerned about climate change and I think it is one of the most compelling issues today for our society and for the future generations, I believe it's not going to affect probably me a lot, my generation, but my daughters, I have three kids, so I'm pretty much concerned for them basically.' – Torrent

'What is especially important is the perception of the public, the information they are receiving here in Catalunya. It's not about what is happening, it's about the information that is being heard, and it is perceived as something external and happening to others. It is not seen as an immediate circumstance here in Catalunya. This doesn't mean we are not conscious or aware of climate change, people have awareness and conscience. But the worried feelings come mostly from the information that they hear somewhere else.' – Goñi

Cause:

Several causes were identified by respondents. The economy was most often identified as the cause, followed by the more general identification of 'human activity' and 'big actors', which are often large countries.

Basically, I mean the main causes of climate change, I would say, come from something - this is a personal perspective I'm speaking of- so I come from something positive at the end there, which is that middle class all over the world has grown. Particularly in Asia, but not only in Asia. so, greenhouse gas emissions have increased globally. Although I believe the US is still the main emitter of greenhouse gas emissions, but I guess if it was only for the US and Europe, the situation would not be as bad as it is now. Taking into account that you have today, over, I don't know, over 1 billion people in Asia that belong to the middle class that consume more or less like we do. [...] And so, consumption, industry transportation, et cetera, have grown a lot. So, this has become an even worse problem. [...] Problem is that the dynamics of global economy makes it very difficult to make a substantial impact on reducing, for instance, greenhouse gases emissions. - Torrent

As we see, Jordi Torrent explicitly sees climate change of a consequence of a positive trend, unlike other respondents.

'I suppose other people who work on this will know more, but for us it is the failure to control emissions, especially in large countries, such as the USA, China, India... This can give a feeling of powerlessness, because people are working to live in a sustainable way, and then to see how the big countries are not doing enough and do whatever they like, it can be disheartening. The truth is that it is difficult to see.' - Goñi
'Well, its causes are mainly the carbon economy and the human economy, the way it's organized, the carbonization of the economy.' - Hernández

'Human activity is one of the main causes of climate change. For decades we unknowingly caused it through emissions related to the use of fossil fuels and other substances.' - Serrallonga

Impact:

Both Goñi and Hernández have indicated that climate change is a direct threat to their businesses. For Goñi, SME's are directly dependent on a safe environment. As he is also the president of the Catalunya Fish Vendor Association, he also talked extensively about how climate change would impact the fishing industry. Hernández, whose goal as CEO of Barcelona Global is to attract international talent to Barcelona, said this talent will only come to a city that is aware of climate change and dealing with mitigation and adaptation:

'As representatives of businessmen, we are aware that to obtain an optimal development of our economic activities, we must have the best possible environment. That is why sustainability is presented as a fundamental element to preserve, care and incorporate into all our business strategies. Can you imagine important that climate change is for a sector such as fishermen? [...]

The truth is that small and medium-sized entrepreneurs (and also the micro and autonomous) are undoubtedly those who do the most to contribute to curb climate change from your sector. Notice that the trade in proximity is based on commercial relationships, most of them, sustainable; to the extent that the impact they have on their environment is absolutely interrelated. They are most interested that the environment in which they operate is suitable and does not degrade.' - Goñi

'Our mission is to make Barcelona one of the best cities of the world for talent and talented people. So, these talented people are highly sensitive to climate change. So, we must as a city have a strategy on this green economy. [...] Because [if] Barcelona is not a sustainable city, the city won't be attractive for talent. So, Barcelona must be a sustainable city in order also to be attractive for talent.'

Other respondents did not see climate change as a direct threat to their businesses. However, everyone shared concerns on the impacts of climate change. Hernández, Reyes and Torrent expect climate change to have a huge impact in the long term and Serrallonga expects a big impact. Only Goñi stated he expected a small impact, although that was dependent on our societies being able to respond in time:

Personally I am convinced that it will have a small impact, but not big or huge, because that would mean a social catastrophe, so I hope that people will be smart enough to implement measures to make it have just a small or medium impact.' - Goñi

'The number of sectors that will be affected, is huge. I would say that it's covering and it's affecting almost every single activity of human societies.' - Doblas-Reyes

Respondents identified a range of impacts, from poverty and migration, to different production and consumption patterns, to environmental changes such as droughts, rising sea levels, decreased biodiversity et cetera.

Finally, all respondents indicated that climate change is very important to them on a personal level. When asked if they could put a number on how concerned they are with climate change out of 10, Torrent, Serrallonga and Hernández said eight, eight and ten respectively (the other respondents could not put a specific number on it). Everyone indicated they were worried about the impacts on future generations, while some explicitly mentioned the impacts it will have on Barcelona and the personal cost of climate change:

'Climate change will have an impact in future generations if we fail to prevent it. And that is precisely why we need to act now and we need to act together.' – Serrallonga

'When it comes to personal, I have two daughters of 18 and 16, so imagine, and they are extremely implicated.' – Torrent

'For me, on a personal level, for my kids and nephews and friends, very important. This is something you don't physically experience, but evidently it exists and it's going to impact us directly and indirectly.' – Goñi

'Of course, it's really worrying and especially in, I think worldwide, but especially in places like Barcelona, in the Mediterranean climate near the sea where global warming will surely have a big impact on the way we are living nowadays.' – Hernández

