



AIR POLLUTION

*By-Train Training through
Europe towards Sustainability*

A satellite-style world map showing the continents of North America, South America, Europe, Africa, Asia, and Australia. The map is set against a deep blue background representing the oceans. The text "ALL OVER THE WORLD" is overlaid in the center in a light green, serif font with a slight shadow effect.

ALL OVER THE WORLD

INTRODUCTION

Air pollution is caused by gases released in a such a big quantity to harm the health of people and animals, kill plants, damage some other aspects of the environment.



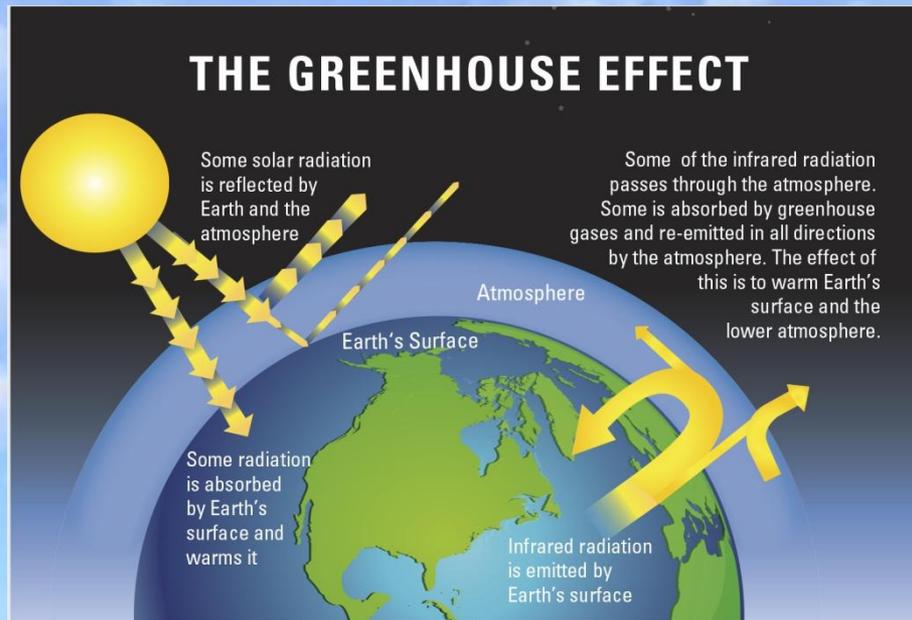
AIR POLLUTION CAUSES

- *Greenhouse Gases*
- *Ozone Holes*
- *Smog from traffic*
- *Industrial Smokes*
- *Acid Rain*
- *Global Warming*
- *Damage to Humans*



