

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Humanities



Bachelor Thesis

Environmental Business Ethics and Responsibility

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BACHELOR THESIS ASSIGNMENT

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Economics and Management
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Thesis title

Environmental Business Ethics and Responsibility

Objectives of thesis

This thesis will investigate concepts of business ethics and corporate social responsibility, with a particular focus on environmental ethics. It will consider different models and theories of business ethics and debates over what responsibilities businesses have, including issues of marketing and management ethics. It will also consider how these apply specifically to questions of environmental ethics, and different models for understanding the responsibility of business to the environment. The practical part will investigate the attitudes, regulations and norms that govern opportunities and requirements for sustainable and environmentally responsible business in the Czech Republic.

Methodology

Develop a literature review covering core issues in business ethics and corporate social responsibility, focusing specifically on issues of environmental ethics.

Research into the opportunities and requirements for sustainable business in the Czech Republic, through market research and study of existing legal and ethical regulations and norms, presented through a hypothetical business model of a business in the field of environmental sustainability (a company that making green energy electric stations for cars).

The proposed extent of the thesis

40-50 pages

Keywords

Corporate Social Responsibility, Environmental Responsibility, Business Ethics, Environmental Ethics

Recommended information sources

ALEXANDER, J. Environmental Sustainability Versus Profit Maximization: Overcoming Systemic Constraints on Implementing Normatively Preferable Alternatives. *Journal of Business Ethics* 76, 155–162 (2007).
CARROLL B. Archie and SHABANA M. Kareem. (2010). The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice. *International Journal of Management Reviews*
FREDERICK, Robert. (2008). *A Companion to Business Ethics*. London: Wiley-Blackwell
HARRISON, Mike. (2005). *An Introduction to Business and Management Ethics*, Palgrave MacMillan

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Declaration

I declare that I have worked on my bachelor thesis titled "Environmental Business Ethics and Responsibility" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 15. 3. 2021



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Environmental Business Ethics and Responsibility

Abstract

The purpose of this thesis is to explain environmental ethics and show, how we can implement it in business and use it as competitive advantage. Firstly, it discusses each segment of related ethics and explain its origin. Business is divided into several levels of environment impact, and each segment has its environmental challenges which are pointed out and discussed. The research reveals real-world catastrophes and problematics today's business world faces and influences its relationship to the environment. In the practical part we analyse real situation of electromobility and associated industries in the Czech market. We look on the possible impact of electric vehicles powered by renewable energy. We discuss this topic in the meaning as possible business opportunity.

Keywords: environment, nature, ethics, business problematics, corporate social responsibility, environmental business ethics, electromobility, fuel industry, business advantage, global warming, climate crisis.

Environmentální etika a zodpovědnost v byznysu

Abstrakt

Účelem této práce je vysvětlit ekologickou etiku a ukázat, jak ji můžeme implementovat v podnikání a využít ji jako konkurenční výhodu. Nejprve pojednává o každém segmentu související etiky a vysvětluje její původ. Podnikání je rozděleno do několika úrovní dopadu na životní prostředí a každý segment má své environmentální výzvy, na které je poukázáno a diskutováno. Výzkum odhaluje katastrofy a problémy v reálném světě, kterým čelí dnešní svět byznysu a ovlivňuje jeho vztah k životnímu prostředí. V praktické části analyzujeme skutečnou situaci elektromobility a souvisejících odvětví na českém trhu. Podíváme se na možný dopad elektrických vozidel poháněných obnovitelnou energií. Diskutujeme o tomto tématu ve smyslu možné obchodní příležitosti.

Klíčová slova: prostředí, příroda, etika, podnikatelská problematika, společenská odpovědnost podniků, environmentální podnikatelská etika, elektromobilita, energetický průmysl, obchodní výhoda, globální oteplování, klimatická krize.

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Introduction

Ethics is part of our daily life. Ethics has several forms from common to formal, but there is also a quite new direction which is closely connected to today's global happening and that is environmental ethics. It is a practical field of environmental philosophy and it explores the relationship between human and environment. As already said, the ethics are part of our everyday and so is the environmental ethics. Which means we can find it in business sphere as well and as companies have large impact on environment, the environmental ethics within them is rather important. All together with current climate change and global warming.

Environmental business ethics is currently starting to gain more popularity and it is important to talk about it and develop it and show the reasons why being environmentally responsible is important. Environmental responsibility is crucial, and it concerns us all. What happens on the other side of the world affects us too, because we all live on the same planet. Being environmentally responsible does not mean making minimum or zero profit. In fact, it can even be considered a competitive advantage.

When entering a market, you need a problem and your product being a solution. As environmental crisis is a big area of several problems it means we are looking for solutions. As one concrete solution in a specific market for a concrete problem I explored in the practical part.

The Czech Republic is facing two big polluters, and those are fossil fuel industry and vehicle emissions. These two real problems will serve as a concept for exploring the Czech market of renewable energy and electric vehicles. The solution I explore through market analysis are charging stations powered by 100% renewable energy.

1 Objectives and Methodology

1.1 Objectives

Objective is to show how we got to environmental business ethics as humanity and why is it important. Also, to show current trends affecting relation of businesses to environment and if the environmental consciousness in business can be used as a competitive advantage. Showing how big impact it can have if we take a specific market and try to make an environmental strategy.

1.2 Methodology

Focus of my research evolves around environmental business ethics and its problematics. In practical part it is concretely focuses on environmentally ethical market opportunity as a possible solution applicated into the Czech market and in concrete form of charge stations for electronic vehicles powered by 100% renewable energy.

To achieve this, in theoretical part I collect data from journals, books and articles, that are of qualitative characteristics. Through literature review I explain background of ethics, business ethics, environmental ethics and also environmental business ethics. I connect levels of businesses impact on environment with actual environmental threats and show how current trends impact environmental thinking of businesses.

In practical part I used combination of qualitative and quantitative secondary data. I resourced qualitative data from articles and documents. Quantitative data were sourced from already existing statistics research and statistical offices.

To analyse the content of gathered data I used comparative method by putting Czech Republic into global perspective. In analysing companies on the market, I focused on their source of energy, their qualities, share of the market or their utility.

I chose this approach, because it can capture all aspects of my objectives. First, deep comprehension of environmental business ethics and impact of current trends, through analysing each part separately. Second making the gained knowledge into practise by analysing the problematics of concrete market, finding solution and explore market possibilities.

2 Environmental Ethics and Responsibility in Business

First of all, we need to answer four basic questions: "What is ethics?" "What means ethics in business?" "What is environmental ethics?" and "What is environmental business ethics?".

2.1 Ethics

Understanding of ethics can differ across the world, considering various cultures and beliefs. For simplicity, we will orient in the field of western philosophy throughout this thesis.

Ethics is tightly bound to our beliefs, morals and values, and as it differs for everyone, we can comprehend that each of us has a different understanding of ethics. Values, morals and beliefs are an essential part, and we cannot live without them. They are determining our feelings. For example, we spill coffee on our new white T-shirt. Are we feeling sad because we valued the T-shirt? Are we feeling embarrassed because we care about how we look? They are also the reasons for our decisions and actions (Darwall, 2018, pg. 3-4).

Ethics is a vast concept, so we divide it into four categories, and each category is explaining the necessary ideas to, in the end, understand the concept of environmental business ethics.

2.1.1 Philosophical ethics

It is also referred to as "meta-ethics", by what we mean, we are talking about ethics more like a discipline than a tool to solve ethical problems. In philosophical ethics, we have several questions we try to answer, but the questions are hard to be answered. For instance, we assume that stealing wrong and based on this statement. We have many questions arising: "Is it based on a deeply held belief?" "Is it because of accumulated experience on what is best for running a state?" "Did we choose this standard by ourselves through the law system?" "Is it intuitively obvious to us?" and so on. We can discuss the answers to infinity, but it will not help us make business choices (Harrison, 2005, pg. 5-6).

2.1.2 Normative Ethics

If we look at it from a broader perspective, normative ethics is trying to describe the ethical, or "right" if you prefer, way to live. It is focusing on what we should do and how

we should behave. By characterizing what we should feel, do, desire or be, let us temporarily define ethics as the elements mentioned above (Darwall, 2018, pg. 5). Normative ethics is creating a guideline of possible solutions for dilemmas one may face. It calculates what merits we should develop. It is teaching us how to differentiate between "good" and "bad" (Harrison, 2005, pg. 7).

2.1.3 Practical Ethics

Normative ethics do not describe how we tend to react in practice, what values we develop, or do not connect ethics with other disciplines. Practical ethics, on the other hand, is seeking to connect theories to concrete matters and disciplines. Therefore, we have specific area theories that create disciplines as medical ethics, business ethics, organisational ethics, environmental ethics and many others. These ethics can overlap with one another (Harrison, 2005, pg. 7-8).

2.1.4 Descriptive Ethics

Descriptive ethics looks at how specific individuals, groups, or organisations face ethical evaluation and decision-making in real life. It belongs to the category of empirical methodology, and scientists are using it during social science projects. Its outputs are explanations and descriptions (Harrison, 2005, pg. 8).

2.2 Business ethics

The roots of business ethics are dated before the 1960s. Questions about the morality of capitalism arose in the 1870s and were presented mainly by Catholic religion representatives. In this long era before the 1960s, business ethics was mostly a topic of discussion in theological and religious social groups as an opposite to materialistic capitalism. De George refers to this period as "ethics in business" as business was just another aspect of life where ethics could be applied. Another area the ethics was applied to were family, politics, government, sex or professions. These times and this trend of religious and theological engagement were the setting stone for social ethics. However, even in these times, there were written pieces that partly discussed the business ethics topic. One of the most popular texts that developed was Messner's *Social Ethics* in Germany in the 1950s. Another example can be the American bishops' Pastoral Letter on the U.S. Economy (De George, 1987, pg. 201-202). Alternatively, Barnard dedicated one

chapter of his book to "Functions of the Executive", promoting a leader's morality (Wasieleski, Weber, 2019, pg. 6).

The 1960s is a period of revolting against authorities, student unrest and the development of counterculture. The Viet Nam War partly caused it. With the expansion of modern industries and the rise of consumerism, the world started to face the growth of ecological problems as pollution and toxic and nuclear waste. As a response to these happenings, business schools responded by opening up social-issues courses, which was a huge step forward in business ethics (De George, 1987, pg. 202).

The Watergate Scandal hugely influenced business-related ethical thinking in the 1970s. It is a series of interlinking political scandals of the administration of U.S. President Richard Milhous Nixon (Perlstein, 2020). This scandal also revealed illegal lobbying of significant corporates, and after, in 1975, the U.S. Securities and Exchange Commission detected over 400 companies that confessed to illegitimate or suspicious payments to foreign governments (Which motivated Foreign Corrupt Practices Act in 1977). On top of this, public anxiety derived from economic instability, unemployment, inflation, adequacy of energy and other resources, and worries about the economy's future ability to meet the needs and ambitions. All of this led to a low people impression about business and questioning executives. So, it is understandable that business ethics needed to be researched and discussed, so many researches were made, and many texts were written (Wasieleski, Weber, 2019, pg 7-8). De George referred to this period as an emerging business ethics field and was no longer taken as an oxymoron (De George, 1987, pg. 203).

