

## Environment Profile: Turkey

### Location:

Turkey is a country that is surrounded by sea on three sides i.e. Aegean Sea existing in the west, Black Sea in the north and The Mediterranean in the south. Turkey Lies at  $38.9637^{\circ}$  N Latitude and  $35.2433^{\circ}$  E longitude located in the northern hemisphere. Turkey is bordered by Greece and Bulgaria to its northwest; Georgia to its upper east; Armenia, the Azerbaijani exclave of Nakhchivan and Iran toward the east; and Iraq and Syria toward the south. Turkey is considered to be a meeting point of east and west because it connects Asia to Europe even Turkey itself is divided in between the two respective regions.

### Terrain:

The area of Turkey is 780,580 square kilometers, including 9,820 square kilometers of water. Turkey's landscape is basically mind boggling. A focal range made out of inspired squares and downfolded troughs, secured by ongoing stores and giving the presence of a level with unpleasant territory, is wedged between two collapsed mountain runs that meet in the east. Turkey has bounteous arable land; its water assets are more noteworthy than those somewhere else in the Middle East however for the most part not exactly those in European nations. Waterways offer hydroelectric power age and water system. Known oil and gaseous petrol stores are little, yet moderately a lot of coal are available. Other huge mineral assets are boron and chromium. Long coastlines with a calm atmosphere bolster trade, the travel industry, and angling.

### Climate:

The climate of Turkey is moderate but it does vary from area to area, this might be because of the mountain range that is moving parallel to the coasts. The coastal areas along the west and south are a bit milder whereas the inner and northern areas are not mild; they have hot summers and winters can be extremely cold. In simple words, coastal areas along the Mediterranean experience cold, wet winters and hot dry summers. Turkey's climate along the black sea's coast is continental and it experiences the highest rainfall in Turkey.

### Major industries:

Turkey has a GDP of \$1.665 trillion and a nominal GDP of \$751 billion. The nominal GDP ranks 18<sup>th</sup>. Major industries of Turkey are construction, textile, mining, steel, lumber and auto mobiles.

### **Greenhouse gas emissions:**

Greenhouse gas emissions like carbon dioxide equivalent for the year 2017 were 523.6 million tons and the energy sector accounted for the largest share of emissions at 72.2 percent. Total emissions increased by 140.1 percent in 2017 compared to 1990. Largest contributor of carbon emissions in Turkey is the energy sector which contributes about 86% and the later 34% comes from other sources like industries and agriculture. Turkey emits about almost 500 megatons of CO<sub>2</sub>.

### **Energy:**

In 2017, Turkey's energy sector contributed almost three quarters of the worlds greenhouse gases which constitutes of the energy industries that are mainly electricity generation and then transport industry. Power plants in Turkey emitted 145 Megatons of CO<sub>2</sub> in 2017 through burning coal.

### **Transport:**

In 2017, Transport in Turkey emitted 85 megatons of CO<sub>2</sub> which is likely to increase through aviation because of the newly constructed Istanbul airport in 2017.

### **Home Energy:**

Residential fuel (coal, wood, natural gas) contributed about 43 Mega tons of CO<sub>2</sub> in 2017

### **Industry:**

Turkeys industry has a 13 % contribution in greenhouse gas emissions

### **Cement:**

Turkey is the largest cement producer in the Europe. In 2016, cement production emitted 55.2 Megatons of CO<sub>2</sub>.

### **Agriculture:**

In 2017, agriculture emitted 12% of greenhouse gases that were mainly due to enteric fermentation and other fertilizer management techniques.

### **Other Pollutants:**

The main pollutants are particulate matter, ozone, nitrogen dioxide, sulphur dioxide, methane, mercury and black carbon.

### **Major Environmental Issues:**

Turkeys major environmental issues:

1- Water Pollution that is caused by the dumping of Chemical and detergents

2- Air Pollution that is certainly in urban areas due to excessive carbon emissions.

3- Deforestation.