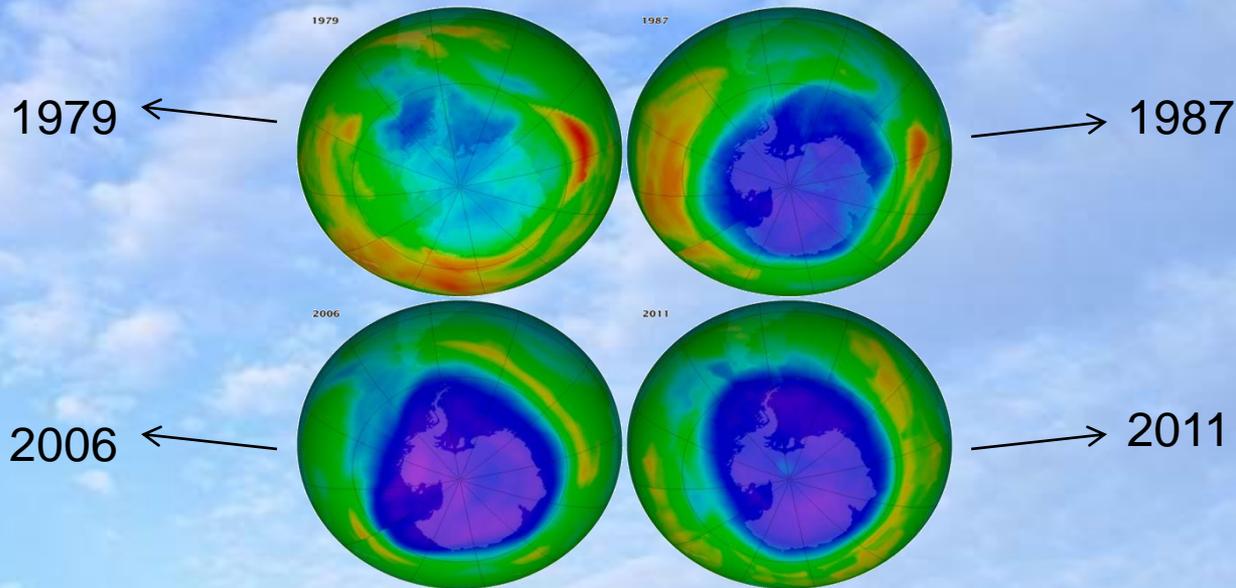
GREENHOUSE GASES

Greenhouse gases (or GHG) are gases in the atmosphere that absorb and emit radiation that contains thermal infrared rays. Some of these gases are: water vapor, carbon dioxide and ozone.



OZONE HOLES

During the 20th century, people started using large quantities of chemical products with propellants, because they worked very well as cooling substances. In the 70's, scientists Molina and Rowland suggested that chlorofluorocarbons attacked and destroyed the ozone layer, producing holes that let ultraviolet light pass through.



SMOG AND TRAFFIC

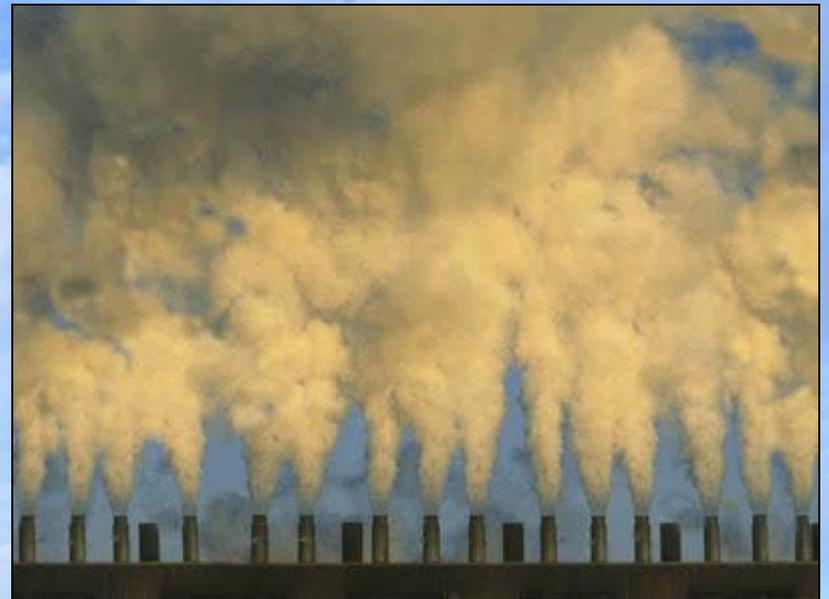
There are about half billion cars on the planet today, almost all of them are powered by gasoline and diesel engines that burn petroleum to release energy. Petroleum engines don't burn cleanly. Its combustion produces all kinds of pollution as well as ozone.



INDUSTRIAL SMOKES

Plants producing the goods we all rely on often release small but significant quantities of pollution.

Most plants that pollute release small amounts of pollution continually over a long period of time and the effects can be cumulative.