'For instance, I live at sea level. So, the sea and beaches are 50 meters from my home, and any sea level rise is going to end up having an impact on my life. And, we could see this quite clearly during the storm that took place in January.' – Doblas-Reyes

Response:

Respondents identified a range of actors that should be responsible for acting against climate change on a global level. They noted that it is the responsibility of everyone to be involved. However, governments, businesses and individuals were most frequently mentioned. Some other, less common replies were international organisations, academia, cities and civil associations:

'Well, this is a shared effort that should be done from governments on their role as regulators up to companies and individuals. So, everyone is involved in this issue. Some have bigger responsibilities like major states and supra-governmental institutions. But then also governments and companies, everyone has to have its role. Big or small, everyone has to have its role.' – Hernández

In the context of Barcelona, respondents expressed a strong belief in the need for local governments to play a role in climate change policy. This especially included the Barcelona city council, but also the AMB and the Catalan Government:

'Oh, there are many actors that could play a role. It's obvious that local councils would be one of them. And now I'm not just thinking of the local council of Barcelona, but also of the metropolitan area. [...] And the Generalitat for sure.' – Doblas-Reyes

'There's three different levels of responsibility. One I would say is the Generalitat Catalunya. Second is the AMB, third the city, the municipality, the city council, and also the state, the Spanish state, has also a degree of responsibility here.' – Torrent

Businesses were also mentioned, as were individuals:

'As you approach a local level such as making Barcelona more sustainable, I strongly believe that policy makers as well as big and small companies need to commit to sustainability but, at this level, everyone's actions matter' – Serrallonga

'The main responsible should be the people themselves. The true results appear when people have trust in solutions, and they integrate in their way of thinking and doing.' – Goñi

Respondents identified several policy areas that the city should be focused on. Mobility has most often been identified, followed by energy, housing, tourism, the port, and waste. Additionally, Goñi and Torrent noted that the public administrations should provide clearer rules and frameworks in cooperation with citizens and businesses. They also noted, alongside Doblas-Reyes, that the citizenry should be informed properly about climate change:

'[We need] simplification and more rapidness of administrative procedures [and] clear understanding and communication to the public opinion about the impact on the environment of different activities and try to stop misinformation (for instance when it comes to port activity and cruise ships).' – Torrent

'Surely we still have many fields in which to have a greater contribution to climate change, but I insist on need for such actions and model changes to be agreed upon and to be predictable, so that your implementation has a clear transition and known to all. Prohibit, impose and limit from one day to the next, and as a general rule, without a previous pedagogy or a special sensitivity applied towards small business models, it will mean that the measure will not succeed, and what's more, even generate the contrary reaction.' – Goñi

And [...] associations, at the local level, all those sectors in society that we know are vulnerable to climate change and air quality. So, for instance, parents' associations and to really work with them to develop material that can explain what climate change is so that they can use it afterwards with their children. [...] Yeah, citizens, either directly through them, through the local councils, but also through the associations that they use for the daily life in the city. – Doblas-Reyes

On the topic of business response to climate change, four out of five respondents indicated that they were in very strongly in favour of the green growth paradigm. Other paradigms were not considered. [Green growth] because I don't think it would be honest or even moral to ask people from China, from India, from Indonesia, from Africa to de-grow. - Torrent

'Green Growth. I don't know if it is realistic, but it should be green growth' - Hernández

Only Doblas-Reyes indicated that the response should have elements of both green growth and degrowth:

Yeah, I think it's difficult to choose between de-growth and green growth, in the sense that, as in many other things in life, the medium term, is probably the solution or the least bad solution, in the sense that there is no reason why the economy can't keep growing if we have a circular economy and we have a larger respect for our environment. So of course, Green growth is not a continuous growth and is not homogeneous. It's not that everyone is going to grow, but somehow looking at history in the past, humanity with ups and downs, kept growing in terms of population and the size of its economy. Some sectors were losers and some others were winners. If people have the opportunity to make business and they'll have a better life in a green growth economy, and somehow, we have an environment that is that is taken in full consideration, basically we wouldn't be that far from the de-growth possibility. Of course, that would only make sense if inequalities are reduced social inequality and particularly economic inequalities.

Respondents provided several areas in which their businesses tried to be more sustainable. Energy is one of the main domains of incorporating sustainability. The Port is committing to electrification of the wharves, generating renewable energy with solar panels and switching transport of goods from trucks to trains. The Fira de Barcelona installed solar panels, and all its consumption of energy stems from renewable energy. The Barcelona Supercomputing Centre also retrieves its energy from renewable sources, or the energy it uses is offset by producing renewable energy elsewhere.

Furthermore, Pimec Comerç and the Barcelona Supercomputing Centre also recycle their waste, while the Fira de Barcelona created a manual of good environmental practices for exhibitors and attendees, that includes promoting public transport and sustainable tourism.