### **Water Pollution:**

Water pollution in Turkey is a big problem. It has adverse effects on human life and marine life living in the region. Main causes of water pollution in Turkey are disposing of chemical waste and detergents into the clean water. There is no proper system of disposal of industrial waste, this is why the main water supplies and water reservoir are getting polluted. In a recent report, chamber of Environmental engineers said that almost 79 percent of fresh waterbodies of Turkey are polluted. There is no proper method to reuse the plastic waste that is also causing a significant destruction to the eco system and adding up to environmental pollution.

### **Air pollution:**

Air pollution is a major environmental issue in Turkey. Especially in urban areas, according to the European Enviromint agency EEA more than 97 percent of turkey's urban population is exposed to hazardous amount of matter pollution. Several provinces of Turkey have crossed the Air pollution values more than 300, whereas good air quality is concerned to be under 50. This determines the Air conditions of Turkey. Turkey's Carbon emissions have risen over the past 3 decades. Turkey is contributing to pollution since it has started urbanization. Turkey was ranked as world 20<sup>th</sup> largest greenhouse gases. In 2016, Turkey's total greenhouse gas emissions have increased 4.4 percent to reach 496.1 Million of carbon dioxide emissions. Nearly 30,000 people die due to Air Pollution related illness.

### **Deforestation:**

All over the world, Deforestation is a very big problem but increasing demand to urbanization forces state to vacate areas and develop new sites or cities in terms of industrialization and urbanization. Turkey's policies have affected the green field percentage of Turkey. Al of the urban Cites of turkey like Istanbul have experiences deforestation which has contributed to the increase in air pollution. The construction of new sites, bridges and industries through deforestation is destroying the natural habitat of Turkey. This race of urbanization is costing a huge increase in air pollution and threatening the biodiversity of the region. In summers, Turkey has extreme climate hence forest can easily burn. Every year forest fires takes place which destroys natural habitat.

### **Internal causes of issues:**

The internal causes of environmental issues are as follows:

- 1- Industrialization
- 2- Rapid Urbanization
- 3- Non-renewable energy resources.

The two essential drivers of Environment issues in Turkey are urbanization, which has been quick since the 1950 and industrialization. Before industrialization over 80 percent of the populace lived in provincial zones; presently more than 60 percent live in the urban communities and mechanical buildings. Among the improvements adding to air contamination in the urban areas are mistaken urbanization for the geological and meteorological conditions, off base division of urban land into parts, low quality fuel and ill-advised ignition systems, a deficiency of green regions, an expansion in the quantity of engine vehicles and deficient transfer of squanders. Industrialization leads to the emission of numerous gases that affect the environment as well as living conditions just like industries emit greenhouse gases and a major part of these gases consists of carbon, nitrogen, silicon etc. which pollute the environment if released in air, the make the air quality worse and if released in water in the form of industrial waste it destroys marine life. Urban populations own the major means of transports cars etc. That contribute to the environmental pollution because burning fuel emits carbon dioxide, Chloro- floro carbons that destroys the environment and also the increase the extreme conditions of weather. Nonrenewable energy resources are also a cause of environmental issues because these traditional means worsen the air, water and weather conditions respectively.

### **External Sources:**

- 1. Tourism**
- 2. Natural disasters**
- 3. Marine life**

Tourism undoubtedly is the great support for Turkey's economy and a major industry of Turkey but it has effects; tourism has the same effects just like any other industry it also affects environment in the same manner. Tourism puts extensive stress on land use which might lead to land erosion, habitat loss, a threat to biodiversity.

Environment in Turkey is also affected by natural disasters aside from frequently coming earthquakes, Turkey is defenseless against catastrophic events, for example, floods, expanding water worry in parts of the nation, and land debasement. Financial misfortunes from flooding and avalanches as an extent of GDP have truly been among the most noteworthy in Turkey contrasted with different nations in Europe and CIS.

Turkey is a peninsula and the marine routes damage the marine environment and water conditions surrounding Turkey due to oil and hydrogen spills which destroys marine environment and ultimately Turkey is affected.

