

Turkey *Country Profile*



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1. Introduction

| Quick Facts | | |
|---|---|-------------------------|
|  | Population | 83,429,615 ¹ |
|  | GDP per capita | 21,063 ² |
|  | 10-year average annual GDP growth | x |
|  | CO2 emissions per capita | 4.5 ³ |
|  | Renewable energy consumption share. | 13.37% ⁴ |
|  | Unemployment rate | 13.8% ⁵ |
|  | Global Gender Gap Index 0-1 (gender parity) | 0.635 ⁶ |

¹ The World Bank, 'Population, total – Turkey', <https://data.worldbank.org/indicator/SP.POP.TOTL?locations=TR>, accessed on 3 August 2020.

² The World Bank, 'GDP per Capita – Turkey', <https://data.worldbank.org/indicator/NY.GDP.PCAP.KN?locations=TR>, accessed on 3 August 2020.

³ The World Bank, 'CO2 Emissions', <https://data.worldbank.org/indicator/EN.ATM.CO2E.PC?locations=TR>, accessed on 4 August 2020.

⁴ The World Bank, 'Renewable Energy Consumption', <https://data.worldbank.org/indicator/EG.FEC.RNEW.ZS?locations=TR>, accessed on 4 August 2020.

⁵ CEIC, 'Turkey Unemployment Rate', <https://www.ceicdata.com/en/indicator/turkey/unemployment-rate>, accessed on 3 August 2020.

⁶ World Economic Forum, *Global Gender Gap Report 2020*, Geneva: World Economic Forum, 2020.

1. Policy and Regulatory Framework

Environmental protection and social inclusion are integrated into Turkey's development strategies according to "Turkey's Country Briefing" by the European Environment Agency.⁷ The Tenth Development Plan (2014 – 2018) includes environmental protection and the sustainable use of resources in the aim to reach stable and inclusive economic growth.⁸ For this reason, it promotes, amongst other things, eco-efficiency and clean technology usage in production processes. The Eleventh Development Plan (2019 – 2023), which has been approved in July 2019, builds on these developments and strengthens the integration of the sustainable development goals into its strategic priorities.⁹ It addresses energy efficiency and practices that stimulate innovation to ensure sustainability.

The introduction of the National Energy Efficiency Action Plan¹⁰ in Turkey is an important step in harmonizing the 2012/27/EU directive on Energy Efficiency.¹¹ This action plan for the period 2017-2023, is aimed to reduce the primary energy consumption of Turkey by 14% by 2023 through 55 actions defined under the 6 following categories; buildings and services, energy, transport, industry and technology, agriculture, and cross-cutting (horizontal) areas. Turkey has opened the EU chapter 27 on Environment and Climate Change in 2009, which promotes strong climate action, sustainable development, and protection of the environment. The EU policies contain provisions addressing climate change, water, and air quality, waste management, nature protection, industrial pollution, chemicals, noise, and civil protection.¹² Although Turkey has made progress on the creation of regulatory frameworks related to environmental policies, reports have shown that the enforcement has remained weak.¹³

As a share of GDP, Turkey has the second-highest environmentally-related tax revenue among 34 OECD and 5 partner economies. In 2014, environmentally-related tax revenues were at 3.83% of GDP, compared to 2.0% on average among the 39 economies. In Turkey, taxes on energy represented 68% of total environmentally related tax revenue.¹⁴ There has been criticism on the government for using the environmental tax as another revenue stream, instead of an environmental protection mechanism. There are no subsidiary programs or tax-benefits in place to stimulate green and circular business development in Turkey.²⁴

According to the OECD SME Policy Index, SME greening in Turkey is covered in a number of national strategic documents; the SME Strategy and Action Plan (2015-2018), the Tenth

⁷ European Environment Agency, 'Turkey Country Briefing – The European Environment – State and Outlook 2015', <https://www.eea.europa.eu/soer/2015/countries/turkey>, accessed on 4 August 2020.

⁸ Republic of Turkey. Ministry of Development, *The Tenth Development Plan 2014 – 2018*, Ankara: Ministry of Development, 2014.

⁹ Presidency of the Republic of Turkey. Presidency of Strategy and Budget, *100th Year Turkey Plan. Eleventh Development Plan (2019 - 2023)*, Ankara: Presidency of Strategy and Budget, 2020.

¹⁰ Republic of Turkey. Ministry of Energy and Natural Resources, *National Energy Efficiency Action Plan 2017 -2023*, Ankara: Ministry of Energy and Natural Resources, 2018.

¹¹ Ministry of Energy and Natural Resources, *National Energy Efficiency Action Plan 2017 -2023*, March 2018.