Mateu Hernández, CEO of Barcelona Global that represents many of the largest institutions and companies in Barcelona, was asked about the stance of these companies in regard to sustainability:

'Well, when we talk with big companies in Barcelona Global, they all [are] aligned with the sustainability strategy. And the same when we talk with individual members in Barcelona Global, we also feel the same; that they are all engaged in this sustainable strategy.'
- Hernández

Finally, all of the respondents adapt greener practices in their lives, to some extent:

'On the personal level I try not to take the airplane, I go by train, boat or car. It's a personal decision already before climate change was a topic. Flying looks faster, but the whole procedure takes up a lot of time. This is why I believe that in Spain, train has been the forgotten mode of transport. It has been forgotten by the authorities, but it is a great way to deliver commodities and people. I really hope we can switch to trains. [...] In the matter of eating meat, I eat a considerate amount of fish, and we have a struggle against those who are against eating meat. I know that in Argentina and the USA you find industrial ranches where the meat production is terrible. But here in Spain, the meat production is more local, it is in the hands of small businesses. And for that reason, I won't stop eating meat like rabbit, chicken or pork, because I consider the production is local and not that damaging to the climate. But in other areas I support improvements that are better for the environment.' - Goñi

'So, at home, everything is recycled, I go normally by bicycle to the office. I don't think stopping travel is an important issue. There are other things that can be done, when it comes to the other sectors, and I'm not going to name some industries, because they are our customers. But there's other sectors more important than aviation. I think aviation is something good in terms of cultural exchange, knowing countries, et cetera. So, I'm not going to stop traveling if I can travel. I'm going to Zaragoza by car today because I cannot go by train. But I already do lots of things at home to be more sustainable, let's say.' - Torrent

'In terms of mobility, I only use public transport. We have a car, but we use it only for emergencies and, and it's an old car that we don't foresee replacing in a very long time. The other thing is in terms of foods. We eat meat at home, but we use products from the neighbourhoods, vegetables and fruits. In terms of recycling, we follow all recommendations that, we can apply here in the council. And, that's, I think about it. We spent three years ago quite an essential amount of money insulating the house because it's an old house, it's a 100-year-old house. And, yeah, in the end, it sounds like, well, I'm going to do something for climate change. It's much better to live in the house because it's warmer. So, from that point of view, it was a clever move.' - Doblas-Reyes

'I'd be willing to bring changes to my lifestyle, which in fact I have, such as committing to green energy or changing my mobility patterns.' - Serrallonga

'The issue is that it's difficult to build heroes. So, being a hero is complicated. So, infrastructures should be updated in order to align those infrastructures into green behaviour. I can commute to Madrid and now it's by high speed train. I'm using high-speed train, it's much more sustainable than using the airplane. But if I have to commute with Valencia, which is even closer than Madrid, the train is not ready to be a commute. So, we need green investment on those infrastructures that has to be greener. And without those infrastructures, we will rely on heroes and heroes is difficult to rely on.'
 – Hernández

Policy makers/advisors

INTERVIEW TOPICS

To get a clearer picture of the themes explored by the policy makers/advisors individually, we again plot the percentage coverage of each code.

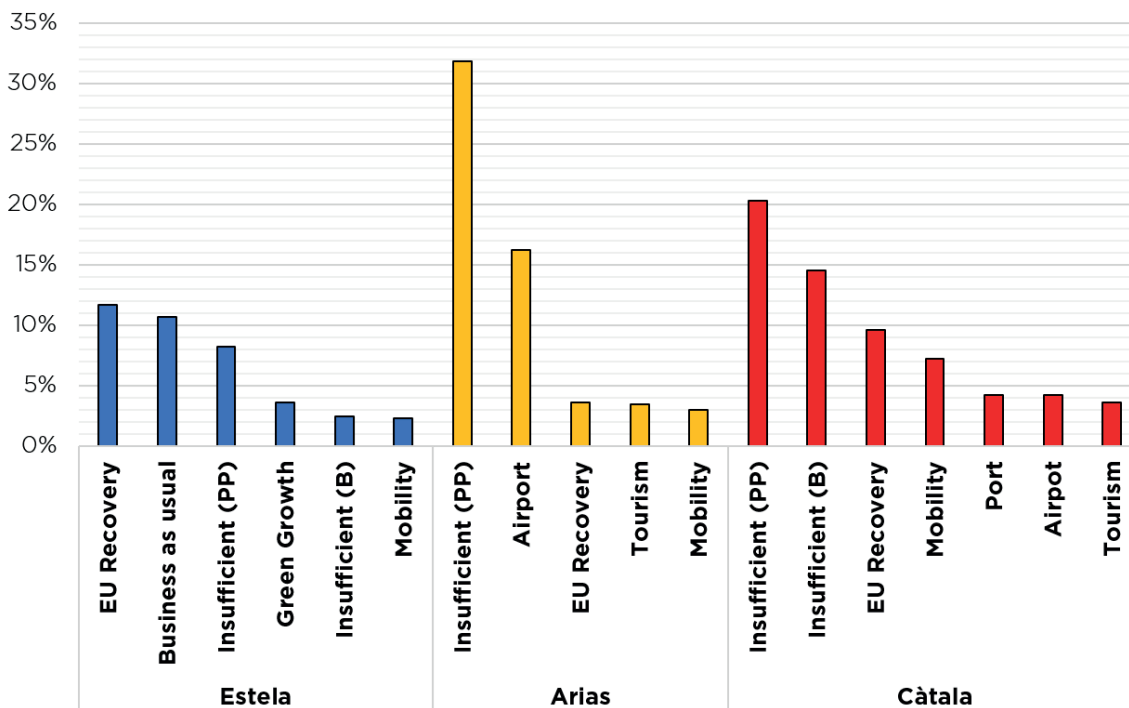


Figure 4: Percentage Coverage of Expert Interviews. Insufficient (PP) and Insufficient (B) stand for insufficiency of public policy and business measures respectively

Figure 4 shows the percentage coverage of each code of per respondents. The figure shows that Oriol Estela mainly talked about the EU Recovery Fund, the business as usual paradigm and the insufficiency of public policies. Albert Arias mostly discussed the insufficiency of public policies, and the Barcelona El Prat Airport. Finally, Càtala primarily

covered the insufficiency of both businesses and public administrations, followed by the EU Recovery Fund and mobility. She also mentioned the port, airport and tourism as important local areas of improvement.