A turning point came in the 1980s. Business ethics started to be treated with respect concerning the number of journals and textbooks (around 20 textbooks, around ten casebooks). Furthermore, courses (500 courses across the U.S.), so business ethics have successfully become an academic field (De George, 1987, pg. 203). Well, other questions arose, what if it is just a fad and what about its longevity?

In the second half of the 1980s, many professions from other fields supported business ethics with their expertise books, researches and articles. There were many contributions by marketing scholars. Ferrell and Gresham (1985) presented a contingency framework, where they assert that ethical behaviour is defined by individual factors, influential people, and opportunities for action. By individual factors is meant personal background. With influential people, we mean managers or close colleagues and opportunities for action can

be managed by corporate policies, codes or reward-punish system. Around the same time in 1986, Hunt and Vitell presented a normative model describing the process of making an ethical decision in a company through one's judgement, perception and intention, which differs based on personal experience and context. A year later, Vitell and Grove discussed the subject of neutralisation techniques. It is about softening consequences by denying responsibility, denial of injury or victim, condemning the condemners, and addressing higher loyalties. It may occur before or after an "unethical" decision. Another contributor was a moral psychologist, Rest, who conducted a four-stage model for moral decisions.

- The first stage is moral awareness, and this means a person needs to recognise whether his decision is affecting someone else or not.
- The second phase is a moral judgement.
- The third is a moral intention.
- The fourth is moral behaviour.

Rest's work influenced behavioural business ethics. He also developed a Defining Issues Test (DIT), a survey measurement of cognitive moral development. On his work and Kohlberg's (1969) built her theories Linda Treviño (1986). She believed that cognitive moral development theory could explain why adults are sensitive to social influence when facing ethical decisions. It is because most adults are engaging on the conventional level, looking for the answer outside of themselves. In contrast, individuals with post-conventional thinking look for the answer inside them and have higher chances of arriving at the right ethical conclusion. Other management scholars, besides Treviño, such as Victor and Cullen (1987, 1988) and Ferrell and Gresham (1985), participated in theories that the characteristics of organisation influence ethical decision making. In the 1980s, management scholars also examined the company's ethical climate and ethical culture. Later Victor and Cullen proved five climates at the organisation influencing an ethical decision. It is care, laws and codes, the company's rules, instrumental (meaning self or company's well-being) and independence. Climates can correlate and coexist but can also vary for groups of workers in one company.

In 1990 we had once again Treviño, and she presented two systems of mechanism - formal and informal. Formal is presenting the company's leadership structure, policies or training programs, and informal can be rituals, norms, language or stories. When these two are in

cooperation, the company has a strong ethical culture. When these two are disharmonic, the culture is considered weaker. In the 1990s, there were four famous journals devoted to Business ethics: *Journal of Business Ethics* (1980), *Business Ethics Quarterly* (1991), *Business Ethics: a European Review* (1992), *Journal of Business Ethics and Organization Studies* (1996). New researches started showing the impact of gender, education or age (Wasioleski, Weber, 2019, pg. 10-16). What is essential for this bachelor thesis is that in the 1990s, authors started to combine environmental ethics and business ethics. Questions as: What are the obligations of businesses to help with the environmental crisis? What rationale should be used when deciding to protect the environment? What is the relationship between business and government when facing an environmental crisis? (Hoffman, 1991, pg. 173) In 1991 Jones came up with a moral intensity model with six factors - proximity, temporal immediacy, social consensus, probability, concentration and magnitude of consequences (Wasioleski, Weber, 2019, pg. 17).

There are new theories in the business ethics listed below.

The feminist theory might be misleading as it is not connected with a feminine way of thinking, but it focuses on the humane part in business ethics as empathy, understanding, compassion, sympathy and others. It is focusing on individuals as free, equal and autonomous. According to feminist philosophy, this process leads to a so-called "moral impartiality" that, instead of encouraging respect for all individuals, neutralise concrete individuals' respect by impersonally viewing them as anonymous and interchangeable. The model is often described as a "parent-child" relationship and communal decision making.

Stakeholder theory is interested in stakeholders and cares about their satisfaction, at least of the more important ones. A stakeholder is any individual or group who can affect or be affected by the actions, decisions, policies, practices, or goals of the organisation, so they have a stake in the business. Even though they can differ, typical stakeholders are consumers, competitors, distributor, employees, stockholders, suppliers, government, and communities.

Social contract theory is a contract between business and society that changed from profit-driven economic growth to social and economic growth. Because economic growth does not necessarily mean social growth, it can even have a declining side effect on society. This contract's terms can be found in changed regulations and laws connected to a company's social responsibility, but they differ worldwide.

The natural origin of business values is an approach presented by William Frederick (1995) that researches the original values and evolution. The original values are economising, growth and systematic integrity. Frederick is negating the profit as a primary business goal.

The pragmatism approach is developing a deeper understanding of how and why we decide to recreate rules and tradition in line with novelty and changes, and it brings a new understanding of what it means thinking morally. Instead of thinking about morality as an abstract, it takes it as concrete and imaginative thinking. Moral growth cannot be understood as a definite end, but completion of experience (Frederick, 1999, pg. 314-320).

During the 2000s, the research of behavioural business ethics continued to grow. The decision-making and behaviour expanded beyond the traditional deliberative models. With a strong base of theoretical and empirical research, it was possible to set limitations. There started to be descriptions of nonconscious behaviour that could be watched in social groups, leading to the normalisation of unethical behaviour, for instance, corruption. Earlier, the researchers focused more on an individual level (Wasioleski, Weber, 2019, pg. 18-20).

What do we mean by business ethics today?

Business ethics has four social responsibilities, and they are: being profitable, obeying the law, engaging in ethical practices, and be philanthropic - be a good corporate citizen (Frederick, 1999, pg. 142). The role of ethics in business can be described generally in five linked steps.

- describe and categorise the process of value formation
- describe and categorise the process of decision-making
- critique of the value formation (sometimes argued that the business owns the business ethics so much, it cannot provide an objective critique)
- prescribe the values that should be held in an organisation
- prescribe decision-making in line with morals

Business ethics has some key factors that are making it unique. There is a hierarchical nature of authority and responsibility, uncertainty management and risk-taking, complex chains of cause and effect, information flow and asymmetry, and the organisation's size

and interconnectivity. Other disciplines are closely connected to business ethics - organisational and management ethics, financial ethics, marketing ethics, ethics in the public accounting position (Harrison, 2005, pg. 9-10).

2.2.1 Organisational and Management Ethics

By organisational ethics, we mean ethics in any organisation, from people's duties and individual actions to formal structure objectives. It is independent of the environment the organisation operates. In practical the organisational ethics is mostly management ethics.

Management ethics is about relationships between managers and employees (Harrison, 2005, pg. 10-11). We talk about management ethics when managers are facing decisions involving two option "good" or "wrong", "justice", or "injustice", and "ethical" or "unethical". A manager needs to be ethical if he wants to keep his position as an agent in society, so it is in his best interest. As well, stakeholders expect managers to do their best and be ethical. Also, being ethical keeps the company out of possible troubles. As suggested by Rushworth Kidder (1997), there at least ten ways that management ethics has a practical impact.

- Shared values – builds trust
- Consistency – predictability in planning
- Predictability – essential for crisis management
- Confidence in rewards – builds loyalty
- Companies are as good as their people
- Consumers – care about values
- Stakeholders – care about values
- Ethical leadership – averts oppressive regulations
- Effective partnership – common values
- Ethics is a form of insurance

Management of morality is divided into immoral management, moral management, intentional amoral management and unintentional amoral management. Immoral management frequently involves illegality and fraud and is clashing with ethical habits. In this model, management's goals are purely selfish. As an opposite to it is moral

management which values ethical behaviour. Then there are two types of amoral management. The first unintentional is practised by managers who are insensitive or unaware of their everyday actions, affecting other stakeholders, but they might be well-intentioned. On the other hand, intentional moral managers do not believe that ethics and business should mix. They leave ethics for private life only.

If there is a synonymous to management, it would be decision-making, and how should a manager proceed in making decisions? There are twelve questions presented by Laura Nash (1981).

- Is the problem precisely defined?
- How would you define the problem from the other side of view?
- How did this situation happen in the first place?
- To whom and what do you give your loyalties?
- What is your intention in this decision?
- How does this decision match with probable results?
- Whom could your decision harm?
- Is it possible to engage affected parties before deciding?
- Are you confident about the validity of your position in the long run?
- Could you present your choice to the parties that matter without unease?
- What is the potential symbolic in your action if understood or misunderstood?
- Under what conditions would you make exceptions to your belief?

A year later, Blanchard and Peale (1988) presented three simple questions to check the decision's ethicality.

- Is it legal?
- Is it balanced?
- How will I feel about myself?

(Frederick, 1999, pg. 141-150)

2.2.2 Financial Ethics

The bottom line of financial ethics is fairness in financial markets and the duties of fiduciaries. Finance has many different job positions, and so the ethical policy is diversified, but we can divide it into three areas: financial markets, financial services and financial management. For the financial market, its fairness is the most critical ethical value.

There are two ways to define fairness, and one is substantive, which means the price of a security reflects the actual value. The second one is procedural when buyers are determining the price of a security. As unfair trading practices, we have fraud and manipulation that are both forbidden by the law, and they can lead to losing trust from investors. For a fair market, it is essential to have fair conditions without asymmetry, as not having access to the same information. In the financial market, contracts play a significant role. Thus, financial contracting should be implicit, but it is not possible, so everything that is not implicitly described in the contract can be understood differently. Also, there is a problem that our cognitive thinking is not evolved enough to have perfect contracts.

Financial service firms are primary mediators because they use the capital to provide services rather than trade independently. In Financial services, we have two roles facing ethical dilemmas, and those are fiduciaries and agents, as they both are acting on behalf of others' interests. Trust is essential in financial services, and companies pay a high price if their customers do not trust them. When it comes to sales practices, like selling loans or mutual funds, the customer needs to know all material information, like risk ratio. However, here can be dangerous for customers "twisting" when the insurance agent changes the customers' current policies just for commission or "flipping" when replacing the loan to generate higher fees. The products have to meet a certain level of integrity. Financial management is about the active deployment of assets rather than investments. The task of financial managers is balancing competing interests. Their goal is stakeholder's wealth maximisation. To manage this, they need to set an appropriate risk level – risk management (Frederick, 1999, pg. 153-159).

2.2.3 Marketing Ethics

Marketing comes with many ethical problems such as dishonesty, manipulation, creating unsafe products, invasion of privacy, and exploiting children and vulnerable customers.

Whether it is pricing, promotion, retailing or advertisement, marketing has many restrictions to keep. However, why would marketers be ethical? It is the right thing to do and make it possible that several marketing law authorities were established. Imagine a tobacco advertisement saying that smoking is right for health? As it was happening (Frederick, 1999, pg. 153-159).

The main goal of marketing is getting more customers and selling more products. There are several strategies to achieve this, yet some are controversial, and one might say unethical, and they regularly exist until these days, whether it is on the internet or not. We can discuss several problematic strategies like anti-competitive practices, bait and switch, planned obsolescence, greenwashing (see chapter 3.4.4) and more. When categorised as false advertising, it becomes a crime.