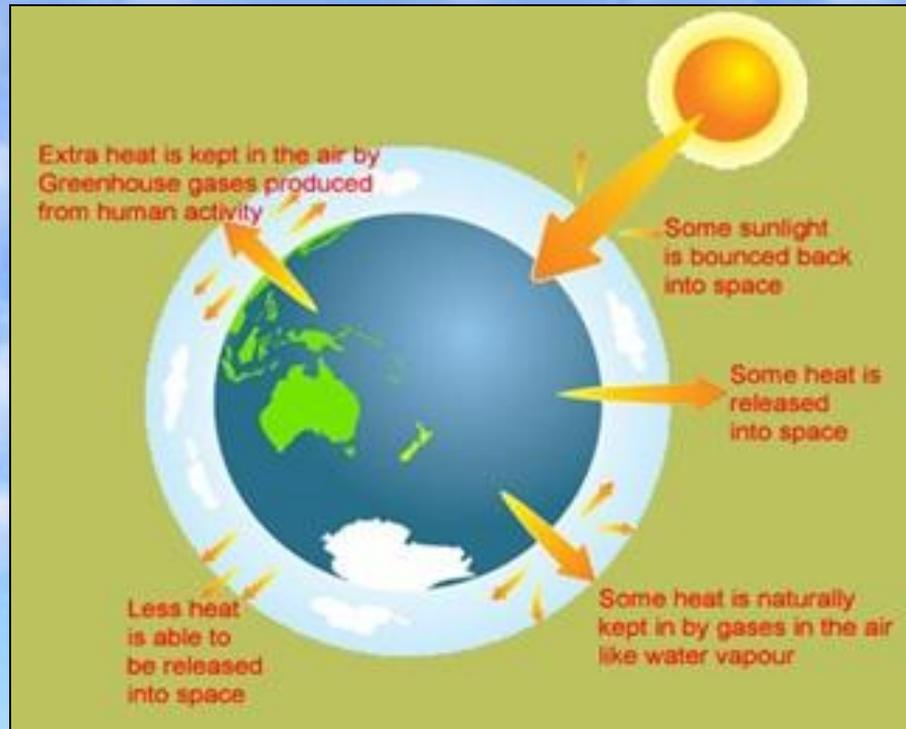
ACID RAIN

*When rain falls through polluted air, it can absorb some of the pollution and turn more acidic, producing what is known as acid rain. Air pollution converts the rain into a weak acid. **Acid rain** has caused the death of forests and reduces the fertility of soil.*



GLOBAL WARMING

Global Warming is the increase of Earth's average surface temperature, due to carbon dioxide emissions from burning fossil fuels like oil and coal or from deforestation, which trap heat that would otherwise escape from the Earth.



HUMAN HEALTH

According to the World Health Organization, air pollution is one of the world's biggest killers: it causes around two million people to die prematurely each year.



GLOBAL AIR

How much of this can be linked to tourism?