INTERVIEW RESPONSES

The findings discussed above give a general picture of the topics discussed in the interviews. In this section we specify the findings by reporting the key replies of the respondents.

Oriol Estela:

Oriol Estela noted that public policies have been insufficient so far. He remarked that the previous strategic plan of the PEMB has only been nominal and has not been implemented whatsoever. While researching existing climate policies in the Barcelona region, Estela has also found that many municipalities in the AMB did not even have climate plans.

During the interview, we asked this respondent whether he agreed that the Climate Plan 2018-2030 and 'Plan Clima AMB' use the paradigm of green growth, and that businesses are expected to follow the green growth paradigm. Oriol Estela agreed, but with some important considerations in mind.

First, he commented on the disconnect between the public climate policies and economic policies of Barcelona municipality:

'All these plans, the climate plans which have been made, the leadership came from the environmental departments, let's say, not the economic ones. And if you compare the economic plans with environment plans or the climate plans you will see that there's a difference at least in the hidden letters of the document, in the intention. They probably say similar things, but the economic plans and intention are different and it's more business as usual, even more than the other ones.'

Estela thus states that while the Climate Plan 2018-2030 may have a green growth paradigm, the economic plans are not congruent with this climate plan and has a business as usual perspective.

Second, he notes that while green growth perhaps had been the paradigm before the pandemic, currently the focus on economic recovery resembled the business as usual paradigm more:

'We shall see [...] especially with the big institutions or big businesses or the main stakeholders, the port authority, that is very, very important, and defines a lot the way that businesses will go, and the airport, all these big institutions, how will they behave? Because maybe there were signs of green growth on their plans and the public plans or the government's plans before the pandemics.'

[...] I'm afraid that we will come back to business as usual. You can see this for instance [with] the press releases of the port: one of the goals for the port authorities [is] to recover the previous activity to the pandemics. That includes growth on cruises, tourist cruises.'

Additionally, when asked specifically about the way businesses themselves signalled their economic activity, Oriol answered that business as usual has been the main reply from businesses.

'I think that, that all we have seen at the moment from the business sector, from the economic sector, is going back to the previous situation and then we'll see what we do. But recovery will be the same elements that we had. And afterwards we will see. And, of course there must be some exceptions, but not the major ones.'

Finally, throughout the interview he stressed the importance of the EU Recovery Fund. A lot of companies are waiting for the EU Recovery Fund, which aims to help European economies by offering money to be invested in green and digital technologies, to be more concrete. For Oriol, there is an opportunity if Barcelona effectively manages and invests the money from the EU Recovery fund. In order to achieve the goals of the EU, there should be strong conditions on sustainability attached to receiving the funds:

'So, I'm not very confident that a measurable change will come, unless the funds that are supposed to come to Spain and to Barcelona, the European funds, are strictly oriented to a change in the economic paradigm. And I'm not sure that this will happen, but I think that this will be the opportunity.'

Albert Arias:

We interviewed Albert Arias to learn more about public policies on tourism, more specifically, the way the ecological sustainability is viewed by public administrations and the touristic sector. According to Arias, the sole focus on deconcentrating tourism from specific areas is insufficient. Tourism, he thinks, needs to be managed more sustainably and more democratically. Furthermore, he criticised the focus on growth within the sector and the neglect of environmental and social externalities, especially the airport:

'And aviation is at the heart of it. [...] They are managed, set to grow, grow and grow. They are expecting revenues and shareholders want them. They make projections on growing, they do not care about externalities, and not just the environmental externalities such as the carbon footprint, but also, they do not care about the social externalities related

to overtourism. They just think that the higher the numbers, the better for the shareholders and for the governors, governments and the whole industry. They try all the time to do environmental dumping, to lower taxes, to skew environmental taxes like the tax on kerosene.

When asked about the response of the tourism industry to the impact of Covid-19, he said:

'Return to business as usual as fast as possible. I do not foresee any need to shift policies or private policies or approaches because of the coronavirus regarding climate change impacts. They are shifting to safety, to ensure safe travel and leisure...But not sustainability, at least, not in depth, with actual changes. I think it's one of their last priorities nowadays. And of course, government will not be stricter than before, they are actually relaxing many conditions, such as the occupation of public space by terraces and so on. I think the policy will be to let them be more flexible. And not tying them.'

Arias also saw some possibility in the EU Recovery Funds as a way of shifting policies but was sceptical of whether the conditions tied to it will be strict enough.

Ana Càtala:

Càtala shared the view of Oriol Estela in regard to the climate policies of Barcelona Municipality:

'Rhetoric is important with the current government, but it does not match the policies they are having in other departments of government. They do participatory planning for their climate plans and emergency plan, but their approach to economic policies is not sufficient, for example their Green New Deal is not enough.'

When asked about whether she'd characterise the paradigm for businesses as green growth, she said it could be either business as usual or green growth:

'It could also be business as usual, but with the big rhetoric about the Green New Deal and the Recovery plan, you can see how even big companies are shifting to green growth.'

Càtala also criticised the current behaviour of companies, saying they are not doing enough to combat climate change:

'In general, most of them are not doing enough. Neither the port nor the airport is thinking of reducing the amount of passengers they have. They are actually trying to expand!'