2.2.4 Corporate Social Responsibility

Big part of Business Ethics is also Corporate Social Responsibility. When grasping the idea of Corporate Social Responsibility, it is necessary to understand its evolution. Corporate Social Responsibility (CSR) has started manifesting after World War II, even though it has its roots before that. Noteworthy is the date 1946 and name Dean Donald K. David, who advised incoming MBA students at Harvard Business School¹ about business leaders' opportunities and responsibilities. During the next years, students who had become business leaders were concerned about promoting the social "good" (Spector, 2008, pg. 315).

In the 1950s, CSR was starting to shape its form. Frank Abrams, a former executive with Standard Oil Company, New Jersey, opened concerns about how alongside management gaining higher professionalism, its responsibilities grew broader from profit to customers, employees or public. Another man who contributed to a higher awareness of the social responsibilities of companies was Bowen R. Howard published his seminal book *Social Responsibilities of a businessman* in 1953. His book for sure was ahead of his time by a decade at least (Carroll, 2010, pg. 86). The idea of CSR built on four main pillars in the 1950s.

- A manager represents a public trustee

¹ Harvard Business School was founded in 1908 in Boston with the first world's MBA program (HBS).

- Keeping a pro-active relationship between government and businesses,
- Philanthropic support of good causes
- Managers' direct actions

(Frederick, 2006, pg. 30 - 33).

Closing out the 1950s, Professor Theodore Levitt warned the business world about CSR's danger. He feared social responsibility would detract the business from the profit motive, which was essential to its survival. Despite his warnings, CSR grew in popularity in the 1960s. The fame was driven mainly by social movements and primarily in the US, where social movements as civil rights, women's rights, consumer's rights and environmental movement defined the times. Thanks to this type of public pressure, key events and forward-thinking academics, businesses' social responsibility quickly changed and adapted CSR policies, perspectives, attitudes and practices. In the 1960s, the perception of a 'social' environment that we understand today was different. Nevertheless, step by step, the overall social environment was constructed by these movements. The result would be a dramatically different situation, in which business would then have to operate (Carroll, 2010, pg. 86-87).

What exactly was this CSR they tried to achieve? In the 1960s and 1970s, the literature about CSR was expanding, and so were the ideas and definitions. To orient, it is essential to know these key authors and their ideas. In 1960, Keith Davis defined corporate social responsibility as decisions and actions of people in business taken at least partly for a reason beyond a firm's direct economic or technical interest. During the same time, William C. Frederick argued that the company's resources should also contribute to social welfare. Three years later, Joseph McGuire characterizes social responsibility as something that urges corporates to behave responsibly outside of their economic and legal obligations (Carroll, 2010, pg. 87).

Period of the 1960s and the 1970s refers to 'Awareness' and 'Issue', a period of shifting sense of social responsibility, care and involvement with community affairs, correction of racial discrimination, concern about urban decay, alleviation of pollution, and the continuing philanthropic era in which there was a focus on charitable donations by businesses (Murphy, 1978, pg. 20-22).

The 1970s was the decade in which corporate social responsibility, responsiveness and performance became the centre of discussions. Social responsibility was driven primarily by external motivators and social consciousness, not wanting anything in return. In the mid-1970s, the significance of corporate social performance (CSP²) emerged, and the focus on CSR results started (Carroll, 2010, pg. 88). The 1970s were also the times when the formal definitions of CSR proliferated.

In the 1980s, there were fewer new definitions, but on the other hand, more empirical researches and alternative variants, such as business ethics, corporate public policy, stakeholder theory³ and further development of CSP, started to bloom (Carroll, 1999, pg. 275). Researches started to concentrate on linking CSR with corporate financial performance (CFP) and argued that if executed correctly, it could significantly increase competitiveness (Lee, 2011, pg. 282).

This trend continued throughout the 1990s, and thus the core of CSR was strengthened. In 1992 an association Business for Social Responsibility (BSR) was founded. Its purpose was to provide expert advice on concrete subjects and an opportunity for the companies to help each other. The period of the 1990s and the 2000s was about global corporate citizenship. The Enron Scandal⁴ in the early 2000s, together with the Wall Street Crash of 2008, also known as the Global Financial Crisis (GFC) or subprime mortgage crisis⁵, influenced the whole business world, which means CSR. In the 2000s, businesses started to be fascinated with the idea of sustainability and sustainable development. Since then, it has been an integral part of continuing CSR discussions (Carroll, 2010, pg. 88).

For better comprehension, CSR can be divided into five-time stages, as referred by Frederick (2016):

² CSP is a part of CSR which is focusing on practical part and measures actual outcome (Carroll, 2010, pg. 86).

³ Stakeholder theory idea is balancing the interest of several stakeholders and managing their influence on the target firm. In theory all stakeholders matter but in real life it is not possible, so we have a group of more influential ones (e.g., shareholders) and a group of less influential ones (e.g., consumer advocates) (Lee, 2011, pg. 283-284).

⁴ Enron scandal was a series of events that led to the bankruptcy of U.S. energy, commodities, and services company Enron Corporation and Arthur Andersen LLP's disintegration, one of the most significant auditing and accounting companies (Bondarenko, 2019).

⁵ The financial crisis significantly reduced liquidity at the global financial market that escalated in the U.S. due to the housing market collapse (Duignan, 2019).

- *"CSR1 (1950 - 1960s) proposed that corporate managers act voluntarily and philanthropically as public trustees and social stewards.*
- *CSR2 (1960 - 1970s) broadened that idea to embrace legally-required corporate responses to many social demands.*
- *CSR3 (1980 - 1990s) called on businesses to develop ethical corporate cultures to support a wide range of stakeholders and communities through social contracts.*
- *CSR4 (1990 - 2000s) urged corporations to become global citizens heeding and correcting businesses' worldwide negative impacts on human societies and the natural environment.*
- *CSR5: Sustainability (2000 - 2050) - began with the opening of the new millennium. This stage reaches far beyond just the business corporation and its stakeholders, also involving the worldwide responsibilities of governments, international and community organizations, and citizens from around the entire globe."* (Frederick, 2016)

What is important to realise is that CSR methods were aimed at top-level managers and boards of directors. So, in the beginning, CSR had a macro-focus that focused on a firm's policies and strategies. Then, there began to grow the micro-focus, focusing on the actual effect of policies and strategies on people inside and outside the company. The last period of CSR, as mentioned above, is focused beyond stakeholders and business corporation. It takes into note the worldwide well-being responsibilities of governments, international citizens and communities. The world, as we know it, is threatened by global warming, climate change, a rise of oceans and pollution (Frederick, 2016). The shift to environmental responsibility in business is more than welcome. It is needed.

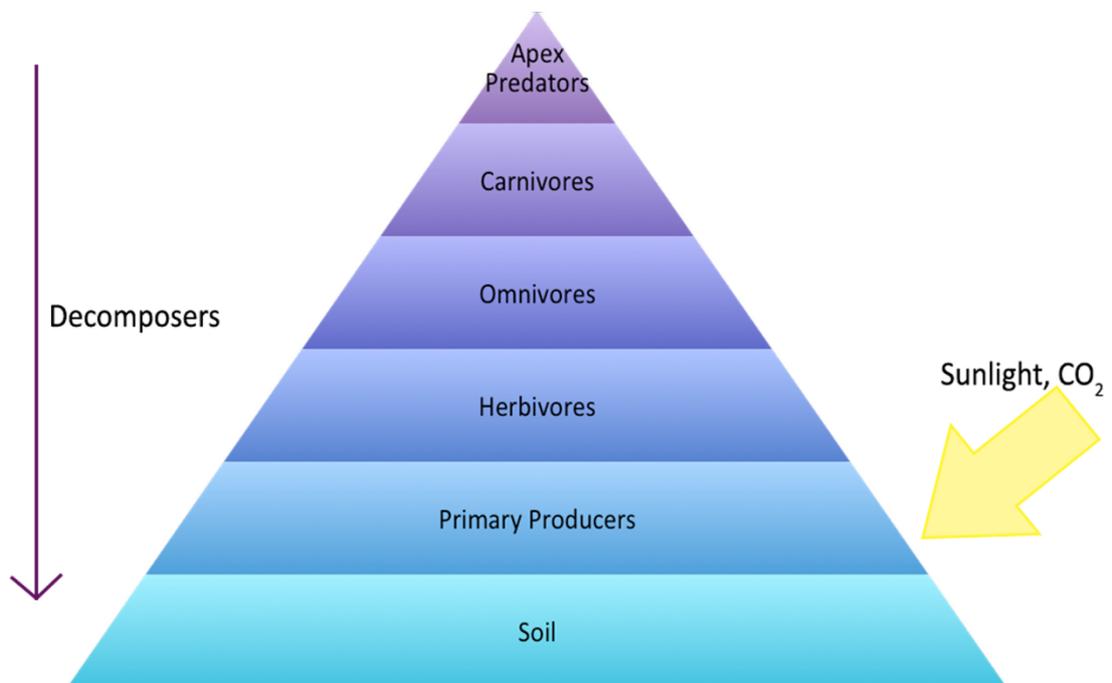
2.3 Environmental Ethics

"Concern over the environment is not new. Warnings came out over the 1960s in the form of burning rivers, dying lakes, and oil-fouled oceans. Radioactivity was found in our food, DDT (Dichlorodiphenyltrichloroethane) in mother's milk, lead and mercury in our water. Every breath of air in the North American hemisphere was reported as contaminated. Some said these were truly warnings from Planet Earth of eco-catastrophe, unless we could find limits to our growth and changes in our lifestyle (Hoffman, 1991, pg. 169)."

Eco-activism reached a huge success 51 years ago – official Earth Day. First Earth Day happened on 22nd April 1970, an international day when people would do something for the environment and demonstrate for environmental support. The whole week around is called Earth Week. To this date, 192 countries are connected through the Earth Day Network (195 or 196 independent countries in the world) (Earth Day Network). The first journals dedicated to environmental ethics started to appear already in the late 1970s, but until the 1990s, it was still a rarity. In 1998 the U.S. Environmental Protection Agency (EPA) had its first meeting regarding environmental ethics (Steinberg, 2000, pg. 1).

Environmental ethics studies the moral relationship between human and the environment and its non-human contents. The concept of environmental ethics points out that every life form has the right to live, and by destroying nature, we deny it. With environmental ethics, we try to preserve a healthy human-nature relationship. This relationship can be viewed in several ways.

One is the land ethic approach which perceives nature in a holistic form. We understand our relationship as parts of the biotic community together with the land. We distinguish between "right" and "wrong" by the well-being of the whole community. The land ethic approach is closely linked to Aldo Leopold (1887 - 1948) and his biotic pyramid seen in



the picture below.

Figure 1 Biotic Pyramid (source: blog NTU libraries Singapore)

It is important to see the pyramid more like an energy cycle not as a pyramid of domination. Healthy soil produces plants (producers), those are eaten by herbivores (primary consumers). Primary consumers get eaten by secondary consumers (omnivores, carnivores) so they provide energy. The last group are tertiary consumers (carnivores predators). To achieve producer level again, consumers are decomposed.

The next presented approach is deep ecology. Its central aspect is understanding a basic unit, and we move beyond individuals, families or community. The basic unit here is the whole biosphere. One of the founders of deep ecology was Arne Naess (1912 - 2009). He disagrees with mainstream anthropocentric shallow ecology, so he recalls his seven principles to change.