¹² European Commission, *Commission Staff Working Document. Turkey 2018 Report.*, Strasbourg: European Commission, 2018. <https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/20180417-turkey-report.pdf>

¹³ Sustainable Governance Indicators, 'Turkey. Environmental Policies', https://www.sgi-network.org/2017/Turkey/Environmental_Policies, accessed on 4 August 2020.

¹⁴ OECD, *Environmentally Related Taxes on Energy Use*, Paris: OECD, 2014. <https://www.oecd.org/tax/tax-policy/environmental-tax-profile-turkey.pdf>

Development Plan (2014-2018) the National Climate Change Action Plan (2011-2023), the National Energy Efficiency Action Plan (2017-2023), Turkish Industrial Strategic Document (2015-2018), the Turkish Entrepreneurship Strategy (2015-2018), and the Productivity Strategy (2015-2018).¹⁵ The more recent Eleventh Development Plan also addresses sustainable SME development through topics such as impact investment and SDG alignment. With the implementation of these strategies, the integration of environmental policies into the strategy of SMEs has become more common.

The Turkish government regularly consults the private sector when developing environmental policies, SME greening strategies, and action plans, according to the OECD Policy Index.¹⁵ associations, the government, and local councils co-operate when it comes to delivering environmental guidance to SMEs. Nevertheless, facilitators of the dialogue between companies and the government are limited according to local experts, which could be seen as an area of improvement.¹⁶

The Turkish Union of Chambers and Commodity Exchanges (TOBB), provides comments and input on the development of environmental policies targeting the private sector.¹⁷ TOBB also has a dedicated EU Harmonization and Negotiation Division. Turkey's national development organization for small and medium enterprises, KOSGEB, frequently cooperates with local chambers of commerce and the industry and provides support and services to SMEs related to green development in several ways. Under the General Support Program¹⁸, which is implemented by KOSGEB to increase the share, effectiveness, and competitiveness of SMEs to meet the economic and social needs of Turkey, KOSGEB examines organizations to ensure they comply with local environmental procedures and rules specified for each sector according to risk levels, where it promotes the use of environmental management systems (EMS). The ISO 14001 certificate (on EMS) is not mandatory, but it contributes to companies to pass the audit process.²⁴ According to Turkey's national review of the sustainable development goals, Turkey scores medium-low on the implementation of SDG 12; sustainable production and consumption.²⁰ To achieve SDG 12 on sustainable production and consumption, Turkey introduced the "Eco-label" in 2018, with the publication of the Environmental Labeling Regulation.¹⁹ The regulation aims to promote the use of products and services with reduced environmental impact as well as increase the share of such domestic products in foreign markets where these labeling mechanisms are already in place. The system is voluntary. In the first stage, an Eco-Label was awarded to 8 companies for 15 products in the textile sector, the ceramics industry, and the paper industry.²⁰ To promote Sustainable Tourism, the Green Star certificate has been awarded to environmentally friendly accommodation facilities since 2008 to protect the environment, to reduce the negative impacts of the touristic facilities to the environment, and to encourage other facilities in this direction. As of March 2019, a Green Star Certificate was issued to 476 facilities in Turkey.²⁰ Green building certification schemes have become more dominant in the Turkish market. However, Turkey desires its own national scheme not only to integrate on the national level but also, if possible, to distribute this scheme on the global market. Three national schemes aim to

¹⁵ OECD, 'SME Policy Index: Western Balkans and Turkey 2019', https://www.oecd-ilibrary.org/development/sme-policy-index-western-balkans-and-turkey-2019_q2g9fa9a-en, accessed on 3 August 2020.

¹⁶ Personal interview with Seyda Hill (CIRCO), 7 August 2020.

¹⁷ The Union of Chambers and Commodity Exchanges of Turkey, 'Purpose and Organs', <https://www.tobb.org.tr/Sayfalar/Eng/AmaciveYapisi.php>, accessed on 3 August 2020.

¹⁸ KOSGEB, *General Support Program Application Principles*, Ankara: KOSGEB, 2018.

¹⁹ A. Bakirci et al. for Mondaq, 'European Union: The Regulation On Environmental Labelling',

<https://www.mondaq.com/turkey/environmental-law/754034/the-regulation-on-environmental-labelling>, accessed on 5 August 2020.