'The problem is that those types of measures are too superficial. The thing with climate change is that you need very radical measures very fast. But when you look at the emissions, they are not decreasing. For example, more efficient fuel is not enough, it will have to be more radical.'

Finally, Càtala identified the port, the airport and internal mobility as the most important areas to make Barcelona more sustainable.



DISCUSSION

Business Leaders

The interviews with business leaders lead to some interesting conclusions. We first note that on a personal level, all respondents indicated that they are very concerned about climate change. Everyone agreed this concern was in large part for future generations, but several respondents also connected it to the vulnerability of Barcelona as a coastal city, and the personal impact climate change would have. This is in stark contrast with the PWC report that found only 25% of CEO's is concerned with climate change (PWC, 2019).

One explanation is that there is limited comparability due to the geographic diversity of the PWC respondents. However, some research suggests that people living in coastal areas will attribute greater importance in climate change because of the proximity and personal impacts climate change has or will have (Milfont, Evans, Sibley, Ries & Cunningham, 2014). Therefore, as inhabitants of Barcelona, business leaders may be extra attentive to climate change.

Furthermore, respondents identified the structure of the economy or human activity in general as the causes of climate change. A range of possible impacts were identified, but all respondents were convinced that climate change will have serious consequences on human societies. International organisations, governments, businesses and individuals were all seen to have a responsibility in dealing with climate change.

The mentioning of these actors is not as surprising as the omission of certain actors: there was no mention of NGO's or civil society. Individuals were also mentioned almost exclusively in the context of committing to individual green actions, and therefore in their role as consumers.

With regard to the paradigm for businesses, there is almost unanimous support for green growth. No alternatives are considered. During the interviews, respondents reacted almost incredulously with the idea of degrowth as a paradigm for businesses. It is clear that degrowth is not at all seen as a realistic or desirable policy paradigm.

Additionally, all businesses purport to have taken measures to decrease their environmental impact, such as using renewable energy or recycling. Depending on the extent of these measures, they may fit either the 'almost business as usual' or the 'green growth' category.

Finally, the business leaders have pointed to several areas of improvement for Barcelona's public administration, such as clearer frameworks for the ecological transition. It corresponds to previous findings that regulatory uncertainty tends to lead to more reactive approaches to sustainability by businesses (Bui & de Villiers, 2017). This is in accordance with the findings of the UN Global Compact report (Gupta et al., 2019), that found that 42% of CEO's cited political uncertainty as a barrier for sustainability.

Business leaders did identify the port and internal mobility as important sectors for climate policy. Jordi Torrent emphasised the need of the port to take its responsibility as a large economic and public company. He also discussed the measures already taken and commended the port's ambition in this field. This sentiment was echoed by Mateu Hernández, who stated the port was putting a lot of effort into becoming a sustainable port.

Policy Makers/Advisors

From the interviews with the policy makers/advisors, four key points emerge. First, public administrations follow the green growth paradigm in its environmental policy frameworks, but they do not consistently implement this framework in all policy areas, in particular in the economic department. There is therefore a disconnect between the rhetoric about the expected economic behaviour of companies, and the actual expected behaviour.

The lack of environmental policy integration into the general policy framework has been well documented. As Casado-Asensio and Steurer (2013) note, integrated policy strategies are limited by the fact that in the economy-environment axis, economy usually ranks first and environment second, despite the win-win rhetoric. Humphreys (2016) even goes as far to say that market-based solutions are inherently unable to integrate environmental policies across the larger policy framework.

Second, while companies have followed the green growth rhetoric prior to the pandemic, since the recession started, they have been focussing on recovering their business activities. As a consequence, the sustainability aspect of their businesses has diminished. In these times of crisis, companies are falling back on the business as usual paradigm to recover their losses. This indicates that the environment will indeed be of secondary importance when short-term losses are incurred (Wright and Nyberg, 2017).

Third, the port and the airport are two reference institutions in the Barcelona business ecosystem because of their economic value. They are also seen as crucial players in determining the climate ambitions of Barcelona. Internal mobility has also been identified as an important area for climate policies. In this regard, the policy makers/advisors identify some of the same key areas for climate policy as the business leaders. However, unlike the business leaders, the policy makers/advisors do not think the port and airport are doing enough. They claim the measures taken are not nearly sufficient, and say the actors are more focused on economic growth and revenues than sustainability. This stance is seen as a very large and important obstacle to sustainability in Barcelona.

Fourth, the EU Recovery Fund is expected to have a large impact on local economic developments. Businesses and public administrations are actively following and involved with its design. The Fund could be crucial for businesses to recover some of their activities. Therefore, the potential lies in an effective allocation of these funds that ensures companies thoroughly incorporate sustainability in their operations and practices.

Companies' Behaviour in Barcelona

In terms of businesses' behaviour in the context of climate change, there seems to be a discrepancy between the accounts of the two groups interviewed. The business leaders identify with the green growth paradigm, recognise the importance of climate change and the need for action, and can present measures taken by the company to reduce its environmental impact. The policy makers/advisors, on the other hand, state that companies are still following the business as usual paradigm, especially since the Covid crisis.