- Getting rid of an image of man-in-nature, instead view the land as a complex.
- Biosphere equality – equal right to live and blossom.
- Maintain principles of diversity and symbiosis.
- Anti-class posture – due to exploitation and suppression we live different ways of life. This affects our possibility to self-realisation and potentialities.
- Fight against pollution and resource deficiency.
- Complexity
- Local autonomy and decentralisation.

This way, we see individual rights redefined, and as the basic unit is that big, our personal needs and greed are losing importance in the bigger picture.

In contrast to that is social (shallow) ecology. Social ecologist put weight on the role of capitalism and government in nature destruction. This direction is considered anthropocentric when deep ecology is biocentric (Boylan, 2013, pg. 32-44). Anthropocentric attitude sees nature as an essential tool for human welfare. The primary justification and reasoning are regarding the well-being of the future generation, as for now, we live in debt to them with no plan on repaying (Boylan, 2013, pg. 115-116).

On the opposite, there are two non-anthropocentric options - biocentric and ecocentric. Biocentric approach state that all living things have moral standing, and we all have a

moral responsibility in the world's ecosystem. All living things strive to attain a good for themselves, whether it is consciously or unconsciously. There are four crucial awarenesses.

- Humans are all part of the global living community in the same sense as any other living being.
- All living beings are interdependent, so surviving is not just a matter of surroundings but also the relationship with other species.
- All beings strive for benefits for themselves.
- Humans do not have inherent rights to set themselves above other living beings, and they do not constitute a higher form of existence than other beings.

And there are four rules.

- Non-maleficence - we do not cause other beings suffering.
- Non-interference - we do not limit or violate other beings' freedom.
- Fidelity - we have a duty not to deceive wild animals and break the trust they have in us. (hunting and fishing, for instance)
- Restitutive justice - we compensate other beings if we violated any of the three rules.

Five priority principles.

- Self-defence - if another being threatens our existence, we have a moral duty to protect ourselves, but we do not use more violence than necessary, and we believe we did everything else we could.
- Proportionality - if our non-basic interests are incompatible with other creatures, we have to find a more significant moral importance.
- Minimum wrong - when our central non-basic interests clash with other beings' basic interests, we have to settle for minimal damage caused.
- Distributive justice - when human basic interest clash with the basic interest of another being, we have to assign the same justice weight to both parties.
- Restitutive justice - if we give precedence to our non-basic and basic interests before other beings' basic interests, we have to compensate for their losses.

There are three types of biocentric environmental ethics.

- Strong biocentrism - behaviour and environmental policies should be judged by the effect on all beings equally.
- Weak biocentrism - behaviour and environmental policies should be judged by the effect on all beings, but primarily on humans.
- Animal rights biocentrism - behaviour and environmental policies should be judged by the effect on all beings, but primarily on humans and sentient animals (Stenmark, 2016, pg. 64-78).

Second non-anthropocentric direction is ecocentrism. It differs from biocentrism in the spectrum of the target group. In biocentrism, we talk about all living beings, but in ecocentrism, we go further. We engage the non-living part of the world as well. For example, mentioned "land ethics" would belong here. Ecocentrism claims that the ecological wholes (ecosystems, species) have an instrumental value, so individuals have hardly any. Individuals and species are graded by how they contribute to an ecosystem's growth and flourishing, not their own survival. There are ten principles of ecocentrism.

- Wildlife preservation - we do not touch the remaining wilderness.
- Preservation with respect to the natural ecosystem - when transforming the wilderness into a cultural landscape, we leave a place for the original natural ecosystem.
- Wildlife restoration - we have to recover natural areas that have the chance to become wilderness again.
- Non-maleficence - we treat "rightly" other animal and plant species, so they are not threatened by extinction.
- Non-interference with respect to natural suffering - we have no duty to interfere with suffering that naturally exists in the ecosystem.
- Homologous principle - we have no right to cause animals more suffering than they are exposed to in the wilderness.
- Prohibiting needless suffering - we avoid personally causing meaningless animal suffering.

- Prohibiting needless damage - we avoid causing insects and plants meaningless damage.
- Utility principle with respect to animals - it is morally acceptable to use animals to satisfy basic human needs as long as it is not endangering species existence and is not causing unnecessary suffering.
- Utility principle with respect to plants - it is morally acceptable to use plants to satisfy basic human needs as long as it is not endangering species existence, causing unnecessary damage, and the value is not lower than the one of a plant (Stenmark, 2016, pg. 80-102).

Ecocentrism is divided into two - weak and strong. Both believe in the importance of the well-being of the ecosystem while making decisions about environmental policies, but weak does not believe that it is always the most important factor in decision making.

To understand environmental decision-making in ethics more complexly, I will briefly present a case study by Michael Boylan.

Imagine being the head of the county commission in a poor state. There is an opportunity to open a coal-powered power plant that presents an opportunity to open 1000 new job positions. The taxes from the new job position can help establish new social services. However, pollution from such a plant will pollute the air and water and lead to lower life and health quality for county citizens. To evaluate this situation, we can have arguments from many ethical approaches.

There are more arguments to consider. For people of the community getting a job is their primary goal. Considering their health, the air from the power plant would not be as polluted as in the coal mine. We can argue that if the people sign up for the job positions, they agree. But is it really a place for community to decide? The health and environmental risks can outweigh the happiness from getting a job if we look at the bigger picture (the whole state in time frame of 50 years, for example). Then you can ask: What if each state build such power plant? Well, the pollution and heavy metal would kill many people and result in public unrest (Boylan, 2013, pg. 11-13).

We take from this that no answer is strictly right or wrong, and most of the time, we do not decide between entirely right eco-friendly and wrong choice.

2.4 Environmental Business Ethics

In 1960 humanity consumed around half-planet resources. In 1987 we exceeded the capacity, and 25 years later, we consume one and a half planet resources. The consumption is not equal around the world - for example, if the whole world consumed as Europe, we would need at least three planets Earth and if as North America, we would need 7 of them (Chouinard, Stanley, 2014, pg. 43).

Now understanding environmental and business ethics, we can talk about their intersection - Environmental Business Ethics. It is an ethical direction focused on the relationship between business and environment and business responsibility towards nature. (Nature and the environment will be used as synonyms for better understanding.)

Why do we even need to talk about Environmental Business Ethics, and when did it start? Since the 1970's government started to put limitations on businesses in terms of ecological influence. Several acts, as Clean Air (1970), Clean Water (1972), Pesticide control (1972), started to function in the U.S. (DesJardins, 1999, pg. 281). A significant event happened in 1988, two years after the Chernobyl ecological disaster; senator Albert Gore said we face an ecological crisis with no historical precedent. He continued pointing out that the question is not about the possible ecological crisis but how we should face it. This speech meant that the more prominent players, government and business, started to partake in the debate. Firstly, three main questions were clarified.

- What obligations does a business have to help with the environmental crisis?
- What is the relationship between government and business when facing environmental issues?
- What rationale should be used for making decisions to protect the environment (Harrison, 1991, pg. 170)?

We can start understanding environmental business ethics through primary ethical law not to cause intentional harm. So, businesses should not aim to harm, and when they do, they should aim to compensate for the damage. Damage can be caused in business to human or business to nature relationship. The business has only a direct responsibility to humans, but indirectly it means the environment, even though it may not be seen first. Polluting a river or letting out chemicals into the air is harming nature and people. We can see throughout history how the enormous ecological catastrophes involve a questioning of businesses

liability, for example, the Love Canal incident (1978), the Bhopal gas tragedy (1984), the Exxon Valdez oil spill catastrophe (1989) (DesJardins, 1999, pg. 280).

The business affects the environment on three different levels.

- Individual Biological creatures - fishing, hunting, agriculture, animal testing
- Natural ecosystems - mining, building, regulating rivers, polluting the water, air and land
- The whole planet - contribution to climate change, extinction of species

2.4.1 Individual-level and animal agriculture

The individual level can be best captured by awareness ethics. One of the famous environmental business ethics representatives on the individual level is Peter Singer, who spread the idea if a being is suffering, there is no justification for not considering it. Singer said the most practical solution is to adopt a vegetarian or vegan diet, but he was not strongly defined against using animals for food. However, he was against speciesism. No being should matter less just by belonging to a particular species. He claimed discrimination based on a specie is as discrimination based on skin colour. His idea in the book *Animal Liberation* was utilitarian⁶ as he claimed the more significant amount of good is what decides, and animals can suffer, so their happiness should matter. We can create an ethical lesson for businesses that they should assure natural living conditions and painless presence to sentient beings and animals. For that, in 2010, the Animal Welfare Council created a set of rules to follow. They are called Five Freedoms.

- freedom from thirst and hunger
- freedom from discomfort
- freedom from pain, injuries and diseases
- freedom to express natural behaviour
- freedom from fear and distress

⁶ Utilitarianism – normative ethical theory that support actions which maximises happiness and well-being of all affected individuals (Zsolnai, 2011)

When we speak about farm animals, they are raised in large numbers, and their life is far from natural behaviour and comfort. A man controls the process of reproduction using machines and laboratories; calves do not drink milk from their mother (we do), and they are killed premature, pigs are transferred in wagons without access to water, hens are living in tiny cages without a chance to move or in halls in thousands, so they step over other dead bodies and droppings. Here we can see there is still a space to improve. Testing on animals could be tolerated from the utilitarian point of view, as a sacrifice of an individual animal can be outweighed by the scientific findings (Zsolnai, 2011, pg. 893-894). However, this is not the only problem of animal agriculture. Animal agriculture has a significant impact on concrete ecosystems and is a massive contributor to climate change. Mostly it is rated in the top three worst industries for the environment, together with fuel and fashion industry. What are the most significant issues? Agriculture produces around 13 - 18% of the whole world greenhouse emission, and 65% of these emissions is methane and nitrous oxide, which comes from cows (Howell, 2021). For information, there are around a billion cows in the world (Statista).

Another problem is burning land for agriculture and destroying forests - a natural habitat for wild animals. Of this land, livestock takes up nearly 80% yet produces less than 20% of the world's supply of calories (Ritchie, 2017). Around 50% of food is wasted during production, and then one-third of food is wasted in later stages, which is around 1.3 billion tons per year (Zuckerman, 2020). This means we can feed the whole population if we correctly use our resources.

2.4.2 Ecosystem-level and plastic pollution

The ecosystem level is regulated by ecosystem ethics, which implies that natural wealth should not be decreasing over time. Robert Constanza presents a model to calculate ecosystem health as an ecological value measurement.

$$HI = V \times O \times R$$

HI states for ecosystem health index. V is ecosystems vigour/vitality - a measurement of system activity, metabolism or primary production. O is a relative degree of an ecosystem organisation index that ranges from zero to one, including diversity and complexity. R is a relative degree of an ecosystem resilience index that ranges from zero to one. Businesses should not act irresponsibly towards the health of ecosystems. From this, we can learn an

ethical lesson for business. Businesses should use ecosystems in such a way that is not damaging health during use (Zsolnai, 2011, pg. 896-897).