### **Hurdles:**

There are a number of hurdles for turkey to get out of the environment crises that are listed as follows

- Turkey needs to be in strong economic position to overcome environmental issues
- Moving from nonrenewable energy resources to renewable energy resources requires a lot of time to implement such initiatives
- Turkey needs to work out an action plan through which all external and internal aspects of environmental issues
- Turkish citizens as well as tourists are not much aware about the precautions that need to be taken in saving the environment
- In the urban cities like Istanbul people use own means of transport which adds up to environmental problems
- Eco friendly techniques are not widely being accepted

### **Role of International Organizations:**

There are many International Organizations that are working for environmental issues of Turkey.

#### **1. Food and Agriculture Organization of the United Nations**

Projects funded by Global environment facility(GEF) under FAO works on bio diversity, land degradation and climate change mitigation in turkey which emphasize on forests and pastures.

#### **2. International Labour Organization**

the ILO venture "Decent Work in the Green Economy," which centers around the business parts of national endeavors for a change to the green economy, was actualized in Turkey from 16 February 2013 to 31 March 2015

#### **3. United Nations Development Fund**

UNDP under its program Climate change and environment (CCE) aims to identify the leading environmental issues in Turkey and notify the authorities by letting them know about the issues and giving them a helping hand to solve these issues.

#### **4. United Nations Industrial Development Organization**

This organization under various ventures is promoting sustainable development and ecofriendly setups in industrial processes to cope up with environmental issues in Turkey.

#### **5. Right to Clean Air Platform Turkey (RtCAP)**

This organization operates in Turkey and emphasizes on Clean air.

#### **6. Turkish Foundation for Combating Soil Erosion**

Also known as TEMA works for reforestation in Turkey and preservation of natural habitat.

### **Initiatives and Policies:**

A Turkish framework that incorporates components of ecological preservation and environmental savior is the nation's Tenth Development Plan (2014-2018). At the center of the arrangement is maintainable improvement and expanding advancement of Turkey's sustainable power source segment, especially for wind and geothermal power. Turkey's Nationally Determined Contribution (NDC), which was submitted to the United Nations Framework Convention on Climate Change (UNFCCC) expressed focuses for both solar and meeting the energy consumption. While Turkey shows a promising future in the utilization and improvement of sustainable power sources, this country has put a huge accentuation on using local coal to help their inside monetary development and decrease the need to import oil and gas. As of now, Turkey creates 28% of its power from coal; in any case, preservationists anticipate that Turkey's breeze, sun oriented and hydropower vitality sources can possibly meet the country's vitality requirements for a similar expense of its arranged coal development while at the same time lessening the danger of expanded outflows and air contamination that is ordinarily connected with coal use. In April 2017, Turkey's Energy and Natural Resources Minister Berat Albayrak guaranteed that the country expects to advance the generation and utilization of clean coal inside their country's neighborhood coal ventures. Over the earlier decade, various factors inside the worldwide imperativeness markets have obliged Turkey to reevaluate how it delivers and consumes energy. The delayed consequence of this overall examination was the arrangement of a national development plan that puts trust in enthusiasm for the country's renewable power source part and ecofriendly techniques. In 2016, two noteworthy projects depicted by the Renewable Energy Resource Area rules have intended to fabricate Turkey's wind essentialness creation by 17%.

Turkey's push to get a handle on ecofriendly power source has been supported by the Clean Technology Fund (CTF), a billion-dollar program proposed to give focus compensation countries the resources for progress and develop clean advancement. Turkey was the key country to benefit by the save.

**Relevance to Pakistan:**

Environmental profile of turkey is of great relevance to Pakistan because Pakistan needs to review its energy production means and should take initiatives to move towards a clean and better future. Air pollution in Pakistan is growing day by day in Lahore it is at its peak and no precautionary effective steps are being taken which would cause so much destruction and life loss in the near future. Pakistan has relevant environmental issues like Turkey and causes are even the same like transport, coal consumption, agriculture and carbon emissions. We need to move towards clean technology and ecofriendly methods to get least affected by climate change. If we too get serious about our environmental issues, we can make international oraganizations involved in it and get fruitful results just like Turkey.

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