On the one hand, this gap in perception could be caused by a lack of insight into businesses by the policy makers/advisors. Businesses perhaps do not communicate their environmental achievement sufficiently well to policy makers/advisors and the wider public. Especially in a context of economic crises, businesses' rhetoric may focus primarily on the economic aspect. This does not by definition mean that environmental practices have ceased to exist. If this is the case, improved communications could close the gap. Indeed, research suggests that sustainable practices of SME's in Spain can not only increase competitiveness but also create a more positive public opinion of the companies (Jorge et al., 2015).

On the other hand, many authors point out that environmental concerns do give way to economic priorities with businesses. Seles et al. (2019) found that both environmental practices and outcomes were significantly reduced in times of economic crisis. However, those environmental practices that cut costs remained present and had a positive outcome on business performance. This points to the fact environmental practices are only durable and effective to the extent that they provide a significant economic and competitive advantage.

Similarly, Wright and Nyberg (2017) have found in their research that companies fail to incorporate climate ambitions, even when their leaders have embraced environmental practices in their businesses. Indeed, companies tend to struggle with the tension between growth and sustainability:

'If short-term profitability cannot be guaranteed by social and environmental initiatives, firm practices will regress towards market imperatives over time through the normalizing process. Certainly, businesses can successfully engage with relatively tame environmental problems that are resolvable through technical activities that also support profitability (Rittel & Webber, 1973). However, engaging with grand challenges such as climate change is particularly problematic for businesses, given the long-term, complex nature of these problems and the underlying tension between economic growth and its material consequences.' - (p. 38-39, Wright and Nyberg, 2017)

This corresponds to what business leaders themselves have indicated in the UN Global Compact report: market constraints and a lack of economic incentives constrain even the business leaders that are willing to be more sustainable. Furthermore, over half of the CEO's in this report said they were faced with a crucial trade-off: the pressure between minimising costs in the short-term versus long-term strategic investments in sustainability (Gupta et al., 2019).

Assuming that companies are indeed constrained by their economic mandate, the interview findings (where business leaders stress the environmental practices of their companies) can be explained by companies' need conform to societal pressures to keep their legitimacy (Balsvik, 2020). Thus, in order for companies to keep their legitimacy and reputation intact, they need to present themselves as sustainable actors. They will communicate different narratives that indicate the companies' sustainable efforts and actions (Balsvik, 2020).

There is therefore a strong indication that the gap between the policy makers/advisors and the business leaders on the behaviour of companies can be explained by the fact that companies want to come across as sustainable. Their environmental practices are likely to be mediated by economic priorities: they will be limited and only incorporated to the extent that they are not a barrier to profitability. The policy makers/advisors, on the other hand, do not seem to think these environmental practices are sufficient to qualify as different than 'business as usual', given their limited nature.

Finally, the importance of market forces indicates that while the previous assertion made in this research that companies need leaders committed to sustainability, still stands, this may only be necessary, but not sufficient. Indeed, while these leaders may personally be convinced of the need of urgent climate action, the interplay of market imperatives and the complex nature of climate policies can limit the impact that one person can have, especially in times of crisis.

Who Is Responsible?

Business leaders viewed many different actors that were responsible for acting against climate change on a global level. However, when asked about which actors are responsible on the local level (Barcelona specifically), companies were rarely mentioned. Public administrations, on the other hand, were mentioned almost every time.

This is not to say that business leaders did not think their businesses have a responsibility in becoming more sustainable, as is clearly shown by their responses and the environmental practices their companies have adapted. Yet, the two different answers indicate that there is less focus on companies as important climate actors in Barcelona.

Research on the way different identities in different scales (global to local) interact with climate change is sparse (Devine-Wright, 2013). One person may have several identities that are in conflict with one another, yet these will be harmonised by constructing particular identity narratives (Wright & Nyberg, 2015). These identities will be a product of personal, organisational, as well as wider societal structures and dynamics (Devine-Wright, 2013). Therefore, business leaders may have a particular opinion on the role of companies in climate change on a general and global level, from their perspective of concerned citizens. But this view will not feature as significantly on the local level, where various dynamics force business leaders into different logics.

Degrowth?

Other than Doblas-Reyes, no respondent viewed degrowth as a viable solution, and even Doblas-Reyes was not completely convinced. What does this mean for proponents of degrowth who view economic growth and sustainability as fundamentally incompatible?

In February 2020, an article was posted on the Harvard Business Review website, titled 'Why "Degrowth" Shouldn't Scare Businesses' (Roelet & Bothello, 2020). The authors set out guidelines for degrowth business practices and noted these will bring with them a competitive edge over other companies. However, a reply was quickly given on the degrowth blog, titled 'Why Degrowth Should Scare Business' (Nesterova et al., 2020). The authors posit that degrowth businesses will be unlike businesses as we know them: businesses, as agents of growth and capital accumulation, cannot exist in their current form. The article stresses the need for degrowth to be a radical concept that can change the way in which people think about growth (Nesterova et al., 2020).

It is clear that in our case study it has failed to do so with company leaders, and even policy makers. If the degrowth movement prefers to take a purely antagonistic approach towards decision makers and business leaders, this may not be a problem. But if degrowth wishes to alter what people think is possible, including people in positions of power, it still has some work to do.

One of the ways to do this is for degrowth to be clearer about what businesses would look like in a degrowth world. Khmara and Kronenberg (2017) attempted to identify some criteria for 'degrowth businesses' and to operationalise them. These criteria included democratic governance of businesses and alternative goals to economic growth. If degrowth would increase their communication on 'degrowth businesses', this could be a first step in showing that another economic system is possible.