What is an example of a significant problem on the ecosystem level? The problem of harmful ingredients in sunscreens that are killing reef ecosystems or highly discussed plastic pollution. The plastic itself is an essential material, whether it is in medicine or space engineering. Making plastic is harmful to the climate and is not sustainable as it is made from natural gas and crude oil, which is a non-renewable resource. The problem does not end here because plastic is a synthetic material; it takes several hundred years to disassemble. The plastic breaks down to what we call "microplastic", and it can be found in the air, the water we drink even in places never reached by a man. Plastic gets eaten by animals, and they die of starvation because they have no room to eat any more food or get intoxicated from the chemicals. Every plastic ever made is still existing. Since 1950 the total amount of plastic is 9.2 billion tons, like 1600 Great Pyramids of Giza. 40% of the plastic yearly made is single-use plastic. That is also what can be mostly found lying around the world as plastic pollution (Parker, 2019). Single plastic is predominantly used in food retail as packaging. Just from the retailers alone comes 800 000 tonnes of plastic waste a year. This amount would be enough to cover Greater London in 2,5 cm plastic pollution. Single-use plastic is mostly hard to recycle, or it is not possible at all (Howell, 2021). This raises the question of whether supermarkets and other retailers should not be responsible for their packaging?

2.4.3 The whole planet-level and fashion industry

We move to the planet level. Whole planet level business ethics can be best understood through Gaian ethics. James Lovelock presents Gaian ethics idea of Earth as a synergetic self-regulating complex system where living organisms interact with their inorganic surroundings. It maintains climatic and biogeochemical conditions in its proper homeostasis. This theory perceives the planet as a whole organism, and the lesson for business is that business should not contribute to a violation of systematic patterns and global mechanisms of the Earth. This can mean that business should not contribute to global warming and climate change. The most significant impact on how business harms this level are carbon emissions and reducing biodiversity (Zsolnai, 2011, pg. 897-898).

On this level, almost every industry contributes to harm as it produces carbon emissions or consumes water. Let us look closer at another player from the top three environmental

harming industries: the fashion industry. Fashion divides into "fast fashion", which is made from cheap materials in huge quantities and mostly manufactured in factories in Asia that run on coal and gas energy. In past years, we also witness the developing of "ultra-fast fashion", which is even worse as the name already says. As a counterpart to the fast fashion industry is "slow fashion." Slow fashion uses organic or sustainable materials, has better social standards for workers and makes quality, often more expensive, clothes.

The fast fashion industry does not have a problem just with environmental responsibility but also with the social part. The seamstresses work in horrible conditions and make less money than the living wage. Often those are single mothers, and they need to feed their children. As they do not have money, children labour is not uncommon in the fashion industry. According to the International Labour Organisation, around 170 million children still work in the fast fashion industry. A famous catastrophe is, for example, a crash of dressmakers building Rana Plaza in Bangladesh in 2013. Because of the poor constitution, 1138 people died, and in the rubbles. Several different labels of famous brands as H&M, GAP or Walmart, were found there (Kasperkevic, 2016). In China, there is ongoing forced labour for Uyghurs Muslims. They are closed in camps that are very similar to concentration camps. They mostly work with cotton and brand like Zara uses this slavery to make profits (Clean Clothes). When we look geographically closer to us in the UK, last year in Leicester, an illegal factory of ultra-fast fashion brand Boohoo was discovered.

The dressmakers got paid 3 pounds per hour when the UK's minimum wage is three times higher. Also, there were breaking the protections against the spreading of coronavirus (Jones, 2020).

Now we will look at the environmental problem of fast fashion. Fashion production is responsible for 10% of all carbon emissions, and together with the mass of clothes waste, it has environmentally destructive character. With frequently changing trends, 85% of textile ends up in dumps. Another part is online shopping and sending clothes through a post. US post and US delivery companies' combined greenhouse gas is equivalent to 7 million cars (Howell, 2021). A huge problem is also water consumption. For example, one organic Patagonia cotton T-shirt consumes 2700 litres of water, which equals to daily water supply for 900 people or a water supply for a person for 900 days, which is two and a half years.

One of the reasons for fast fashion existence is consumption and over-consumption. Consumption itself is a huge environmental problem. A large part of the economy is living

just from our over-consumption. We produce something to sell the other day; the products get more and more specified, so now we can find ten types of utilities for cooking egg. This rate of consumption is not sustainable. We are wasting human intellect on developing not needed tools when developing is harming nature as we exploit nature reserves and 90% of waste arises in development and manufacturing. For example, one golden engagement ring equals 20 tons of waste, like seven adult male elephants. Shopping can never be sustainable, even if we make everything from sustainable materials when we continue to consume everything to such extents. We lived in consuming times for so long, and now it's time for a change. We may be on a breakthrough to post-consumer times, and we need to move forward, consume responsibly if we want to save humanity. This shift's significant threat is arising middle class in India and China, as they start to consume more (Chouinard, Stanley, 2014, pg. 48-53). Consumption is not equally distributed around the world. 25 % of the world's population lives in industrialised countries (mostly North America, Europe, and Japan) consume 80% of the world's goods (DesJardins, 1999, pg. 286). Let quality take over quantity.

2.4.4 Present trends

Once I heard that buying products is like voting – what gets the most votes stays on the shelf. Consumers bear far greater responsibility for protecting and preserving the environment than they actually exercise. People as consumers represent the demand side of the economy. Most consumers decide based on price, quality, trends, personal preferences.

In today's world, being "eco-friendly" is a trend, which means more money is being spent on environmentally favourable businesses, and the sector of the economy is growing. To be an "eco-friendly" consumer, you need knowledge of the possibilities and products on the market. It is, and it is not easy at the same time. Thanks to the internet, we have access to a lot more information, but that consumes time, so we trust what we see, and some businesses take advantage of this urge to be ecological but still not having enough knowledge.

Greenwashing is a very current topic. The idea is presenting a product or a brand as ethical and environmentally friendly, but the truth is elsewhere. Well, there two easy ways to see through this trap.

- Is this company producing non-eco products as well? If the answer is yes, there is a high possibility of being greenwashed. Conventional companies can make "eco" products cheaper because they also profit from non-eco products, greenwashing them. For example, we can see on cosmetics that it consists of 98% of natural ingredients and new packaging, little higher price, but its structure is the same old. Alternatively, we want to buy an organic cotton T-shirt in a department store. It is a little more expensive than the basic cotton one, but it is not environmentally friendly just because it is organic. It is just grown without chemicals, but the people working on the field and those in the process get to pay the same amount as regular cotton. Moreover, cotton, as a material, has very high-water consumption.
- Certificates. Certification is a great easy way to know about the ethical and environmental side of a product. There are hundreds of certificates, and knowing all of them is not possible, but their logos are mostly easy to understand. Here are some examples: Forest Stewardship Council Certified (1994 - responsibly managed forests), Leaping Bunny (1996 - cruelty-free), Marine Stewardship Council (1997 - sustainable fishing and seafood traceability), Rainforest Alliance Certified (1987 - conserve biodiversity and improve livelihoods), Fair Trade Certified (1998 - sustainable development and community empowerment) (Hickman, 2020).

To choose a product consciously, the transparency of the companies is essential. Transparency is questioned a lot in the fashion industry. We could see viral campaigns like #WhoMadeMyClothes, where people were pressing brands, that they as consumers care about this. A great initiative started five years ago, the Fashion Transparency Index, which reviews the 250 largest brands and retailers (Fashion revolution). What is important to realise is that a transparent company does not equal an environmentally and socially responsible company. The same way a company makes everything socially and environmentally mostly right does not have to be responsible - for example, guns or cigarette production. Another exciting idea in the fashion industry (could be applied in other industries) is QR codes that could track the exact journey of clothes before reaching a buyer (Chouinard, Stanley, 2014, pg. 43 - 54). When we stay in the fashion industry, great popularity faces alternative materials — for example, leather from apple peels, mango peels, pineapple or mushrooms, sportswear from proteins inspired spider web DNA,

clothes from rotten milk, then trendy and more common are materials from recycled plastic bottles or fishing nets (Wendlandt, 2017).

We could notice a growing part of the supermarket's vegan and healthy parts in the food industry. More people are interested in a plant-based diet, whether they are flexitarians, pescetarians, vegetarians or vegans. This is an excellent example of how the demand of customers affected the supply. Reducing meat is one of the best ways for individuals to have a positive impact on climate change. Also, green energy and electric cars are on the rise. Science is coming up with many solutions to our problems - for example, we now can have bioplastic that is purely from natural ingredients and can be composted in the backyard or technologies dissolving plastic to natural ingredients. Science also introduces clothes that can change patterns or colours through mobile phone application - Chromorphous. This eco-lifestyle trend is also affecting the stock market as more people tend to invest in green companies.

These changes are good, but they are not drastic enough. We now have only nine years to prevent irreversible damage of climate change, and the shift to a more ecological lifestyle has to be much more significant and not only on an individual level but also on a business and government level (United Nations, 2019).

2.4.5 Sustainable and environmental approach as a competitive advantage

Customers do not have to watch ecological news to see who polluted the local river. Today's spread of news on the internet has global coverage, and the speed is ultra-fast. Even if the customers are not ecological activists, they will feel wrong about owning a product from a company where they can see their ill-doing. More conscious consumers can become the answer to this problematic. They ask questions as listed below.

- Will the product hurt our children or us?
- Did the product hurt workers, their community or the environment from where materials were taken?
- Is the product worth its social and environmental costs?

If, from their answers, the product appears having a negative impact, they will not buy it. Later Millennials and Generation Z are more mindful about the environment, and they are already consumers today and will be for several decades, and probably new generations

will not be indifferent, as their parents are not. Moreover, in the US, individuals as consumers control two-thirds of the market, so their opinion matters (Chouinard, Stanley, 2014, pg. 46 - 60).

These people are seeking answers, and one of them is sustainability. Sustainability leads us to not take from nature more than we can give. The goal of the businesses should be sustainability. Sustainability closely links with the Circular Economy.

Circular Economy, we can understand the Circular Economy as an antonym to a linear economy. By linear economy, we understand the conversion of natural resources to waste through production. It is a one-way system that leads to the degradation of nature in two ways. One is by removing natural capital through mining and unsustainable harvesting. The other way is a reduction of the natural value due to pollution from waste. On the other side is a Circular Economy. The Circular Economy envisages no net effect on the environment; it restores the damage caused by resource acquisition while ensuring that little waste is made during production and product life. We can understand the Circular Economy also from the view of two cycles - biogeochemical and recycling.

Many essential molecules and atoms pass through a cycle on the planet. For example, the water cycle, where water evaporates from the ocean and then rains on the land and through rivers gets back to the ocean. Human actions have altered almost every biogeochemical cycle on our planet. Cycles can cope with changes, but the speed and degree of change are threatening. So, the Circular Economy is concerned with slowing and managing the flux.

Recycling is a significant sustainable practice for several years, and it is elementary for the circular economy. The Circular Economy links to resource cycling. These ideas are further refined in industrial symbiosis, where firms use each other's waste as resources, and in the service economy, where work slows down cycles of use to delay waste output. By increasing the longevity of products through better manufacturing and maintenance, the replacement rate decreases, reducing the need for the resource. The 'waste-as-food concept', where unwanted outputs of one industrial process are used as raw materials in another, and the three "Rs" - Reduce, Reuse, and Recycle, have become fundamentals of Circular Economy.