²⁰ The Global Goals. The Sustainable Development. United Nations, *Turkey's 2nd VNR 2019 Sustainable Development Goals. "Strong Ground Towards Common Goals"*, Ankara: United Nations, 2019.

be “Turkey’s label” while competing against each other as well as against global schemes operating in Turkey.²¹

In accordance with Zero Waste Project initiated in 2017, Law No. 7153 **Amending the Environment Law, which was published in Official Gazette No. 30621 of 10 December 2018 and articles regarding the implementation of recovery contribution share, compulsory deposit-refund system and charging of plastic bags have been added into the Environment Law No. 2872.** In Annex Article 11, which is added to the Environment Law, Recovery Contribution Share is defined in compliance with EPR principle. The products within the scope of the recovery contribution share and the fees to be applied per unit are set with the list no (1) attached to the same Law. Accordingly, various products such as plastic bags, packaging, tires, batteries, oil, medicine and electronic goods are included in the scope of recovery contribution share. The Recovery Contribution Share implementation has a different approach from the regulations based on the direct polluter pays principle, which is brought in order to collect, transport, recycle, recycle and dispose of packaging wastes and other special wastes separately at their source and to meet the necessary expenditures for them. Besides the reduction, it aims to provide financing for the development of the infrastructure of waste management. **By-law on Recovery Contribution Share for packaging and certain products and The General Communiqué on Recovery Contribution entered into force in 2020.**

As part of the Zero Waste project, within the “**By-Law on Control of Packaging Waste (published in the official Gazette dated on 27.12.2017 and numbered 30283)**” and Ministerial Approval on “**Procedures and Principles Regarding the Charging of Plastic Bags**” -dated on 25/12/2018 and numbered 245766- the application of charging of plastic bags started on 01.01.2019 with the aim of reducing the number of plastic bag usage per capita in Turkey.

Thanks to the charging implementation, the number of plastic bag usage per capita was reduced from 440 to 90's by the end of 2019 in Turkey. Via this implementation, the unnecessary plastic bag consumption has been significantly reduced thanks to the great favor of Turkish citizens. According to the evaluations based on gathering data; the plastic bag usage/consumption rate has approximately 80% decreased in 2019. With this reduction, when it considered only in terms of waste management, the amount of plastic waste, which was around 280,000 tons in 2018, was reduced to around 90,000 tons. Other contributions of this decrease in the amount of plastic waste to Turkey are; 8258 tons reduction in greenhouse gas emissions, 1.248.000 tons reduction in carbon footprint, 3.466.667MWh energy savings, 2.129.141 barrels of oil savings and 2.268.761 households of energy savings. In other words, the financial size of this savings can be expressed as approximately 2 Billion Turkish Liras.

Within the scope of the practice launched in 2019, plastic bags are sold at 0,25 Turkish Liras, including taxes, regardless of their size and content, and this amount continues to be applied as 0,25 Turkish Liras in 2021 without any changes. In 2021, reduction rate was calculated around 70% by using the data obtained from the representatives of the food retail sector. The reason for this decrease in the use of plastic bags, comparison by last year, is considered that the increase in the retail shopping rates of citizens after the COVID-19 epidemic that started all over the world and in Turkey.

²¹ M. Cetik, 'The Governance of Standardisation in Turkish Green Building Certification Schemes', https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2435160, accessed on 1 August 2020.

In Turkey, all works and operations conducted on the all types of recycling of packaging waste is carried out in the framework of **“By-Law on Waste Management(published in the official Gazette dated on 02.04.2015 and numbered 29314) and By-Law on Control of Packaging Waste (published in the official Gazette dated on 27.12.2017 and numbered 30283)²²”**.

Turkish Environment Agency was established with **“The Law on The Establishment of Environmental Agency of Turkey and the Amendments of Some Laws” published in the Official Gazette dated on 20/12/2020 and numbered 7261**.The agency will operate on circular economy and zero-waste approach in line with resource efficiency and carry out necessary procedures to establish national scale deposit refund system. According to the law, the compulsory deposit refund system will be started for the first time on 01.01.2022.

Turkey has a large number of organized industrial zones (OIZ). As of January 2019, there were 327 OIZs in 80 cities (of which about 250 were operationally active). This year, the Ministry of Industry and Technology has started implementing a project to increase the efficiency and sustainability of the OIZ’s under the objectives of the Eleventh Development Program. The focus of this project is to be found in two components; infrastructure investment and enabling the environment for industrial transformation. The first component includes projects such as renewable energy supply, industrial symbiosis, and shared facilities. The second component addresses capacity building and ways to learn from international experiences.²³

²² Republic of Turkey. Ministry of the Environment and Urbanization, *Regulations for Control of Packaging Waste*, Ankara: Ministry of the Environment and Urbanization, 2017.

²³ The World Bank, Turkey Organized Industrial Zone Project, 2019.