*We are traveling more mostly by airplane, which release CFCs
(freons)*

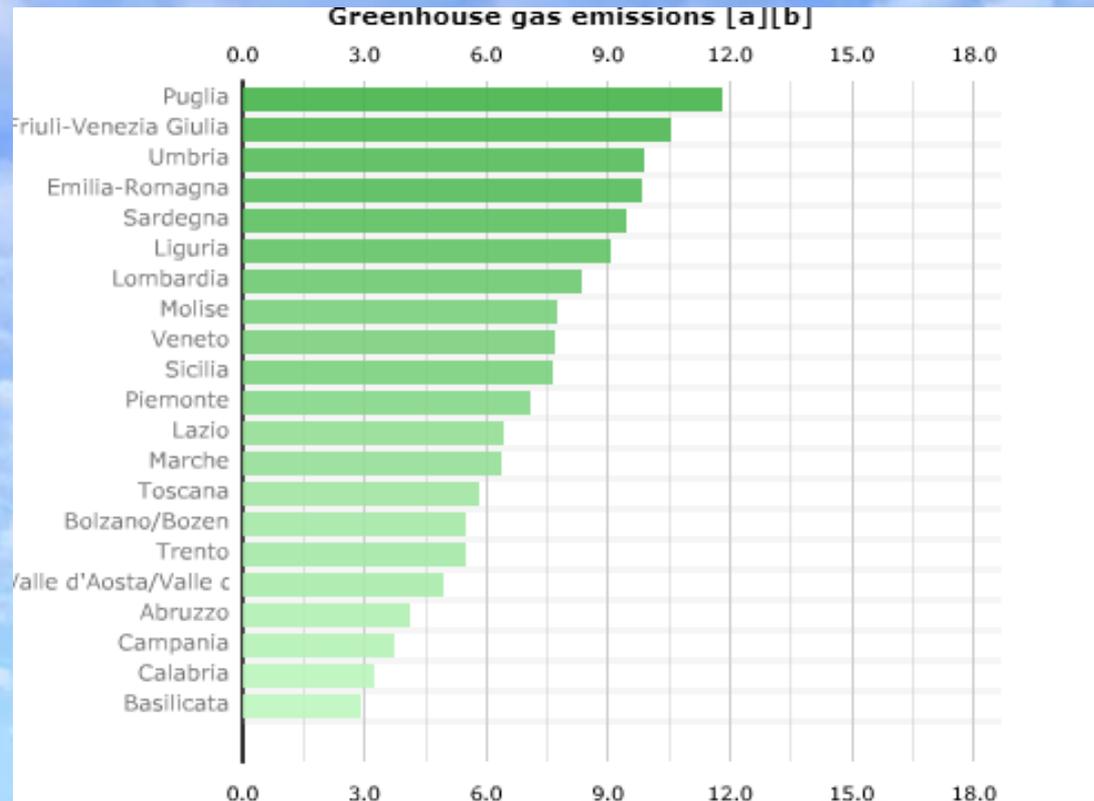




IN ITALY

GREENHOUSE GASES

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POLLUTION IN BIG CITIES: NAPLES

Three years ago Naples was noisy and smoggy, jammed with car traffic, while smelly trash erupted from garbage bins. Urban cyclers were regarded as eco-fundamentalists. Now Naples has a new mayor, cleaner streets, a pedestrian beachfront and a 12-mile cycling lane overlooking a beautiful bay.



TRAFFIC

Traffic in Italy is a nightmare. Italy still continues to have the record of a car per inhabitant. As a consequence most big cities have some kind of traffic control system which does not allow cars to enter the centre, unless they are residents'. Rome is the busiest city in Italy.



INDUSTRIAL SMOKES

Air pollution is a significant problem in Italy. Sources estimate that carbon monoxide emissions increased in the period between 1985 and 1989. In 1990s Italy had the world's tenth highest level of industrial carbon dioxide emissions.



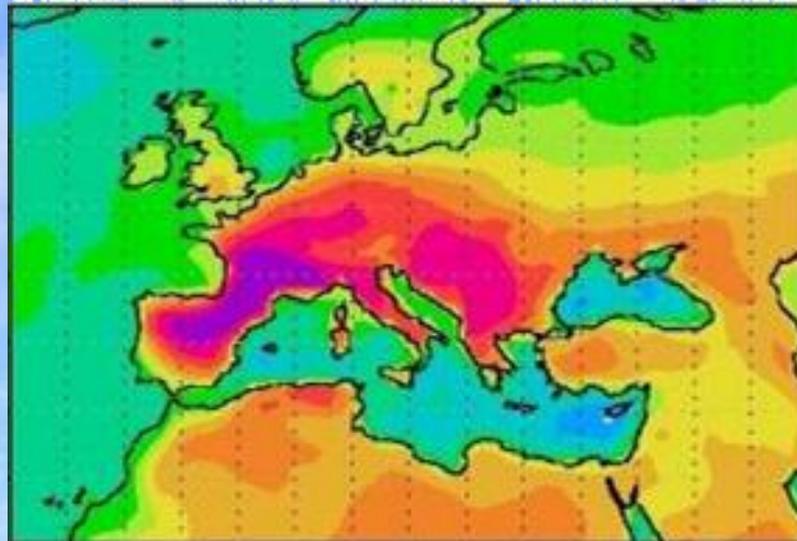
ACID RAIN

Acid rain is one form of air pollution in Italy, too. It damages sculptures, monuments, archaeological sites, etc...