A Circular Economy is a preventative approach that reduces pollution and aims to repair previous damage by designing better systems within the industry's entity. This approach's ultimate objective is to achieve the separation of economic growth from natural resource

depletion and environmental degradation. The Circular Economy maximises the functioning of the ecosystem and human well-being. The nation that has most fully embraced the implementation and development of Circular Economy so far is China. A Circular Economy can be as well financially favourable. For example, imagine a distribution company that uses second-hand pallets for transport, they serve the same, and they are cheaper than the new ones and also, it saves the woods. Or using recycled material that the company can promote on their products as a competitive advantage. These examples can be found many more, but each system is specific, and when applying Circular Economy to concrete business, it is necessary to do the research and explore many possibilities to change the system (Murray, Skene, Haynes, 2015, pg. 371-377).

3 Practical Part

We will explore the fuel (energy) industry as one of the top three polluting industries and transport as one of the top five polluters and move to the Czech market for the practical part. Why these two? The two are some of the biggest polluters in the Czech Republic (MZP), and when we look at their solution, they can be combined and implemented in the Czech market. For energy, it is green renewable energy, and for cars, it is zero carbon cars - electric cars. Their common element is electricity and therefore electric stations. The question is: “Is the Czech market ready and open for charging stations with pure renewable energy and why it could be a good idea?”

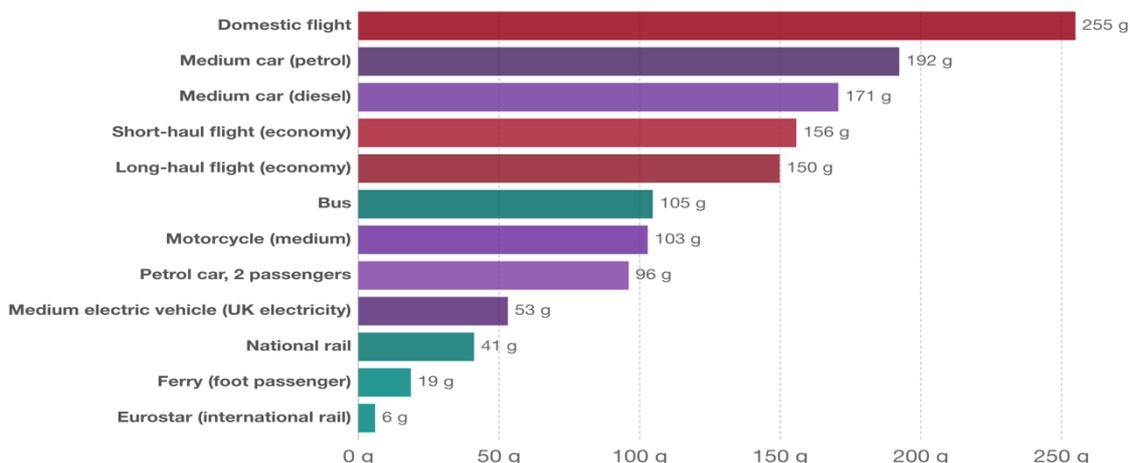
3.1 The Problematics and Solution

First, let us have a look from a global perspective. We rely on energy and fuel for everyday tasks, from small things like charging phones to big things like flights.

As population levels rise, we require more and more fuel for everyday life. The world consumed around 100.3 million barrels of oil per day in 2019. When these fossil fuels burn, they release a massive amount of CO₂ into the atmosphere, warming up the world. The problem is not just the atmosphere, but also oil spillages into the ocean and the fact that it has limits. We are attached to it, and we do not know how to function without it in this comfort - yet. We also need coal and oil to make products such as medicines and plastics. Transport is a massive contributor to greenhouse gasses. Its emissions – road, rail, air, and marine – account for over 24% of global CO₂ emissions. A typical passenger vehicle emits about 4.6 metric tons of carbon dioxide per year (Howell, 2021).

Carbon footprint of travel per kilometer, 2018

The carbon footprint of travel is measured in grams of carbon dioxide equivalents per passenger kilometer. This includes carbon dioxide, but also other greenhouse gases, and increased warming from aviation emissions at altitude.



Source: UK Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2019. CC BY
Note: Data is based on official conversion factors used in UK reporting. These factors may vary slightly depending on the country, and assumed occupancy of public transport such as buses and trains.

Figure 2 CO₂ g/ km in different types of transport (OWD)

Here are some data from the UK, just for better comprehension of transport problematics. So, there are around 8.2 million vehicles in Czechia. Of which 6 million are passenger cars. If we take the data from above and average, we say a medium car produces 181.5 g of carbon dioxide per kilometre. This number times 6 million cars in the Czech Republic equals 1,089,000 kg of carbon dioxide per one kilometre if all the cars are in motion. This is not calculating trucks, buses, trains and other vehicles.

Let us look at it a little bit closer and compare two cars in their lifespan⁷.

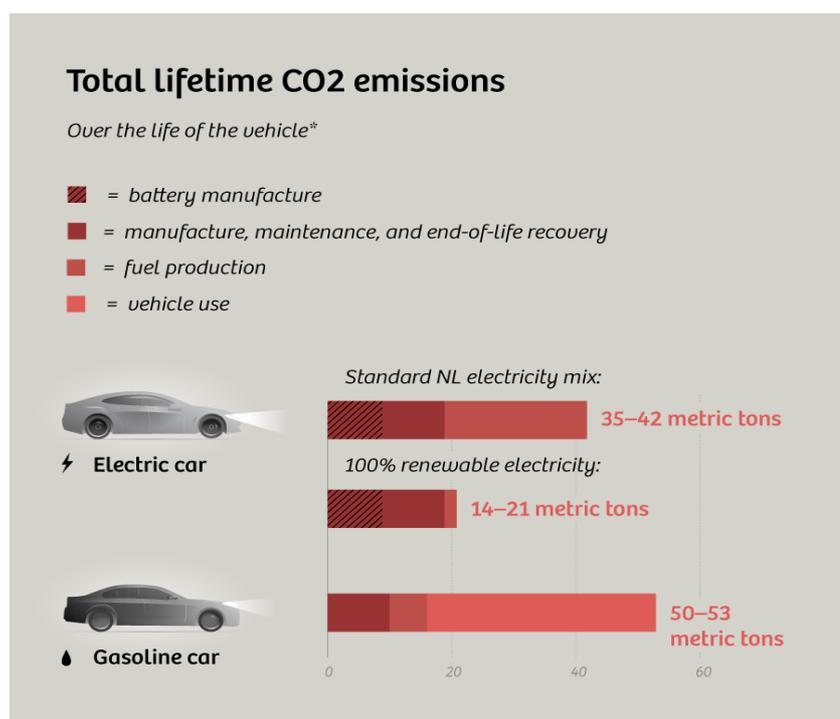
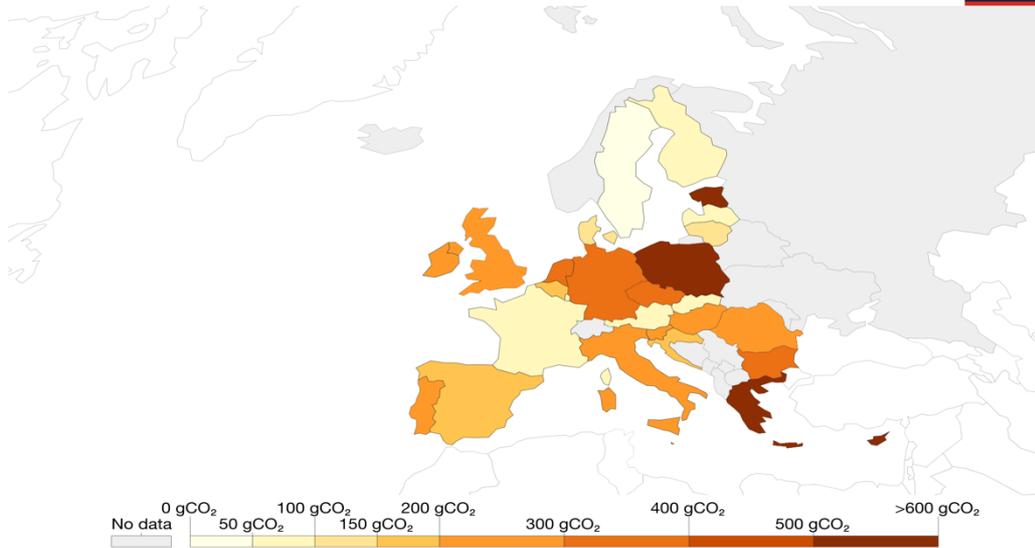


Figure 3 Car Lifetime CO2 Emissions (thecorrespondent.com)

Manufacturing the car is lighter on CO2 emissions in a gasoline car, 7 – 10 metric tons. The electric car’s emissions are heavier by the battery (+ 9 metric tons). We start to see the difference between an electric car running on standard and running on renewable electricity in fuel production. It is 23 metric tons for standard electricity, for gasoline, six metric tons, and for renewable electricity, it is just two metric tons. The last part makes standard electricity car more ecological than gasoline, and those are emissions from driving. For both electric cars, it is zero, and for gasoline, it is 37 metric tons. metric tons (Verkade, 2017).

⁷ The Dutch TNO’s lifespan assumption (used for these calculations) is a shade longer: 220,000 km (Verkade, 2017)

Carbon intensity of electricity per kWh, 2020



Source: Ember EU Power Sector 2020
 Note: Data is currently only available for EU countries, plus the UK.
 OurWorldInData.org/energy • CC BY

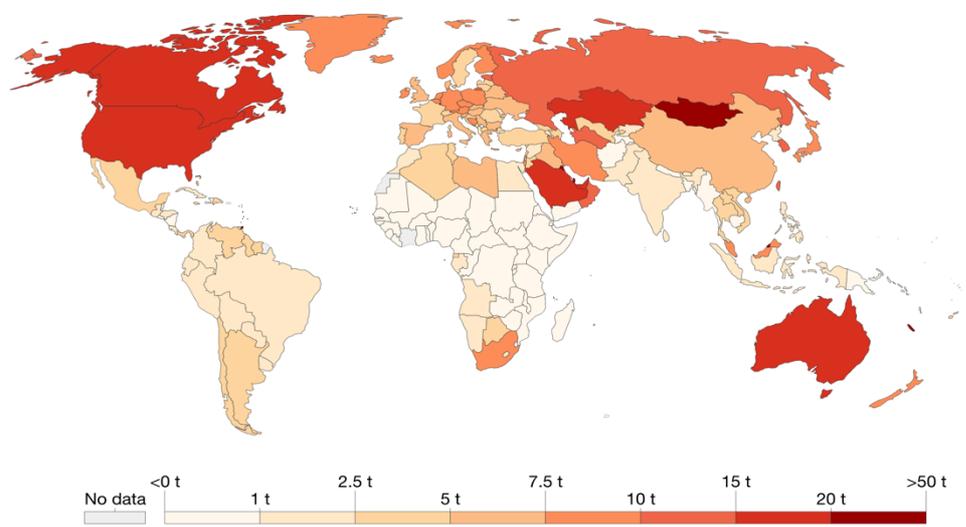
Figure 5 CO2 intensity of electricity per kWh (OWD)

And now we look at the data from the Czech Republic with a world comparison view and see what they tell us.

Per capita CO2 emissions, 2019



Carbon dioxide (CO₂) emissions from the burning of fossil fuels for energy and cement production. Land use change is not included.