2. Market Demand

Local experts we spoke to are under the impression that the general public in Turkey has a decent level of consumer awareness related to the consumption of green and sustainable goods. However, this still needs to be further expanded than merely a demand for organic produce.^{24 25} According to a study on ethical consumerism, Turkish consumers make consumption decisions not only to meet their needs but also to influence activities of firms. They also regard their economic purchasing power as a political instrument. Consumers tend to use boycott practices, or “buycutt”, where a person is deliberately purchasing a company’s or country’s product in support of their policies. That study observed that consumers ‘perceptions of ethics, environmental sensitivity, and political efficacy’ affect consumer purchasing intentions.²⁶ Nevertheless, sustainable and green consumer goods are not always affordable for everyone. According to experts with experience in this domain green products with a price premium that can offer financial savings, should have an ROI of not more than 2.5-3 years for private consumers.²⁴ Although the Public Procurement Law uses the most economically advantageous tender as the award criteria (rather than the lowest price), the use of public procurement to foster green policies is not common. The reluctance of public bodies is the result of a lack of clear regulations for green public procurement. The shortcoming of the regulations led public bodies to refrain from taking any risks for establishing award criteria based on non-price factors. When it comes to energy, there are explicit regulations that mandate public bodies to pursue tenders that include energy efficiency characteristics, as it is easy to measure and incorporate the promotion of the purchase of goods and services with improved energy efficiency into the evaluation criteria for “the most economically advantageous tender”.²⁷

In line with the harmonization of practices in the EU, an ongoing public project started in 2011 which is called “Yeşil Alım” (Green Procurement). The project aims to increase awareness around the opportunities provided by public procurement in order to promote environmentally conscious sustainable development.²⁸ The project provides training sessions, seminars, and workshops on Green Purchasing and aims to provide stakeholders with up to date information on this topic.²⁹ Circular Economy is still a new concept in Turkey, which has been mainly discussed in the context of plastic pollution and zero waste.³⁰ However, several organizations and initiatives are working on the integration of circular economy principles in the private sector. A list of them is provided in the appendix.

Global Compact Turkey, SKD Turkey (The Business Council for Sustainable Development Turkey) and TUSİAD (The Turkish Industry and Business Association) founded the Business Plastic Initiative back in November 2019, through which several companies announced their commitment to reduce their use of plastics. The concept of circular economy is slowly finding its way to manufacturers. One of the largest household appliances manufacturer of Turkey, Vestel, conducted its design competition with the theme of circular economy in 2019. Unilever launched a circular economy kit presenting 10 different CE business models covering closed-loop practices,

²⁴ Personal interview with Uygur Ozesmi (Good4Trust), 4 August 2020.

²⁵ Personal interview of Aylin Çalışkan (researcher green consumerism), 9 August 2020

²⁶ A. Öztürk et al., *Ethics, Social Responsibility and Sustainability in Marketing*, Singapore: Springer, 2019.

²⁷ Questionnaire Mehmet Bedii Kaya, 3 August 2020.

²⁸ M. B. Kaya, *Regulating sustainable public procurement in Turkey in the context of the European Union membership*. PhD thesis, Nottingham: University of Nottingham, 2014.

²⁹ Kamu ihale kurumu (Public Procurement Institution), ‘Green Purchasing Project’, https://www.ihale.gov.tr/yesil_alim_projesi-114-1.html, accessed on 2 August 2020.

down-cycling, advanced cycling, industrial symbiosis, collecting services, rotational service, and modularity.³⁰

3. Startup and Investment Climate

Green entrepreneurship is a concept that received more attention over the past years, however, the entrepreneurial community could still be more inclined towards environmental issues and opportunities. The green business industry considered to be more product-based rather than being related to new business models or replacements of products with services.³¹ In general, companies are not comfortable with sharing information out of the fear to get fined for their practices. This could form an obstacle for the integration of CE principles in the private sector in Turkey.¹⁶

The Governments Credit Guarantee Fund guarantees loans to SMEs that do not have easy access to investment (45 billion EUR in 2017). The Technology Development Foundation of Turkey (TTGV) provides repayable financial support to industrial enterprises for the implementation of projects in the areas of climate-friendly technologies, clean production technologies and energy efficiency, renewable energy, and other energy technologies through support tools by Green Technology Projects support program (YETEP). This consists of three different support areas: “Climate-Friendly Technology Support”, “Clean Production Technologies Support” and “Energy Efficiency, Renewable Energy and Other Energy Technologies Support”.³² KOSGEB provides financial support to companies under several programs. One of them is the Efficiency Increasing Programme, which is run in co-operation with the Ministry of Energy and Natural Resources’ Directorate General Renewable Energy. Companies with energy consumption above a certain threshold can apply to the program and their energy efficiency projects are supported by up to 30%, within a limit of TRY 1 million (around EUR 180 000). Another program targets Industrial Facilities with a “Voluntary Agreement” with the Electricity Affairs Survey Administration, where the government covers 20% of companies’ energy costs, up to TRY 200 000 annually (around EUR 36 000), on the condition that they reduce their energy intensities by a minimum of 10% in relation to their five-year consumption average. KOSGEB also provides financing support for energy efficiency projects under the SME Development Support Programme, which covers between 60% and 80% of project costs for SME energy efficiency audits and training costs under the General Support Programme. It also supports SMEs in obtaining the ISO 14001 certification (environmental management). Besides that, it audits firms to ensure they comply with environmental procedures and rules specified for each sector according to the risk level.¹⁵