LIMITATIONS AND FURTHER RESEARCH

This research has a few limitations. First and foremost, the corona virus made it difficult to contact and interview respondents. In particular, we did not manage to interview business leaders from the tourist sector and the airport, which is a gap in the research given the importance of these sectors.

Second, the research does not quantitatively verify the extent to which sustainability is incorporated in the businesses whose business leaders we interviewed. Therefore, the research could not evaluate in detail the actual behaviour of businesses and the coherence between the discourse of business leaders and business practices.

Third, companies and business leaders were identified through local expert knowledge, rather than a formal mapping process. Such a process could potentially give a different or more extensive idea of which actors in Barcelona are important in the climate policy debate.

Further research should look in depth at how specific businesses manage the complex tension between sustainability and economic growth, and to which extent they are mediated by economic crises. Furthermore, it could be interesting to add an analysis of greenhouse gas emissions trends in Barcelona, and for specific actors.

Finally, research should focus how one's positionality affects climate change views on different scales. More concretely, research could address the way in which business leaders navigate tensions between their personal convictions and general views on the one hand, and their business responsibilities on the other hand, including local business leaders of global companies.

CONCLUSION

The main goal of the research was to understand how important business leaders in Barcelona view climate change. We started with an exploration of the several policy paradigms that inform businesses behaviour in the context of climate change and the role of business leaders in climate change. Afterwards, we explored the economy of Barcelona, followed by a brief analysis of the policy framework in Barcelona. The research then goes on to describe the methodology, the results and the discussion.

The analysis shows that business leaders are very concerned about climate change and that businesses take some measures for sustainability. Nevertheless, sustainability is not incorporated in key strategic operations. Therefore, there is a tension between business leaders' self-claimed alignment with the "green growth" paradigm and the policy makers/ advisors' perception of "business as usual" practices. Business leaders also expect public administrations to take the lead on climate change on the local level, despite seeing the need for companies to lead on the global level. Degrowth is not seen as a viable option for businesses.

This research is useful for people that aim for ambitious and effective climate policies, especially in Barcelona. It provides an insight to the way in which people in positions of power, in particular business leaders, understand climate change and the apparent contradictions in the Barcelona municipality climate policies.



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ANNEX 1

Interview Questionnaire

Global Level

- How would you describe climate change?
- In general, what do you see as the cause(s) of climate change?
- On a global level, what kind of impact will climate change have on societies? Select one option.
 - o It will not have an impact at all
 - o It will have a small impact
 - o It will have a big impact
 - o It will have a huge impact
- (If at least some impact) What are some of the impacts you think climate change will have on societies?
- (If no impact) Why not?
- Who should be the main actors trying to resolve climate change?
- Currently there are different ideas on how business should limit climate change. What do you think? Select the options you agree with.
 - o Business as Usual, defined as no need to change current practices.
 - o Green Growth, defined as investment in efficient energy use, green technology, and innovation.
 - o Degrowth, which is defined as the democratic decreasing of the production and consumption in society and removing economic growth as an objective.
 - o Other, please specify.

Local Level

- Does climate change impact your business strategies or practices?
- Who do you think should be the main actors responsible for making Barcelona more environmentally sustainable? What should improve today?
- What do you think would be needed to incentivise your business to reduce your environmental impact?

Personal Level

- Would you be willing to change your lifestyle if it could help reduce climate change? For example, not taking the airplane or not eating meat.
- On a personal level, how concerned are you about climate change?
 - o 0-10
- Do you think climate change could be a threat to future generations? Are you sometimes worried about the impact climate change could have on future generations?

ANNEX 2

Respondent profiles

Alex Goñi

Alex Goñi is the president of Pimec Comerç, an organisation representing the interests of small and medium enterprises in Barcelona. He is also the president of the Fish Venders of Catalunya. Mr. Goñi's interview was conducted with a translator.

Constantí Serrallonga

Mr. Serrallonga has a degree in Economic Sciences and has since worked many years as a manager in healthcare and transport services. He was appointed as General Manager of the Fira De Barcelona in 2015, one of the largest trade fair organisations in Europe, with important events such as the Mobile World Congress.

Francisco Doblas-Reyes

Francisco Doblas-Reyes is the head of the Earth Sciences department of the Barcelona Supercomputer, a public company managing the MareNostrum supercomputer at the service of the scientific community and industry. Mr. Doblas-Reyes is specialised in climate change forecasting systems.

Jordi Torrent

Mr. Torrent is the strategic director of the Port of Barcelona, a publicly owned company. He leads the team working on the Port's strategic plan for 2021-2025, of which environmental sustainability is one of the main pillars. Mr. Torrent is specialised in the maritime and logistic sectors.

Mateu Hernández

Mateu Hernández is the CEO of Barcelona Global. Barcelona Global is a private, independent and non-profit association composed by 210 of the city's leading companies, research centres, entrepreneurs, business schools, universities and cultural institutions, and 812 professionals aiming to make Barcelona one of the world's best cities for talent, and economic activity. Mr. Hernández himself is specialised in local economic development, for which he has applied himself in cities around the world.

Albert Arias

This researcher and lecturer at the Universitat de Barcelona is specialised on tourism in Barcelona. He has published several articles on the topic and was asked by the Barcelona municipality to contribute to the Strategic Tourism Plan 2020.

Anna Català

Ms. Català is an environmental scientist specialised in climate change communication. She has extensive experience in working for civil society and governments on climate change policies. She is currently one of the advisors to the PEMB on climate change policy.