EFFECTS OF GLOBAL WARMING

- ❖ *The duration of snow cover is expected to decrease.*
- ❖ *Sea level rises faster over the last century.*
- ❖ *In Venice Lagoon, the sea-level rise causes the shoreline to retreat around the lagoon circumference.*



IN SWEDEN



THE AIR IN SWEDEN



- ***How is air pollution today?***
- *High enough to cause damage to human health, relatively low compared to many other countries.*

- ***Background to the problem***
- *The problem is the very large amount of transportation*
- *Pollution in the countryside*

- ***How much of this can we link to tourism?***
- *Tourists use to do much more activities than usual*
- *Travel a lot to see more*
- *Other countries affect each other when people get transported by the air*

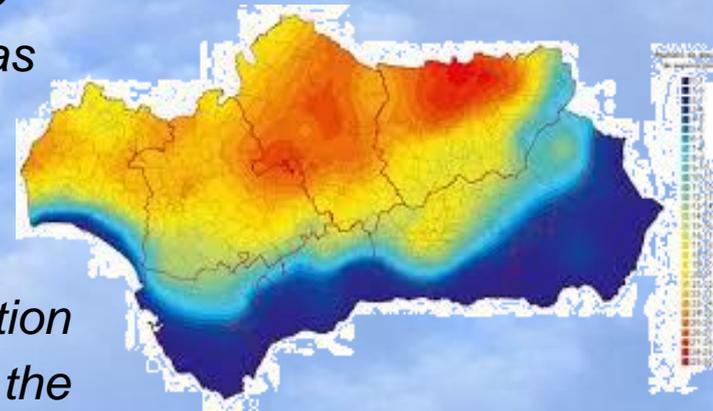
IN ANDALUCIA



THE CLIMATE CHANGE

Andalusia is not foreign today to the main effects of the Climate change. Temperatures, following the world trend, have experienced a long increase that, in the last few years, have relatively stopped. In spite of it, the average temperatures registered in our Community accumulate an increase near to 2 degrees. As for the rainfalls, Andalusia is one of the regions that more has seen both its total quantity and in its temporary distribution modified.

In relation to this irregular rainfall distribution, we are facing a major environmental problem; the radicalization of the periods of droughts, which has accentuated in the last 5 years. This situation has produced a very sensible water-accumulated deficit, so much in the Mediterranean Andalusian Cuenca as in that of the Guadalquivir.



An aerial photograph of a lush, green valley. In the foreground, a dense forest of deciduous trees covers the slopes. A small village with several buildings is visible in the middle ground. To the left, a large, calm lake reflects the sky. In the background, a range of blue, hazy mountains stretches across the horizon under a cloudy sky. The text "IN GERMANY" is overlaid in the center of the image.

IN GERMANY

THE MOST POLLUTED CITIES

- *Stuttgart*
- *München (Bavaria's capital)*
- *Köln*
- *Dortmund*
- *Berlin (Germany's capital)*



ENVIRONMENTAL PERFORMANCE INDEX (2016 REPORT) BY YALE UNIVERSITY

Country	Germany	Italy	Spain	Sweden
Air quality rank*	137 th (score 70)	124 th (score 73)	33 rd (91)	22 th (93)
Overall rank (out of 180)	30 th	29 th	6 th	3 th
Overall score (out of 100)	84.26	84.48	88.91	90.43

(*) *The table takes into consideration exposure to nitrogen dioxide, exposure to PM2.5, household air quality.*

IN BERGAMO



REDUCING POLLUTION

In order to reduce the pollution derived from traffic the public transportation system has been equipped with the most updated engines. Great interest has also been given to building techniques; the most recent buildings are constructed by considering their environmental impact.



ENVIRONMENTAL EDUCATION

The city of Bergamo is very fond of its natural context and in the last few years a great attention has been given to the topics of the environmental education and many projects have been carried out successfully. The city has hosted many events involving children in a lot of projects. Moreover, Bergamo encourages and promotes an active citizenship thoughtful of the environmental impacts.





*Nonetheless,
in winter 2015-16, the
same as for 84% of urban
air-pollution detectors in
Lombardy, Bergamo has
overcome the limit of 35
consecutive days over the
legal level of PM10
powders*