Furthermore, training and mentoring are offered by the Global Cleantech Innovation Programme (GCIP) (2013-2018) to young entrepreneurs and SMEs working in clean technologies (environment and energy). The GCIP is conducted by the United Nations Industrial Development Organization, the Global Environment Facility, and TÜBİTAK- a national agency with the goal to develop technology and innovation, with the aim of developing an entrepreneurship ecosystem in the field of clean technologies.¹⁵ The program is currently exploring the possibilities for a second phase and is awaiting approval by TUBITAK. Phase two would focus on a competition-based

³⁰ Co-PLAN. Institute for Habitat Development, *Regional Circular Economy Country Specific Report 2019*. Tirana: Co-PLAN, 2020.

³¹ Personal interview with Ferda Utulas Isevia (sustainability consultant/CE platform), 3 August 2020.

³² Technology Development Foundation of Turkey, ‘Green Technology Projects (YETEP) Support Program’, <https://ttgv.org.tr/en/programs/green-technology-projects-yetep-support-program>, accessed on 3 August 2020.

accelerator program and a call for previous alumni with a focus on commercialization and internationalization, supported through funding and mentoring.³³

Besides that, the International Finance Corporation and the Clean Technology Fund have rolled out an Energy Efficiency Financing Model for SMEs in Turkey, where the organizations provide loans for equipment leases to supply SMEs with energy-efficient equipment updates.³⁴

The European Bank for Reconstruction and Development (EBRD) is one of the main organizations in Turkey financing projects in the field of circular economy. In 2015 they started the Near Zero Waste NØW project, which is mainly focusing on industrial symbiosis and the reduction of waste. Up until today, the program funded 10 projects and provided 15 projects with technical knowledge. One of these projects is the Turkish Material Marketplace, focusing on the stimulation of circularity by providing software for companies to integrate into the business processes.³⁵ Over time, the marketplace grew into a network platform called Sürdürülebilirlik Adımları Derneği (elaborated in appendix).

Besides that, TUBITAK has several national support programs that focus on general funding, R&D support, patent support, and support for technology and innovation.³⁶ Although TUBITAK does not have specific programs on Green and Circular Economy Business development³⁷, the entrepreneurs we interviewed, have used these programs as their initial funding mechanisms.³⁸

The Turkish Garanti Bank offers green loans for companies, such as green mortgage loans for energy-efficient buildings; the Eco-Friendly Vehicle Loan aimed at financing electric and hybrid automobiles; green loans that tie interest and commission rates to sustainability performance; and leasing loans, to enable leasing contracts for resource efficiency and small scale renewable energy applications.³⁹ Another bank that has specific programs dedicated to sustainability is the Industrial Development Bank of Turkey.⁴⁰ Until now, they have supplied more than 210 clean energy projects, more than 60 energy-efficiency projects. Besides that, it has provided financing for sustainable tourism and environmental protection investment projects.

Although the angel investment market is still modest in Turkey, the amount of angel investors has increased due to favorable tax incentives.⁴¹ The nature of this investment tends to be more social than other forms of investment in Turkey, which could potentially create an opportunity for green and circular economy business investment. Private equity firms, on the other hand, target companies with holding periods between 3.5 – 7 years, and therefore generally do not invest in startup companies that are newly created.²⁴

Entrepreneurship training is now widespread in the economy. Following the protocols signed by KOSGEB together with the Turkish Employment Agency, the Ministry of National Education, and other organizations, entrepreneurship courses have increased rapidly in number and now cover all of Turkey's 81 provinces. Successful completion of this training is a requirement to qualify for

³³ Personal interview with Osman Malik Atanur (Global CleanTech Innovation Program), 9 July 2020.

³⁴ International Finance Corporation, *Boosting Energy Efficiency in Turkey*, Brussels: World Bank Group, 2014.

³⁵ Personal interview with Ela Akdeniz Yilmaz (EBRD), 8 July 2020.