Source: Our World in Data based on the Global Carbon Project; Gapminder & UN
 Note: CO₂ emissions are measured on a production basis, meaning they do not correct for emissions embedded in traded goods.
 OurWorldInData.org/co2-and-other-greenhouse-gas-emissions/ • CC BY

Figure 4 CO2 emissions from burning fuels and cement production per capita (OWD)

From these pictures, we can quickly see how the Czech Republic is standing compared to other countries, in the worse half. In the second picture, we rank around 9.5 t.

Now we look at the structure of electricity sources.

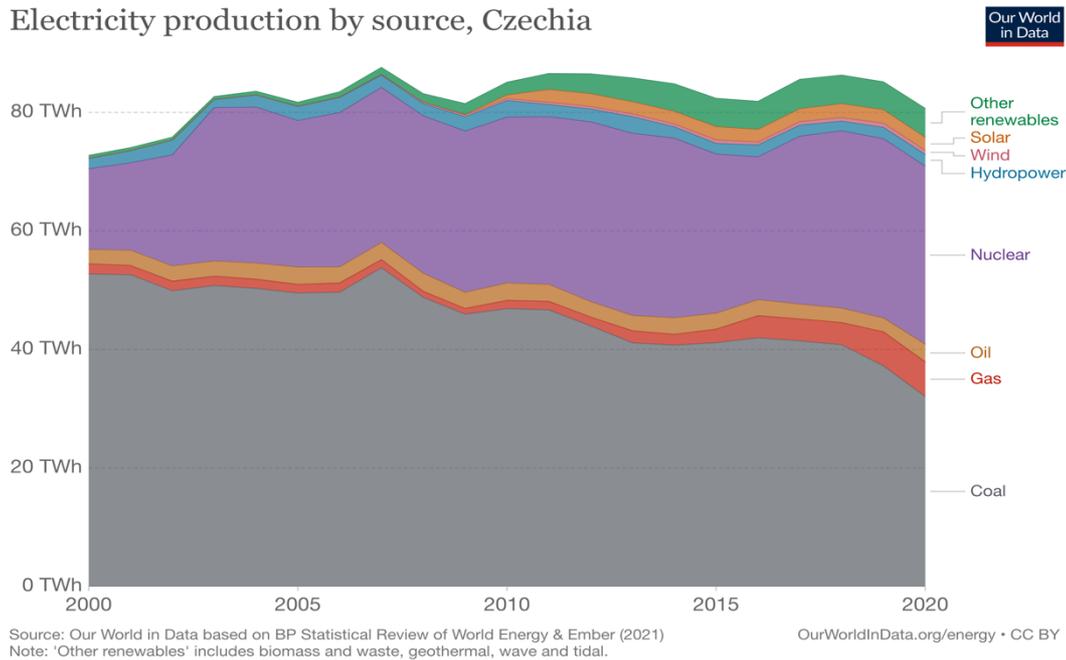


Figure 6 Electricity by sources, Czechia (OWD)

Here we can see that more than 45% of electricity comes from coal power plants, and all fossil fuels together make 50% of our electricity production. Another 50% make low-carbon sources, but only around 10% are renewable energy. Low-carbon energy can have two characteristics - sustainability and renewability. Sustainability is about caused damage during the process, and renewability is about reserves and self-replenishment of reserves. Even though nuclear energy is considered sustainable, it is not renewable so far. Simplified, nuclear energy works on the fission of atoms of uranium, which produces heat, boils water and makes steam, which drives turbines, and for now, we are mining it. However, scientists found out that they can extract uranium from seawater, and there such enormous uranium reserves and can replenish themselves fast enough. Also, this process can be combined with desalination (unsalted saltwater) and producing potable water (WNA).

3.2 Market

Let us start by defining target customers. For this idea, we can have three types of customers: individuals, institutions and companies, but individuals will be the only consumers. For institutions, it could be hotels or shopping malls. Companies could be any companies whose workers have electric cars or electric vehicles sharing companies and transport companies.

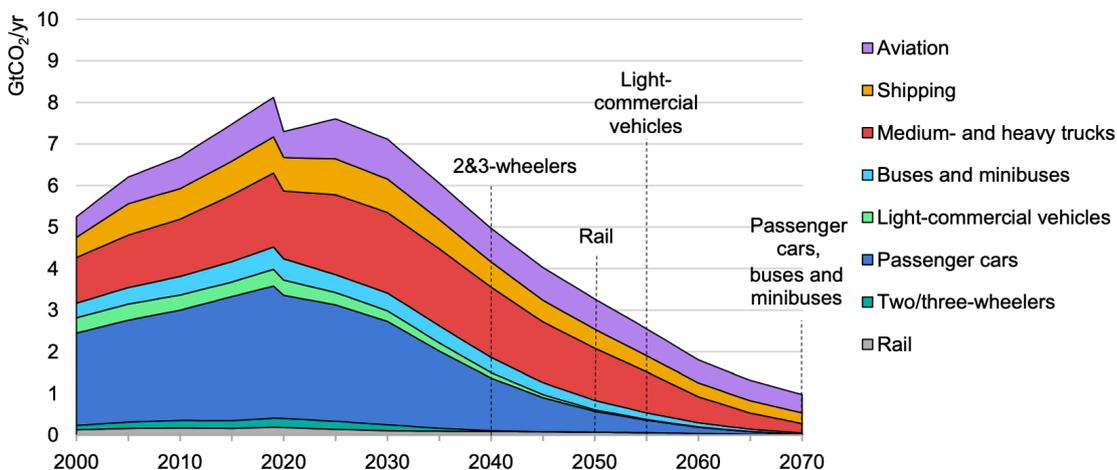
The data found on *Centrum Dopravního Výzkumu* made a table where we can see that at least 8683 electric powered vehicles are in the Czech Republic. The blank cells are data I could not find.

Year	Type			Sum
	electric passenger cars	plug-in hybrid passenger cars	other electric and plug-in hybrid vehicles	
2017	387	0		387
2018	703	278		981
2019	756	470		1226
2020	3262	1978	55	5295
until february 2021	349	441	4	794
				8683

Figure 7 Table - number of cars powered by electricity in Czech Republic

The market is still in its foetus. Because of climate change and global warming, businesses try to act more environmentally conscious. When the opportunity combines with the trend among customers and possible earnings, there is almost no reason not to act. For example, Swedish maker Volvo declared that this year 1/5 of their cars sold would be electric, and they promised to stop producing cars powered by fossil fuels by 2030. Other companies to ban the production of fossil-fuelled cars are Bentley by 2030 and Jaguar by 2025 (Jolly, 2021). Businesses are not the only ones acting. Governments do as well. They reduce the tolerance of emissions a car can produce, and for example, the UK plans to prohibit selling new cars powered by fossil fuels by 2030, a Norway wants to ban them entirely by 2025. Another reason to believe in its expansion is this plan prepared by IEA. Where you can see banning of fossil-fuelled types of vehicles and the impact on CO2 emissions.

Figure 3.16 Global CO₂ emissions in transport by mode in the Sustainable Development Scenario, 2000-70



IEA 2020. All rights reserved.

Notes: Dotted lines indicate the year in which various transport modes have largely stopped consuming fossil fuels and hence no longer contribute to direct emissions of CO₂ from fossil fuel combustion. Residual emissions in transport are compensated by negative emissions technologies, such as BECCS and DAC, in the power and other energy transformation sectors.

Figure 8 Sustainable Transport Plan by IEA (OWD)

The Czech Republic belongs to one of the worst in Europe when it comes to readiness for electromobility. Headlines of news on the internet sound like this: "Czechia, the chargeless country." It is showing us the market is ready for more electric power stations.

3.2.1 Current Companies

The biggest company in the market is without doubt ČEZ, a. s. They produce almost three-quarters of electricity in the Czech Republic. They are the 4th "dirtiest" company in Europe. In the Czech Republic, they own the only two nuclear power stations - Dukovany and Temelín. Then they own eight coal power stations - Dětmarovice, Hodonín, Ledvice, Mělník, Poříčí, Prunéřov I and II, Tisová and Tušimice II. They recently sold coal power station Počerady because they estimated that due to high pollution, it would be closed soon. There are ten main coal power stations in Czechia, and until recently, ČEZ owned 9 of them. They own 12 hydro plants and 13 solar stations. They also own two wind power stations - Janov and Věžnice. ČEZ is the most profitable company in Czechia since 2005. They have over 270 electric stations for cars in the Czech Republic, and over half is fast charging. They have the largest network of electric power stations (ČEZ). We can indeed say that they are not an environmentally friendly company.

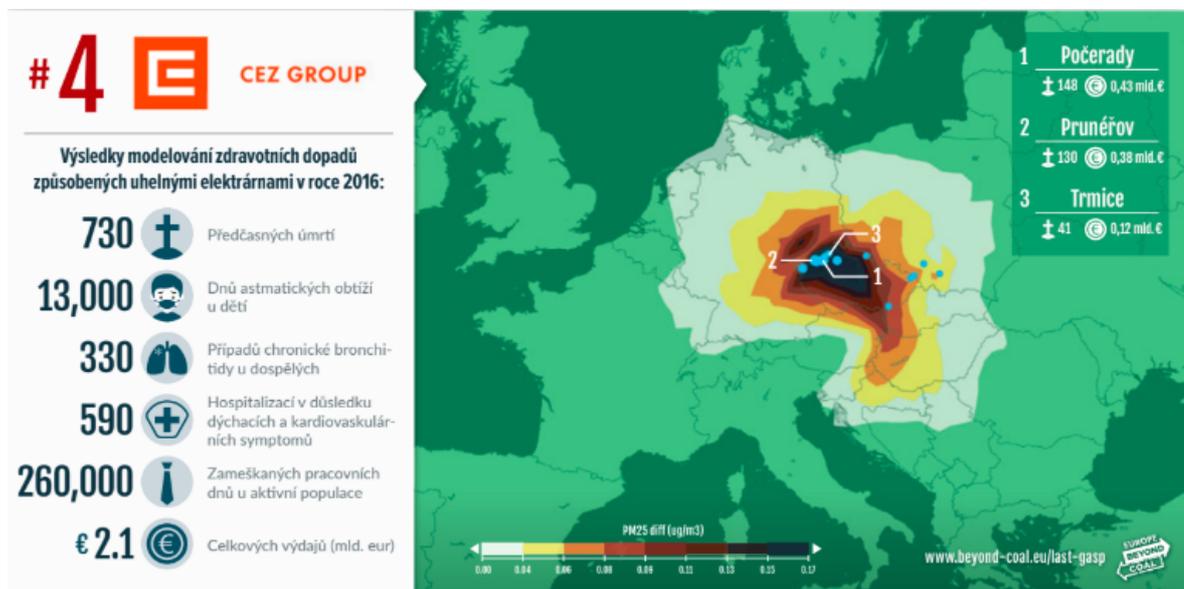


Figure 9 Coal Power Station - Impact on Public Health 2016 (Hrábek, 2018)

In this picture, the numbers mean (by order from the top): premature deaths, days of children asthmatic issues, cases of adult chronicle bronchitis, hospitalisation of breathing and cardiovascular symptoms, missed workdays at the active population and complete expenses. The map is showing how far the affection spreads.

E.ON company is the second biggest player in the Czech market of energies. Their daughter company is Innogy, and they own, for example, hydro station Vranov nad Dyjí. Also, as the other two most prominent players, they offer 100% green energy. They have an extensive network of power stations for cars, and they are building new ones (E.ON).