IN GOTHENBURG



THE AIR IN GOTHENBURG

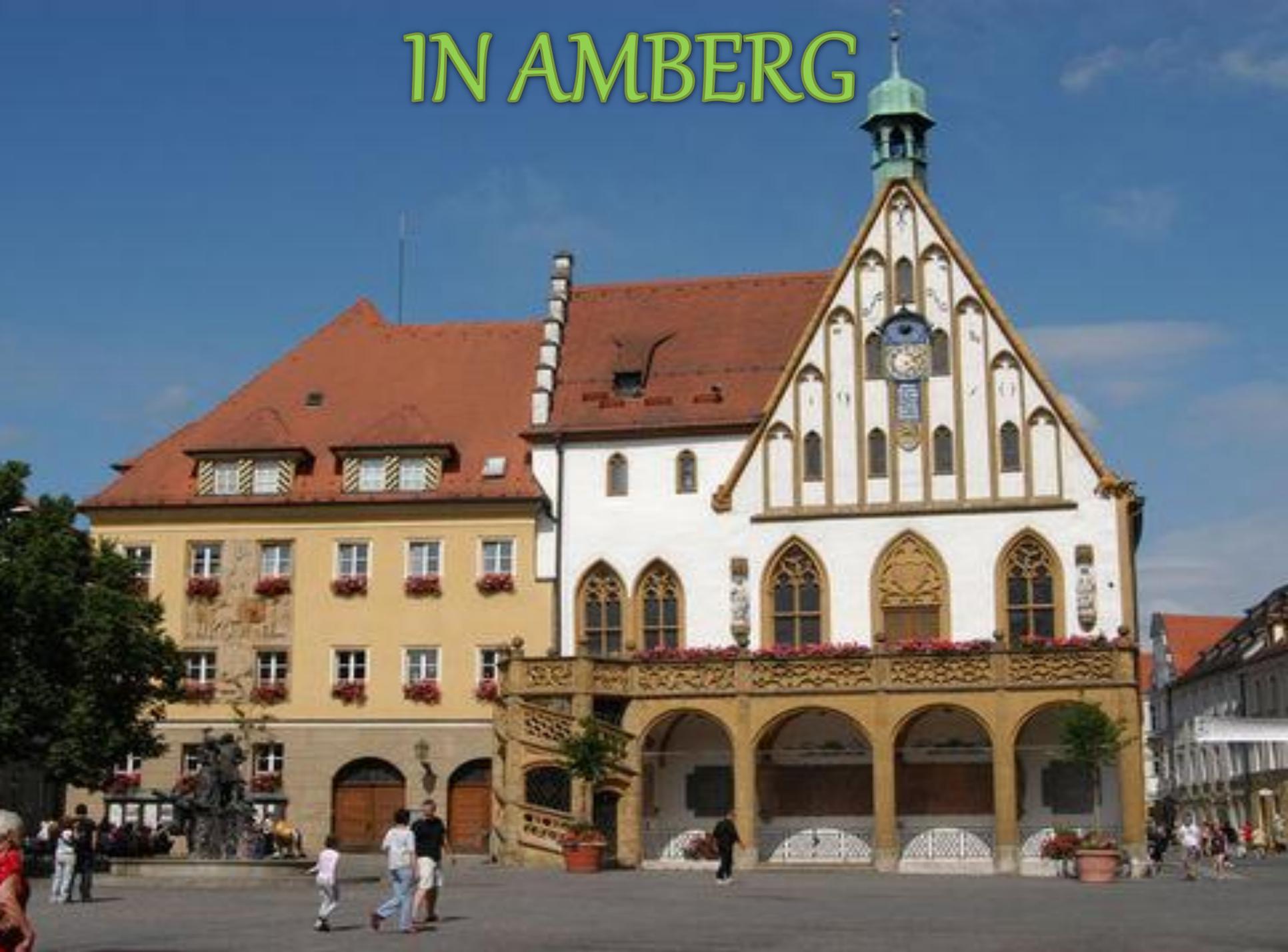
- ***How is the air today?***
- *In the last thirty years the air has become a lot better*
- *But we still need to do something but it's hard*
- *in comparison to other European countries Gothenburg's air is clean*

- ***Some Positive things***
- *Now there are also heating networks that produces heat locally instead of in every house. And industrial emissions have been reduced.*

- ***How much of this can we linked to tourism?***
- *Mostly tourists use bicycles and travel collectively, which is good*
- *every transport affects the air negatively, and tourists have to transport themselves around*



IN AMBERG





CONCLUSION...

*Today the situation is better than before, but we can
and we have to do a lot of other things to improve
continually the state of air.*

■ ■ ■

**full speed ahead
towards sustainability**