³⁶ The Scientific and Technological Research Council of Turkey, 'National Support Programs', <https://www.tubitak.gov.tr/en/funds/industry/national-support-programmes>, accessed on 4 August 2020.

³⁷ Personal interview with Sinan Kufeoglu, 8 July 2020.

³⁸ Personal interview with Hasan Basri Tosun (Co-Founder SensGreen), 7 July 2020.

³⁹ Garanti BBVA, 'Green Loan Principles to Guide Environmental and Sustainability Finance', <https://surdurulebilirlik.garantibbva.com.tr/sustainability-blog/green-loan-principles-to-guide-environmental-and-sustainability-finance/>, accessed on 6 August 2020.

⁴⁰ TSKB, 'Sustainable Finance', <http://www.tskb.com.tr/en/sustainable-banking/sustainability-finance>, accessed on 7 August 2020.

⁴¹ B. Yinanç for Hurriyet Daily News, 'Turkey is becoming a global hub for angel investment', <https://www.hurriyetdailynews.com/turkey-becoming-a-haven-for-angel-investment-127878>, accessed on 7 August 2020.

KOSGEB's Entrepreneurship Support Programme, which has further boosted demand.¹⁵ Another program that aims to spread the entrepreneurship culture and to support brand new business ideas is the entrepreneurship competition *birfikrinmifar*⁴²("doyouhaveanidea").

Borsa Istanbul (BIST), an organization that envisions to be the globally integrated market place for Turkish and regional financial assets in future capital markets, published the "Sustainability Guide for companies". Following this guide, around 130 organisations published a sustainability report while a small number of organizations prepared an integrated report for the first time in 2016.²⁰ BIST released its most recent Sustainability Index in July this year, which provides a benchmark for companies with a high performance on corporate social responsibility to increase the awareness, knowledge, and practice on sustainability in Turkey. The list is composed of 61 companies that participated voluntarily.⁴³

⁴² Bir FIKRIN mi VAR?, <http://www.birfikrinmivar.com/>.

⁴³ BORSA ISTANBUL, 'BIST Sustainability Index, The List of Companies Subject to Assessment in 2020 has been revised', <https://www.borsaistanbul.com/en/duyuru/2987/bist-sustainability-index-the-list-of-companies-subject-to-assessment-in-2020-has-been-revised>, accessed on 6 August 2020.

4. Socio-Cultural Context

Entrepreneurial activity has shown a trend of increase in the last recent years. The main challenge that entrepreneurs in Turkey face is the instability of the economic climate, which affects a large part of the business activities, such as the level of interest of investors and the costs of resources and materials.⁴⁴ This could lead to individuals preferring the security of paid employment to the activity of starting a business independently. The people who desire to integrate circular economy principles in their business models, most of the time they lack the (financial) means to accelerate, while the part of business owners that do have the means, not necessarily think in these terms.²⁴ In general, entrepreneurs do not have abundant access to finance opportunities and capital structures.⁴⁴

Social and cultural norms in Turkey, on one side, have not been addressed particularly supportive entrepreneurial practices, since self-sufficiency, autonomy, or personal initiatives, and creativity or innovativeness are not endorsed and families, schools, and society all promote obedience which could limit this creativity. On the other hand, the ability to deal with crisis has encouraged the entrepreneurial mind-set to develop, where entrepreneurship is rapidly becoming positively associated with leadership, social progress, job creation, and financial rewards.⁴⁵ Traditionally, it is reported that most Turkish small and medium-sized enterprises do not want to take risks and trust their traditional way of manufacturing instead of using secondary raw materials. There is an existing belief that their products will be considered second hand and will lose reputation.⁴⁶

According to local experts and reports, critical drivers for green entrepreneurship are a passion and believe in green values and the identification of a gap in the market and the formation of a solution through their expertise.⁴⁵ Turkey's gross domestic spending on R&D has increased over the last years but is still far below the OECD average. In 2017 it was 0.96% in comparison to the 2.37% OECD average.⁴⁷ In 2012-2013 27.8% of the total R&D budget was spend on Renewable Energy topics and 1.3% related to the environment.⁴⁸

⁴⁴ M. Cansiz, *Innovative Entrepreneurs of Turkey. The Case of the Turkish Technoparks*, Ankara: Ministry of Development, 2014.

⁴⁵ Personal interview with Semih Boyaci (Impact Hub), 4 August 2020.

⁴⁶ Government of the Netherlands. Ministry of Economic Affairs and Climate Policy, *To Cycle or not to Cycle. Towards a circular economy in Turkey*, Utrecht: Netherlands Enterprise Agency, 2019.

⁴⁷ OECD, 'Gross Spending on R&D', <https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>, accessed on 4 August 2020.