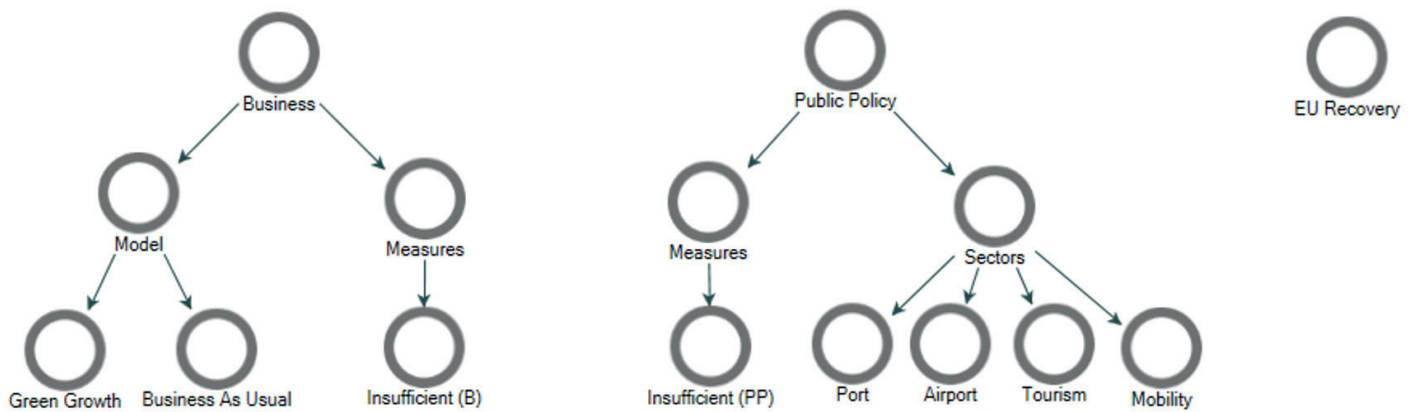
Oriol Estela

Oriol Estela has worked as a consultant for local economic development for private companies and afterwards for Barcelona municipality. He is currently the general coordinator of the PEMB, a public-private company designing a strategic plan for the next decade for Barcelona.

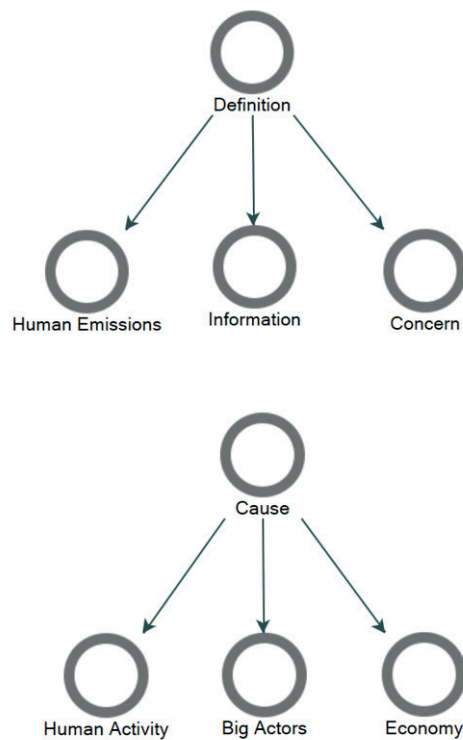
ANNEX 3

Respondent profiles

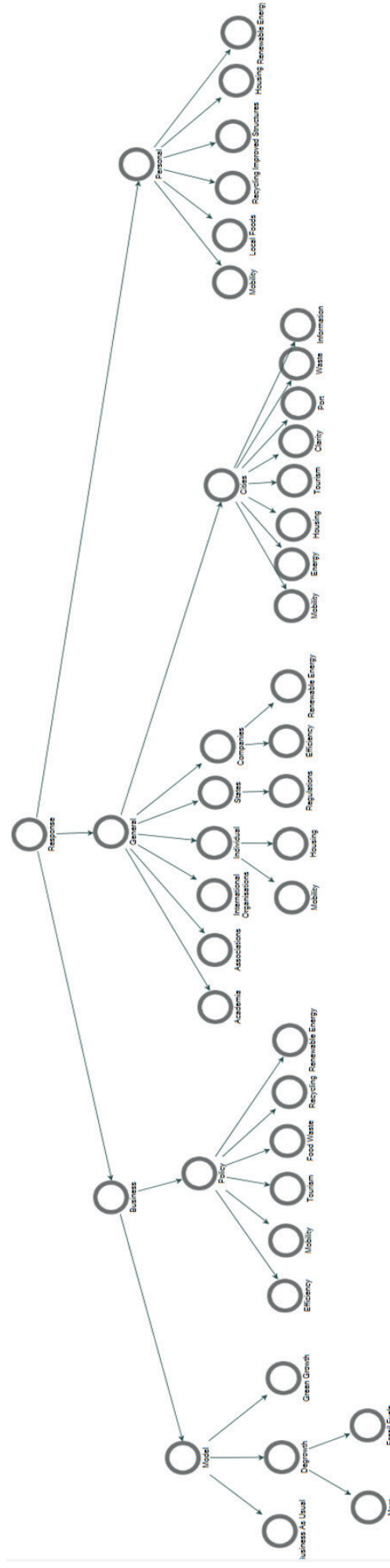
Annex 3.1



Annex 3.2







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REPORT
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**BUSINESS LEADERS AND
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