Pražská Energetika (PRE) is another big player in the Czech market. Their daughter company PREměření, a. s. owns several photovoltaic (solar energy) power stations and no other. On their website, they still offer to types of energy - standard and 100% green. This probably means they are outsourcing some non-renewable energy. They also have many electric stations to power cars. From what it seems, their partners are mostly connected to Prague - Prahu quarters, Shopping centres, Hotels, ČVUT, Sparta and others (PRE).

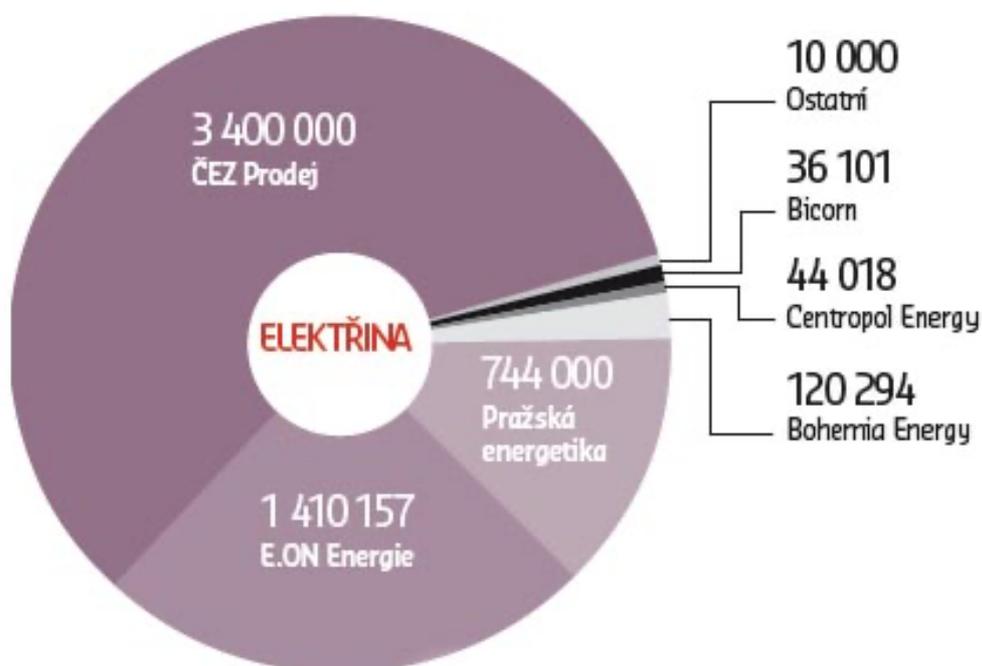


Figure 10 Energetic Czech Market 2010 (Hospodařské noviny)

This picture shows oligopoly energy Czech market in 2010 but the situation is more or less the same.

We look at one more company Ionity. BMW covers it, and they are building ultrafast power stations across Europe with an output of 350 kW. So far, the power stations in Czechia had around half of the output. Even when they are fast, not every electric car can consume at such speed, but they can get 80% of the battery charged under one hour when they can. You do not get charged 100% battery because it can slowly damage it. Their charging is also more expensive (Svatoš, 2018).

Then we look at two companies selling only green energy. One is Nano Energies, the first supplier of just 100% green energy in Czechia. They are known as a website nazeleno.cz. They supply even companies and projects (Nazeleno).

Another is a portal Bezdodavatele.cz, where it is possible to buy green energy directly from the producer without a supplier, so the price should be lower. They even buy not used energy from household renewable powerplants. For example, imagine a house with solar panels, but they do not consume all the energy, and for now, we do not know how to store it, so nothing goes to waste (Bez Dodavatele).

Another interested parties in this market segment, as potential partners, are electric vehicle sharing. Purely electric vehicle sharing is working just in Prague so far, and all of them work through a mobile application. They all share one benefit that they can park anywhere, as, in Prague, electric vehicles can park for free even in the blue zones.

We have an electric moped sharing company Be Rider. Always prepared with two helmets, and the price starts at 2,90 CZK per minute ride. The company is led and controlled by the Škoda group. Customers do not take care of charging; the company does (BeRider).

Then there is Re.Volt electric vehicle sharing company in Prague. In their repertoire, they have 20 cars, 50 scooters, 24 motorbikes and 150 scooters. Their pricing is attractive. They have higher prices per minute, but to make sure customers continue using them, they charge customers credit by 50% of what they paid for their ride, and the credit has to be used within 48 hours. For a car, you pay 6 CZK per minute (ReVolt).

Furthermore, the last is the electric car-sharing GreenGo company. We can borrow a car for 6 CZK per minute if we pay monthly 99 CZK, or 7,8 CZK per minute without monthly payment. Compared to ReVolt cars, where just two people fit, in GreenGO, we can fit up to 5 people. They use an electric model of Volkswagen ID.3, and they are appropriate even for trips outside of Prague (GreenGo).

3.3 The approach of the Czech Republic

To understand the direction of such a market, it is essential to know the local government's direction. In our case, it is the Czech Republic.

In 2009, the European Parliament and Council approved guideline n. 2009/28/ES, which declares that member states should target 20% of electricity from renewable energy and at

least 10% share of renewable energy in transport by 2020. For Czechia, the numbers were as follows: 13% of electricity from renewable energy and 10% share of renewable energy in transport by 2020 (MZP). Some argued the plan is low, and we should target higher numbers (CT24, 2016). In 2015 Czech Ministry of Industry and Trade prepared an actualised National Action Plan for Renewable energy with the goal of 13% by 2020. One of the ways the ministry took was the support of the usage of renewable energies in buildings and facilities — for example, photovoltaic panels on roofs.

On web pages of the Ministry of Environment, we can find three dotation programs for renewable energy (number 5 of 17 Sustainable Development Goals of OSN) (MZP).

We have still wait to see the data from 2020, as the data about renewable energy usage in 2019 were shared in September of 2020. The data from 2019 shows that the gross usage of renewable energy was 11.3%. However, when calculating by method EUROSTAT - SHARES⁸, we get to number over 15%, which is already more than 2% above the estimated goal (MPO). For the context, this year, the share of renewable energy surpassed fossil-fueled energy in Europe. The shares are: 38% renewable, 37% fossil and the rest is nuclear energy (Goodwin, 2021). We are still not even in half of the average European share of renewable energy.

Another way the Czech Republic aims to reduce emissions is the support of electric mobility and alternative-fueled vehicles. Ministry of Industry and Trade prepared a program for support of low-carbon technologies - electromobility. Program running from 2014 until 2020. The goal was to fund competitive businesses and the Czech economy's sustainability by introducing innovative technologies in electromobility. The projects' output should be an increase of electro mobiles in businesses and spread of charge infrastructure, which leads to lowering businesses expenditures and rising innovative potential of the Czech Republic.

Since last year owners of electric cars do not have to pay for the highway, another benefit is that parking in Prague in the blue zones is free and sometimes we can find parking spots with power charge just for electro cars and the government is not imposing excise duty on electricity for electro-mobiles. Czech politics, and Czech citizens, believe in electromobility and plans on supporting it. Not just because of global ecological reasons

⁸ “Member States are engaged to go through the same method to calculate the desired values. Its application prevents any irregularities from varying parameters and rules used in different calculation methods (Eurostat).”

but from local reasons, noise and air pollution in the cities. Also, it will help to be less dependent on oil and gas import (MPO).

Another plan the Czech government prepared is for 2021 - 2027, and its goal is sustainable transportation. Its vision is going to get fulfilled in these three steps.

- Optimisation of transport needs - There will be applied such measures, which will allow the transport of people and things, but at the same time reduces the transport without damaging economic development.
- The transport system needs to be built on a multimodal approach, which allows the utilisation of concrete advantages of specific transport types, and it depends on interdisciplinary collaboration.
- Each transport type needs to be developed in mind with each region's availability, transportation needs, and lower impact on the environment (MD).

4 Results and Discussion

Let us discuss what we have found out in the practical part – Situation and market analysis of green electromobility in the Czech Republic.

4.1 Problematics and Solution

The problematics here is quite clear – fossil energy and car emissions. So is the goal solution – electric car running on green energy. Which is just one of many possible solutions how to fight greenhouse gases.

Compared to the world, we can see, that Czech Republic has a big space for improvement and especially in the dependence on coal power stations. Good, at least little, step would be shutting brown coal powerplants sooner than 2038, when the Czech government plans to close permanently all coal power stations.

What I believe is that most people, who drive electric or hybrid plug-in cars, do not realize the hidden carbon dioxide emissions. I am talking about carbon emissions and other greenhouse gases that are produced during the electricity production from fossil fuels. The Czech Republic is still dependent on coal energy a lot. For example, we can hear in today news that the Coal Council decided to continue using coal until 2038. That is far too long if we want to fulfil Paris Agreement.

4.2 Market

Trying to solve environmental problems through business is great opportunity. What I see important is that this solution fits right for the Czech environment as there are not enough charging stations for cars, the market is growing and will be growing, and it solves two environmental problems at the same time. Anyway, charging expenses are cheaper than refuelling, so I believe there is a space for little more expensive electricity if it would be reasoned by 100% renewability.

4.2.1 Current Companies

In the market there three big players, and one of them, ČEZ, I classified as non-environmentally responsible. I wonder what their strategy, about coal mines, is going to be as EU legislations are getting stricter and the Czech Republic plans to abandon coal power stations completely in 17 years.

What is a problem is the oligopoly characteristic of the energy market, there is no more space for other companies. So, I believe for the start it is not important to produce the electricity on your own, but to outsource. I found two companies focusing just on green renewable energy: Nano Energies and the second one is Bezdodavatele, which is selling without a distributor. At web pages of Bezdodavatele, I found interesting they are buying energy even from individuals, and I think this could be a great opportunity of connecting two projects together. The reason Bezdodavatele buys this energy is, because it is saving possibly wasted green energy, when we do not know, how to store it. Anyway, they looked like a good supplier of energy for this project in mind.

The project does not have target individuals directly, but it can use electric vehicles sharing companies as partners for the beginning. They are only in Prague, but I believe Prague would be a great starting position, because of its aim to become a smart city.

4.3 The Approach of Czech Republic

The Czech Republic fulfilled their national plan about the minimum limit share of renewable energies set by EU, but I still believe we should aim higher. We are not even at the half of European average.

Anyway, the Czech government is aware of the rising interest about environment and plans to build on it. Their amount of dotation, whether it is from Ministry of Environment, Transport or Industry and Trade, shows they do plan to develop this part of business – environmental responsible businesses.

5 Conclusion

The environmental business ethics still has ways to go to be completely grasped by the businesses and society. For it to happen faster it would be needed to look behind the profit and think more outside of the box. Besides, being environmentally and socially responsible can build a strong brand image and it can be turned into competitive advantage.

What would mean to happen is that customers would have to be willing to pay the actual price of product worth. But is the society ready? And will the society do it without impulse from businesses? And will the businesses change without impulse from customers?

The importance of environmental business ethics was understood, but the topic is still evolving, and it might be interesting to conduct a research more based on people, as customers, opinions, whether they care about it or not.

From the part of current trends, it is understood, that environmentally responsible business is still a hot topic of the present and the future.

From the practical part it can be assumed, that the Czech market is open to new companies with interest in charging electric cars with renewable energy. It would be worth to explore the Czech market of environmental innovations and find out where is an opportunity for new solutions.

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