⁴⁸ OECD, 'Environment at a Glance 2015. OECD Indicators', https://www.oecd-ilibrary.org/environment/environment-at-a-glance-2015/environmentally-related-r-and-d_9789264235199-21-en, accessed on 4 August 2020.

5. Opportunities and Obstacles

| | Opportunities | Obstacles |
|--|---|---|
| General economic context and investment climate | The amount of angel investors has increased which tends to be a more social form of investment and could, therefore, form novel source of opportunities for green/CE businesses. | Lack of economic stability and therefore the ability to perform long-term planning (e.g. regarding inflation rates and material costs). Limited access to funding from private investors and governmental programs, especially for the “scale-up phase”. Investor lack knowhow on relevant environmental technologies that limit confidence to invest. |
| General political context | | According to local experts, Turkey's political regime lacks elements of an environmentally concerned democratic system. The political system at this moment seems to support non-environmental linear businesses and is subject to power-abuse. ²⁴ |
| Policy and regulatory (both national and regional/local) | Comprehensive environmental and energy related legislation creates opportunities for green entrepreneurship and other potential legislation (ecolabelling directive, etc.), which are part of the EU harmonization process. | Lack of incentives and governmental support related to consumer awareness (e.g. tax incentives). |
| Subsidies and fiscal benefits | The small incentives that are available require complex processes to obtain. Easing these processes could be an opportunity. | Fiscal benefits and subsidies close to absent. |
| Public procurement | Uses the most economically advantageous tender as the award criteria instead of lowest price. Policies related to energy efficiency. | Lack of clear regulations for green public procurement. |
| General knowledge and awareness about CE | Businesses might be already integrating CE principles although are not aware of it. | CE is still a new concept in Turkey that has mainly been discussed in the context of plastic pollution and zero waste. |
| Consumer demand (linked to previous point) | There is a perception that green/sustainable projects are expensive. Promoting green products/technology by providing transparency on cost-benefit. | Sustainable products might not be affordable for everyone. Markets in Turkey are mostly price dependent, quality comes second generally because of the low purchasing power. |
| Public-private partnerships | Facilitators that could stimulate the conversation between government bodies and the private sector. | Lack of partnership. Companies tend to keep information private due to a fear of getting fined. |
| Support programs or platforms for green and circular businesses | Support by regional development agencies on green business and sustainable development. | |
| Professional training and education on CE / Skilled labour | Aligning education with the needs of the industry could form an opportunity. For example, by closing the gap between universities (e.g. in environmental engineering) in terms of cooperative projects with the industry. Increased activity regarding entrepreneurship training. | There is a deficiency of human capital in certain sectors and professions in Turkey. Entrepreneurs we engaged with, find it hard to keep their talent for a longer period. Most of them move to international corporations over time. There is a gap between universities (e.g. in environmental engineering) in terms of cooperative projects with the industry. |
| Specific economic sectors | The sectors of energy, waste management, construction and food come up as the highest priority sectors | Larger corporations are not under pressure to perform non-linear practices. |
| Other socio-cultural factors (incl. gender issues) | Frequent crisis management has sparked the entrepreneurial mindset. | Lack of sense of autonomy. |
| Other commercial or legal challenges | Turkey is seen by green entrepreneurs as a good market to test products. There is easy access to multinationals that have an office inside the country. But after this phase, it is | |

| | | |
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| | more attractive to move outside of the country. Support during the "scale-up" phase could be an opportunity for green/CE businesses to flourish. | |
| Available technologies and infrastructure | Rising R&D spending. Technology is available and if this is not the case it is requested from abroad. | |

6. Impact Indicators and Other Data

| Topic | Numbers | Source |
|---|---|--|
| Resource Efficiency | The resource efficiency in the EU increased on average with 34% between 2000 and 2015, and turkey is not lagging behind with an increase of 30%. | https://environmentalindicators.csb.gov.tr/ |
| Material Consumption | domestic material consumption (DMC) per capita has increased 35.8% between 2000-2015, which decreasing 14.1% in EU-28 | https://environmentalindicators.csb.gov.tr/ |
| Environmental employment | Aprox. 90,000 employees in the environmental sector (2016). 8.5% of this number is employed in the public sector, and 91.5% is employed in the private sector.. 60% of the employment in enterprises was related to the water supply, sewerage, waste management and remediation activities. A combined scenario of green jobs and additional innovation spending will boost GDP and employment by 2.4 percent and 3.5 percent, respectively, above the base case without any new environmental measures (2013). | https://environmentalindicators.csb.gov.tr/ http://documents1.worldbank.org/curated/en/91465146831113361/pdf/781150ESW0WhitOc-y0Paper0FINAL0FINAL.pdf |
| Environmental protection expenditure | 34.4 billion TL in 2017. Out of total environmental protection expenditure, 57.7% was realized by financial and non-financial corporations, 35% was realized by general government and non-profit institutions serving households and 7.3% was realized by households. While the share of environmental protection expenditure in the gross domestic product was 1.18% in 2013, it was 1.11% in 2017. | https://environmentalindicators.csb.gov.tr/ |
| Waste and Material Management | According to the National Waste Management and Action Plan, about 60% of the municipal waste is sent to landfills, where 13% is recycled and recovered. (NWMAP/Figure 3.3 (Şekil 3.3)/Page 9) | https://cygm.csb.gov.tr/ulusal-atik-yonetimi-ve-cylem-plani-2016-2023-hazirlandi.-haber-221234 |

7. Appendix

7.1 List of Interviewees

| Name | Role and Organization | Date of Interview |
|---------------------|---|-------------------|
| Akdemiz, Ela Yilmax | Principal Manager EBRD/NOW Turkey Zero Waste | 08.07.2020 |
| Aylin Çalışkan | Researcher green consumerism | 09.08.2020 |
| Boyaci, Semih | Co-founder at Impact Hub Istanbul | 04.08.2020 |
| Seyda, Hill | CIRCO trainer | 07.08.2020 |
| Isevi, Ferda Utulus | Sustainability en environmental consultant | 03.08.2020 |
| Kaya, Mehmer Bedii | PhD on GPP | 27.07.2020 |
| Gotan, Koray | Project Manager at TurSEFF | 09.07.2020 |
| Özesmi, Uygur | Social Entrepreneur & Ashoka Senior Fellow, Executive Director, Change.org Turkey, Founder & Instigator, Good4Trust.org. Change.org | 05.08.2020 |
| Malik, Osman | Contact Person for the Global CleanTech Innovation Program | 09.07.2020 |
| Küfeoglu, Sinan | Research fellow at TUBITAK | 07.07.2020 |
| Tosun, Hasan Basri | Co-founder of Sensgreen | 07.07.2020 |

7.2 List of stakeholders in the (CE) entrepreneurial eco-system (accelerator, incubator, training programs related to green business and innovation)

| Name | Description | Link |
|-----------------------|---|--|
| ZeroWaste | Government supported program on zero waste. | http://zerowaste.gov.tr/ |
| Tukcev | Consumer and Environmental Education Foundation. Amongst others, courses on biomimicry for entrepreneurs. | http://www.tukcev.org.tr/ |
| CEVKO | licensed organization taking on extended producer responsibility of almost 1900 Turkish companies when it comes to plastic recycles. Started with a congress 5 years ago on Circular Economy that evolved into a series of workshops. | https://www.cevko.org.tr/index.php?lang=en |
| Materials Marketplace | An online platform where companies can offer their waste with the potential to be used as secondary raw material for sale that got transformed to a Circular Economy Platform (knowledge hub, information on circular vouchers, training, and material marketplace). Formed by a partnership between SKD and EBRD. | http://turkey.materialsmarketplace.org/ https://donguseleekonomiplatformu.com/en/ |
| CIRCO | An international organization with activities in Turkey that focuses on creating business through circular design through circular Design tracks for companies. | https://www.circonl.nl/international/ |
| DCube | An NGO working on startups with circular business models. | https://www.d-cube.org/ |
| Now Turkey | A strategic initiative to promote waste minimization and pollution prevention projects in various sectors of the economy in Turkey, with the basic principles: Circular Economy, Waste Valorization, Life Cycle Thinking. Funded by Clean Technology Fund that is operating in 19 countries as part of the Climate Investment Fund. | http://www.now-turkey.org/ |
| BCSD | Awareness of business around sustainable development and is the local host for circular economy club. BCSD is also the partner of the Dutch Consulate in Istanbul. | https://www.wbcsd.org/Overview/Global-Network/Regions/Europe/Turkey/BCSD-Turkey |
| Impact Hub Istanbul | Several accelerator programs such as Accelerate2030 and a program on female entrepreneurship related to | https://istanbul.impacthub.net/ http://www.foodback.co/ |

| | | |
|------------|--|---|
| | agriculture. They have also created a food innovation platform together with the European Institute of Technology called Foodback. | https://accelerate2030.net/ |
| Good4Trust | a platform on which producers producing ecologically and socially products meet conscious consumers. | http://good4trust.org/ |
| Süratam | Activities regarding sustainable innovation and research. | https://suratam.org/en/ |
| Kordsa | R&D and innovation support for sustainable technologies. | https://www.kordsa.com/en/technology/detail/r-d-center/36/53/0 |

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